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MAY 1974

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WEED CONTROL TAKES SEVERAL KINDS OF TOOLS

Herbicides are an important tool the grower uses to control weeds in his crops. However, there are other supplementary "tools" he can employ to insure successful use of weed killers, notes University of Florida extension vegetable specialist, Dr. S. R. Kostewicz.

One of these is off-season management of the cropping area. Planting of cover crops, flooding, and fallow cultivation tend to keep weed populations at manageable levels.

During the season, a grower can use waste area weed control (fence rows, canal banks, ditch banks), spot treatment of hard-to-control weeds in the field, and cultivation in the crop itself.

Success with herbicides also depends on proper rate of application and correct placement.

Too frequently herbicide application equipment is used, problems noted, and repairs left (if they are not absolutely pressing) for the off-season. The new season often finds the equipment in the same condition as when it was put up for the year, creating a multitude of minor problems that add up to the need for a major overhaul. Check the rig out well in advance of the season.

Functioning of the power source is the first item to check on a spray applicator. Time and/or adjust the engine and make sure the pto drive mechanism is in working order. Check the pump to replace leaking

bushings or seals, make certain output is proper according to rating, and insure accuracy of the pressure regulator.

What about the delivery system? Are all filters and strainers clear of debris; by-pass operating correctly; agitation system paddles and vanes intact; worn or frayed hoses replaced; connections tightened or replaced?

Other critical areas to check on spray applicators include nozzle tips and strainers, adjustment of booms and drop pipes, and spray patterns.

With granular applicators, it is necessary to make certain hoppers are clean and free of holes. Check both the drive mechanism and mixing apparatus for proper operation and clear delivery tubes of blockages.

With either sprayers or granular applicators, the final step in proper application is accurate calibration.

—American Vegetable Grower

BARRAGE OF CRITICISM LEVELED AT EPA PROPOSALS

With hearings on proposed EPA Harvest Entry Times postponed to April 26, grower groups, university leaders, and industry acted to file formal comments. "... there is no need for uniform national reentry standards," was USDA's strong statement at a mid-April reentry symposium. "If and when reentry intervals are established, they should be established on a state-by-state basis, taking into account dosage and rate of application... temperature,

humidity, rainfall, type of crop, and cultural practices." Similar opposition to the "unreasonable and arbitrary" standards came from Florida Fruit & Vegetable Association. FFVA urged reevaluation of Harvest Entry Times so growers will have control of their crops in case abnormal weather forces them into fields ahead of schedule. Cornell University's Dr. James E. Dewey pointed out serious discrepancies between specific harvest entry times and times stated in EPA's Compendium of Registered Pesticides as minimum days between last application and harvest. For example, proposed harvest entry time for Meta-Systox R on broccoli is 21 days, compared to only 3 days interval to harvest! Organized opposition from many agri-groups—to the tune of some 2,000 comments—will surely force EPA to take a closer look at its proposed standards. Or, as International Apple Institute puts it, "If we can't get you to change your mind through reason, we'll get the court to change your mind."

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REGIONAL NEWS NOTES

Mass. Cranberry Station & Field Notes

Mr. Irving E. DeMoranville, who regularly submits the news for Massachusetts, was unable to provide a column for this month's issue of CRANBERRIES due to the fact that he was recovering from an operation.

We are happy to report, however, that Mr. DeMoranville has now returned to his post at the Cranberry Station in Wareham, Mass. in cheerful spirit and in able control of his crutches.

Mr. DeMoranville's monthly article will appear in these pages next month, as usual.

WISCONSIN

To make a change in a marketing order requires a public hearing, and cranberry growers in Wisconsin have recently been issued invitations to such a hearing by the Secretary of Agriculture of that state. The public hearing gives all the proponents and opponents of the change an opportunity to present facts which will help the Secretary of Agriculture to prepare a decision. If his decision is favorable, it would be submitted to the growers for a mail referendum.

The decision concerns a recommendation from the State Cranberry Marketing Order Advisory Council of Wisconsin to increase the market order assessment from 2¢ to 3¢ per barrel of cranberries marketed. The funds would be used

to expand research in developing cranberry products.

It would behoove local growers to attend this hearing, which will be held in Wisconsin Rapids, Wisconsin on Tuesday, June 11 at 10:00 A.M. at the Wood County Courthouse Room 114.

Weather Review

November was warmer and drier than usual. December was the opposite as temperatures average about two degrees colder than normal and precipitation was above normal. Snowfall in December was heaviest in the southeast and across the north. January temperature were 15 to 20 degrees below normal in the first half of the month but then 10 to 15 degrees above normal in the second half. A typical January thaw prevailed. Precipitation in January was less than usual in the north and west but heavier in the south and east. February brought several heavy snowfalls particularly in the south east where the monthly accumulation at Milwaukee exceeded the

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normal total of 44 inches for the entire winter. Temperatures were cold in the first week of February but then averaged above normal for the remainder of the month.

March began very mild with record high temperatures in the 60's on the 3rd and 6th which brought most of the frost out of the ground at an unusually early date. Sharply colder temperatures in the second half of March with record lows on the 24th increased frost depths in central and northern areas. March precipitation was mostly in the form of rain in the south and snow in the north.

Since April 1st

Temperatures have varied widely as is typical in early spring. Winter-like conditions in the north brought several inches of snow in the first few days. The south received heavy rain on April 3rd-4th and again on the 13th-14th. Rain changed to snow on the 14th before diminishing late in the day and clearing that evening.

The week of April 20th was mostly sunny and dry with slightly warmer than normal temperatures. Gradual warming took place during the week with afternoon highs in the 70's over much of the state on the 20th and 21st. Some thunderstorms occurred in the west on the 20th and mainly in the east on the 21st. The storms of the 21st contained the worst tornado outbreak in Wisconsin in more than a decade with two fatalities, many injuries, and much property damage. The most severe activity was in Winnebago, Fond du Lac, and Sheboygan Counties, with Oshkosh and Lomira among the hardest hit communities.

The week of April 27th started out cool with well below freezing weather and light snow in the north and east on Monday and Tuesday. Gradual warming occurred during the week and summerlike conditions prevailed over the week end with afternoon temperatures reaching into the 80's in most sections. Precipitation was light and spotty. Most of the week's precipitation fell on the afternoon and evening of the 28th, and was generally re-

NEW JERSEY

The trend of warm weather in the cranberry region of New Jersey continued through April. The average temperature was 54.1 degrees F. which is 2.5 degrees above normal. The thermometer climbed above 70 degrees on ten days and there were even four days in the eighties. The maximum temperature was 88 degrees on the 29th and the minimum of 25 degrees occurred on the 7th.

The heavy rainfall pattern has reversed temporarily. For a change it was dry in April, with precipita-

tion totaling only 2.46 inches, or about an inch below normal. For the first four months of the year there has been a total of 13.29 inches of rain, which happens to be the exact average amount for this period at New Lisbon.

An unusual feature of April's weather was the unusually high soil temperatures. At the one-inch level the 60 degree mark was reached by April 12th and it remained in the high 60's through most of the latter half of the month, reaching a maximum of 78 degrees on April 29. At the four-inch level the soil temperature was in the high 50's through the last half of the month, reaching 61 degrees on April 29th.



NEW OFFICERS . . . Newly-elected officers of the New Jersey Agricultural Society (l to r) are: Dr. John W. Flemer of Princeton, assistant secretary-treasurer; Phillip Alampi, Pennington, secretary-treasurer; John L. Hendrickson, Jr., Middletown, president; and Henry W. Bibus, Wrightstown, vice president. The Agricultural Society, now in its 193rd year, is the oldest farm organization in the nation.

Continued on Page 14

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MASSACHUSETTS FARM BUREAU FEDERATION

New Minimum Wage Bill has been passed by Congress. This bill amends the Fair Labor Standards Act in the following respects:

1. The generally applicable minimum wage is increased from the present \$1.60 an hour to: \$2.00 on May 1, 1974; \$2.10 on January 1, 1975; \$2.30 on January 1, 1976.

2. The agricultural minimum wage is increased from the present \$1.30 an hour to: \$1.60 on May 1, 1974; \$1.80 on January 1, 1975; \$2.00 on January 1, 1976; \$2.20 on January 1, 1977; \$2.30 on January 1, 1978.

3. The Act provides an exemption from minimum wage coverage for any worker who fits any one of the following descriptions:

A. A worker employed in agriculture if employed by an employer who did not, during any calendar quarter of the preceding calendar year, use more than five hundred man-days of agricultural labor.

B. A worker employed in agriculture if such worker is the parent, spouse, child or other member of the employer's immediate family.

C. A worker employed in agriculture if: (a) he is employed as a hand harvester on a piece rate basis in an operation customarily paid on a piece rate basis in the area, and if (2) he commutes daily from his permanent residence to the farm where employed, and (3) he was employed in agriculture in less than thirteen weeks during the preceding calendar year.

D. A worker employed in agriculture if: (1) he is 16 years of age or under, and (2) is employed as a hand harvester on a piece rate basis in an operation customarily paid on a piece rate basis in the area, and (3) is employed on the same farm as his parent, and (4) is paid the same piece rate as employees over sixteen are paid on the same farm.

None of the above exemptions has been modified. However, in

calculating the 500 man-days of A above, the number of man-days of work of employees in B, C, and D above are counted. Heretofore, the workers in B and C above were not counted in calculating the 500 man-days. This provision will result in the coverage of some additional farmers by minimum wage regulation, and an estimated 25,000 additional farm workers on the farms to be covered. This change does not affect the exemption of workers in B, C, and D.

4. The provisions of the Act relating to the employment of young workers by farmers are substantially revised as follows:

—If the worker is under 12 he may be employed outside school hours by a parent on the parent's farm, or may be employed with the consent of his parent on a farm which no other worker is covered by minimum wage provisions.

—If the worker is 12 or 13 years of age he may be employed outside school hours by a farmer with

consent of his parent, or if the parent is employed on the same farm.

—If the worker is 14 or 15 years of age he may be employed by a farmer outside school hours for the school district where such employer is residing while so employed.

5. Workers who are also full-time students may be employed by retail and service employers, by farmers, and by colleges and universities at minimum wage rates not less than 85% of the minimum wage rate otherwise applicable—but not in excess of 20 hours in any work week except during vacation periods. However, in each such case a special certificate must be obtained by the employer from the U.S. Labor Department. The Secretary may not issue such certificates "unless he finds that the employment of such students will not create a substantial probability of reducing the full-time employment opportunities of other workers."

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INDEPENDENT BUSINESS FEELS OSHA SHOULD BE AMENDED

No employer has eyes in the back of his head.

This physiological fact is undoubtedly the reason why 89 per cent of the independent business people polled by the National Federation of Independent Business support a bill by Congressman Marvin Esch of Michigan to amend the Occupational Safety and Health Act.

As the law authored by Representative William Steiger of Wisconsin and Senator Harrison Williams, Jr. was passed, it provides that the employer is to be cited and fined for violations of the safety code devised by the Department of Labor committed by an employee.

The Esch bill would give employers the opportunity to defend themselves when a Labor Department inspector found such a violation. Under the present method of administering the law, the Labor Department is supposed to crack down on employers if any violation is found during an unannounced inspection.

There have been numerous instances cited to NFIB where an employee failed to use prescribed safety equipment, or violated the procedures established by the employer. However, the employee is not held liable but the employer is cited and usually fined.

There has also been other instances where the Labor Department regulations, in the opinion of the workers, creates a greater hazard to their personal safety, with the result they have refused to abide by them. This, of course, places the employer in jeopardy.

The Labor Department so far has refused to recognize any responsibility on the part of the employee, taking the position that the employer has full responsibility for the conduct of the employee.

Returns from 16,280 independent firms to the continuous field survey in February show that 7.2 per cent of all respondents report they have been inspected. The most interesting figure from the computers is that showing 4.4 per cent of the retailers replying reporting inspections.

Some of the inspected retailers report a yearly sales volume of \$50,000 or less, yet they seem to have attracted the attention of the Labor Department agents.

The returns seem to indicate that the Labor Department agents will in time force up the food costs, because while so far there are a limited percentage of those engaged in agriculture reporting

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OSHA

Continued from Page 5

of those who have been, almost one-fourth report it will cost more than \$5,000 additional investment to comply with the edicts.

A builder in Wisconsin reports, "OSHA as written and administered is such an unfair and un-American law that it becomes hard to understand that intelligent members of Congress could ever have favored it. To allow a single employee whether qualified or not, to jeopardize the production of a company by a telephone call to OSHA is terribly unfair. We have had many OSHA inspections and have never passed one yet. Items of violation such as water cooler not marked drinking water, no toilet tissue in portable toilets, et cetera, do not necessarily make for a safer job site."

An Oregon warehouse operator states flatly, "I will not allow OSHA to inspect this business. They are not qualified to do so, and they will have to get a court order if they expect to get inside my door. Let me make clear that I

work with all applicable regulatory agencies, and am confident that we are more than clean."

An Ohio plumbing contractor asserts, "It is unfair for OSHA to fine the employer for the carelessness of the worker when the worker has been informed what he is supposed to do towards safety and does not do it."

A New York tree service operator says, "I am opposed to the entire concept of OSHA. I do not believe it is set up for safer working conditions, but is a punitive campaign against small business."

A cab owner in Wisconsin feels, "It is not fair for OSHA to fine businesses without a warning inspection first. This appears to be punishment without giving people a chance to defend themselves."

day, March 24 at Tobey Hospital. He was the husband of Kathryn A. (Foley) Braley and lived at 78 Gibbs Ave., Wareham. He was a machinist and owned the Braley and Son Machine Shop in Wareham.

Mr. Braley was born in Wareham, the son of James E. and Laura E. (Loring) Braley of Wareham. He attended schools in Wareham and graduated from New Bedford Vocational High School. He was a World War II veteran with the 1891st Engineering Aviation Battalion.

He attended the First Congregational Church in Wareham, was a member of the American Legion Post 220 and a member of the Benjamin D. Cushing Post V.F.W. of Marion.

Survivors include his wife, parents, and two daughters; Miss Christine A. Braley of Laconia, New Hampshire, and Miss Linda E. Braley of Wareham; one brother, Roy E. Braley of Miami, Florida, and two nephews.

OBITUARY

Leslie E. Braley, 52, died Sun-

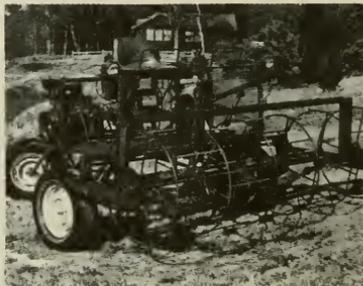
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How to Pick a Winner

Courtesy "American Agriculturalist"

by Bill Quinn
Extension agent, Syracuse, New York

Why are some farmers winners . . . and others losers?

Success, of course, means different things to different people. Only one of the many definitions of success in life is concerned with economic achievement. It certainly isn't the most important one.

In fact, many of the most "successful" farmers I know don't make the most money, but they are good husbands, good fathers, and good neighbors. They are an asset to their community; the world is a better place for their being a part of it.

No, making the top profit is not the only definition of success. However, it is one of them! And, because it's one in which a lot of people are interested, we are discussing it here.

All Kinds

How can you tell whether a particular farmer will be financially successful? Certainly you can't predict by his looks. Successful farmers come in all shapes and sizes . . . short and tall, lean and not so lean, small, regular and the large economy size. Mix a group of winners and losers together and a man riding by on horseback could never tell the difference.

You can't attribute a particular farmer's success to some privileged or inside information, either. Unlike an industrial corporation, which jealously guards its know-how, agriculture has no "trade secrets."

All farmers have access to the same information. No business group that I know is more willing to share know-how than are farmers. In addition, Extension agents, agribusiness people, and the agricultural press continually provide an exchange of up-to-the-minute data on the business of farming.

No Patents

Nor are successful farmers dependent on any special patented processes. All use the same tools. They all start with the same raw materials. They're all in the business of trying to combine land, labor, livestock, equipment and capital into a productive package. The same fertilizers and herbicides, the same tractors and choppers, the same AI sires, the same credit sources available to one are pretty much available to all.

Some would suggest that chance or good luck is involved . . . perhaps the chance of inheriting a good farm, or marrying a widow who owns one. Or being born in the right place, where an urban developer wants to erect a shopping center . . . or being born at the right time, when the price cycle is going up instead of down.

Certainly these may jigger the odds. But some farmers seem to

have the knack of coming up a winner in spite of the odds. Why? Ask most any knowledgeable observer and you'll get the reply, "Oh, he's a good manager." Good management . . . everybody talks about it, but not many try to define it!

Farm management specialists will suggest that good management can not only be defined, but can be measured. And they have figures and factors to prove it. They cite rates of production per animal and per acre, labor efficiency, cost control and size of business as key factors which determine the degree of success a farmer will have. They can prove that farmers who "stack up" well in these areas of management are the same ones who come through with the hefty profit margins.

But these objective measures of who is a good manager fail to get at the bigger question . . . the question behind the question, "What are those elusive, intangible qualities of personality and character which make one succeed where another fails?"

In years of tramping across fields, and sloshing through barnyards, I believe that I've noted certain characteristics that successful farmers seem to have in common:

1. They want to succeed. Sure, everybody wants to succeed, but not everybody wants success bad enough to earn it. Desire, drive, motivation, aggressiveness—call it

Continued on Page 11

1974 Cranberry Weed Control

This schedule is intended to furnish a general review. More detailed information may be obtained from the Cranberry Experiment Station, East Wareham, Massachusetts.

I. E. DEMORANVILLE AND R. M. DEVLIN

REVISED JANUARY 17, 1974

NOTE: The user of this information assumes all risks for personal injury or property damage.

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NOTES

1. PROVIDE ADEQUATE DRAINAGE or treatments below are of questionable value.
2. APPLY THE EXACT QUANTITIES of chemicals in measured areas and at indicated times. One sq. rod equals 16 2/3 sq. ft. One acre equals 160 sq. rods.
3. WASH EQUIPMENT with soap and water immediately after using. Rinse with ammonia solution after using herbicide type herbicides.
4. HAND WEEDING is often practical with scattered green and woody weeds if roots are removed.
5. MOWING of weeds helps to prevent shading and reduces seed formation.
6. LATE WATER causes a great reduction of annual grasses. If held until June 5, and if temperatures are high, small bromeliads are usually killed.
7. TO BE MOST EFFECTIVE rain should follow the application of iron sulfate. Casoran, Morcran and Chloro-IPC within 4 days or bog should be sprinkled with water.
8. IRON SULFATE (ferrous) in excess of 20 lbs. per sq. rod may kill newly set vines or mature vines when they have been seeded within 18 months. If 8 parts of iron sulfate are mixed with 1 part of salt, rain or sprinkling is unnecessary.
9. CHLORO-IPC may need as 1/2 lb. of 20% granular per acre before late water from mid-April to April 18.

CAUTIONS

1. CHLORALAN is not registered for use on cranberries most but before use.
2. SIMAZINE must be sprayed evenly with continuous agitation using the correct amount. An overdose may injure vines or crop. This or weak vines and new plantings one year to three years old are very susceptible to injury. In the spring use a pre-emergence spray. May be used safely in successive years.
3. VINEX SPRAYED WITH OIL are highly inflammable. All broadcast treatments are likely to reduce the crop and may increase sensitivity to low temperatures.
4. CASORIN applications by regulation must be at least 12 months apart. Applications under sand or on weak vines may cause injury.
5. Herbicide use makes vines more susceptible to injury and crops may be reduced.

TIMING	WEEDS	TREATMENT
February and March	SHORES and DIKES	SILVEX - 1 gal. ester formulation (4 lbs. acid equivalent per gal.) in 50 gals. kerosene or No. 1 fuel oil. Wet thoroughly. Will control scrub oak, hollyhock, poison ivy, patch grass, etc. or AGRICULTURAL BURNING of brush or grass under permit from local fire chief.
	GREEN SCUM	COPPER SULFATE - Distribute evenly on ice or in bog flowage 4 lbs. of crystals per acre of water. Treated bogs should have the water impounded for 1 week.
March to Mid-May	Cut Grass, Maana Grass, Shore Grass, Aster, Plantain, Needle Grass, Nut Grass, Dandelion, Plecthola, Mud Rush, Hairy Panic Grass, Royal Fern, Bracken Fern, Sensitive Fern, Wild Strawberry, Marsh St. John's-Wort, Summer Grass, Blue Joint, Loosestrife, Wild Bean, Hawkweed, Wood Grass, Cattan Grass, Ragweed, Fireweed, Spike Rush, Horsetail, Sorrel, Warty Panic Grass, CRAB GRASS	SILVEX - 1 gal. ester formulation (4 lbs. acid equivalent per gal.) in 50 gals. kerosene or No. 1 fuel oil. Wet thoroughly. Will control scrub oak, hollyhock, poison ivy, patch grass, etc. or AGRICULTURAL BURNING of brush or grass under permit from local fire chief.
	DODDER, CORN GRASS, WARTY PANIC GRASS, CRAB GRASS	DICHLOROBENIL (CASORIN) - 4% granular, 100 lbs. per acre. Apply in March or early April to avoid high temperatures. May be used before late water from mid-March to April 15. Use only water only 75 to 100 lbs. per acre will result in adequate weed control and may be used safely in successive years. (See Caution 4 and Note 7).
	SUMMER GRASS, CUT GRASS	DICHLOROBENIL (CASORIN) - 4% granular, 100 lbs. per acre. Use just before bud break. (See Caution 4 and Note 7).
	SOME UPLAND GRASSES ON BOG	CHLORO-IPC - 20% granular, 100 lbs. per acre or SIMAZINE - 4% in 300 gals. W.P. in 300 gals. water per acre. Apply by May 1. (See Note 3 and Caution 1 & 5).
	NUT GRASS, CUT GRASS, SUMMER GRASS, MUD RUSH, WHITE VIOLETS, CANADA RUSH	MORCRAN - granular, 100 lbs. per acre. In April. May be used before late water from mid-March to April 10 for control of CUT GRASS and NUT GRASS. (See Note 7).
	ANNUAL GRASSES, WARTY PANIC GRASS, DODDER	SIMAZINE - 3% in 80% W.P. in 300 gals. water per acre, from late March through mid-April. (See Caution 2).
	RAGWEED, FITCHFORKS	SIMAZINE - 3% in 80% W.P. in 300 gals. water per acre, only from mid-April through first week of May. (See Caution 2).
	WARTY PANIC GRASS, TEAR THUMB, FIREWEED	CHLORO-IPC - 20% granular, 100 lbs. per acre, by May 1. (See Note 3 and Caution 5).
	HAIKAP MOSS, SORREL, HAIKAP PANIC GRASS	CHLORO-IPC - 20% granular, 50 lbs. per acre as first year planting, 100 lbs. per acre on mature vines. Late April to bud break. (See Caution 5).
	CORN GRASS, BARNYARD GRASS, CRAB GRASS, TEAR THUMB, FIREWEED	CHLORO-IPC - 20% granular, 100 lbs. per acre, just before bud break. (See Caution 5).
	DODDER	WATER WHITE KEROSENE - 600-800 gals. per acre.
	POVERTY GRASS, CAREX SPP., SPIKE RUSH, WILD GRASS, HAIKAP PANIC GRASS	STODDARD SOLVENT - 500 gals. per acre (3 gals. per sq. rod). Primarily a spot treatment.
RUSHES, ASTERS, GOLDEN ROD	IRON SULFATE - 50 lbs. per sq. rod. (See Note 8).	
SPHAGNUM MOSS	ALANAP - 4 gals. in 300 gals. water per acre or 1 1/2 granular 80 lbs. per acre. Do not use after first week in May. Best results where bog surface is wet before application. Blossoms may be injured at temperatures under 32° F after application.	
NUT GRASS, CUT GRASS, MUD RUSH, NEEDLE GRASS, SPIKE RUSH, CORN GRASS	SPRING REFLOW - Flood bog May 10-12, hold until July 15-20. (See Note 4).	
BRAMBLES	STODDARD SOLVENT - Mix 1 part Stoddard to 1 part water white kerosene. Apply 600 gals. per acre within 10 days of withdrawal of the flood.	
LOOSESTRIFE, CUT GRASS, HAIKAP PANIC GRASS	WATER WHITE KEROSENE - 800 gals. per acre. Treat within 8 days when temperature is below 65 degrees and bog is well drained.	
WILD GRASS, SPIKE RUSH, CAREX SPP.	WATER WHITE KEROSENE - 600 gals. per acre, when temperature is below 65 degrees.	
TRIPLE AWNEED GRASS, ANNUAL GRASSES	SILVEX - 1 gal. ester formulation (4 lbs. acid per gal.) in 50 gals. water, 100 gals. per acre	
BRAMBLES ON SHORE	IRON SULFATE AND SALT - 8 to 1 and apply small amount to each plant. (See Note 8).	
ROYAL FERN, CINNAMON FERN	IRON SULFATE - 30 lbs. per sq. rod or small amount to each plant. (See Note 7 & 8).	
SENSITIVE FERN, FEATHER FERN	IRON SULFATE - 30 lbs. per sq. rod. (See Note 7 & 8).	
MARSH ST. JOHN'S-WORT, CINQUEFOIL, ASTERS	DALAPON - 1/2 lb. in 5-6 gals. water per 100 sq. ft. ditch, will control cattails, bur-reed, grasses, sedges, and rushes.	
DITCH WEEDS	SILVEX - 1 1/2 teaspoons per gal. water or 1 1/2 pints per 100 gals. water of ester formulation (4 lbs. acid per gal.) will control poison ivy, wild cherry, maple sprouts, grapevine, and possibly other broadleaved weeds. Avoid 2 1/2 to 3 gals. per sq. rod.	
SHORES and DIKES	DALAPON - 20 lbs. in 300 gals. water per acre, for poverty and switch grass or AGRICULTURAL BURNING of brush or grass under permit from local fire chief.	
WILD BEAN	SALT - 1 lb. in 1 gal. water. Never spray over 200 gals. per acre. Keep weed spots burned off. Repeat as necessary. (See Note 2).	
Late July to Mid-August	DODDER	NITRATE of SODA - 11 oz. & 1/4 teaspoon wetting agent per gal. water or 100 lbs. & 1/4 cup wetting agent in 150 gals. water per acre (See Note 2).
Cut Grass, Blue Joint, Aster, Wood Grass, Cattan Grass, Mud Rush, Marsh St. John's-Wort, Summer Grass, Loosestrife, Needle Grass, Nut Grass, Ragweed, Sphagnum Moss, White Violets.	DICHLOROBENIL (CASORIN) - 4% granular 100 lbs. per acre, after November 15, when temperatures are below 60° F. (See Caution 4).	
SUMMER GRASS	SIMAZINE - 5 lbs. in 50 gals. water per acre, or CHLORO-IPC 1 1/2 granular, 50-75 lbs. per acre, before November 1.	
SORREL	CHLORO-IPC - 20% granular, 100 lbs. per acre, before Nov. 1.	
GOLDEN ROD, WILD ROSES	STODDARD SOLVENT - 500 gals. per acre (3 gals. per sq. rod). Primarily a spot treatment.	
POVERTY GRASS, SWITCH GRASS	DALAPON - 10 lbs. in 300 gals. water per acre, before November 1, will reduce following crop, especially on Early Black.	
BLACKBERRY, RUNNING BRAMBLE, FRESH MEADOW GRASS (CAREX SPP.)	DICHLOROBENIL (CASORIN) - 4% granular 100 lbs. per acre, after November 15. Retreat area in April with KEROSENE at 800 gals. per acre. (See Note 2 and Caution 3, 4, 5).	

WARNING

PESTICIDES ARE POISONOUS. READ AND FOLLOW ALL DIRECTIONS AND SAFETY PRECAUTIONS ON LABELS. HANDLE CAREFULLY AND STORE IN ORIGINAL LABELED CONTAINERS OUT OF REACH OF CHILDREN, PETS, AND LIVESTOCK. DISPOSE OF EMPTY CONTAINERS RIGHT AWAY, IN A SAFE MANNER AND PLACE. DO NOT CONTAMINATE FORAGE, STREAMS, AND PONDS.

1974 Cranberry Insect and Disease Control

This chart is intended to furnish a general review. More detailed information may be obtained from the Cranberry Experiment Station, East Wareham, Massachusetts.

W. F. TOMLINSON, JR., B. M. ZUCKERMAN AND I. E. DEMORANVILLE

REVISED JANUARY 17, 1974

NOTE: THE USER OF THIS INFORMATION ASSUMES ALL RISKS FOR PERSONAL INJURY OR PROPERTY DAMAGE

All pesticides mentioned in this publication are registered and cleared for the Federal registrations and state laws in effect on the date of this publication. Where trade names are used for identification, no product endorsement is implied, nor is discrimination intended against similar materials.

CAUTIONS

- To minimize contamination of streams and ponds hold drainage as long as possible after applying any pesticide. Applications by aircraft or sprinker should be done in a manner to prevent drift into streams, ponds or other public ways. Impound water for 24 hours after pesticide application wherever and whenever possible. **DO NOT USE DIELEDRIN OR DIFULATHIN IF DRAINAGE CANNOT BE HELD AT LEAST 7 DAYS.**
- Any person who intends to use DIELEDRIN shall apply for and be issued a permit to do so by the Pesticide Board. This permit or proof that such a permit is held shall be exhibited or furnished when purchasing DIELEDRIN. Each year, on or before November 30, holders of such permits shall file on a form provided by the Board, the amounts of DIELEDRIN which were used since the last filing date.
- Avoid insecticide applications during bloom if possible to prevent loss of bees. If it is necessary, make sprinkler applications at night and run sprinkler early following morning to delay foraging activity. Delay aircraft application at late into bloom as possible and advise beekeeper to remove bees before spraying.
- MAXIMUM ACTUAL TOXICANT per acre per application and time of last application:

Carbaryl 7 Sevin 3 lbs. spray, 4 lbs. dust	1 day before harvest	Malathion 2.5 lbs.	3 days before harvest
Diazinon 3 lbs.	7 days before harvest	Maseb 7.5 lbs.	28 days after mid-bloom
Dieldrin 1.5 lbs.	21 days before harvest	Parathion 8 lbs.	15 days before harvest
Dieldrin 5 lbs. (10 lbs. to peat or mulch soils only)	after harvest	Parathion 1 lb.	30 days before harvest
Diflufen 5 lbs.	58 days after harvest	Zineb 4 lbs.	not later than mid-bloom
Ferbam 11.4 lbs.	28 days after mid-bloom		

NOTES

- ONLY APPLY INSECTICIDES if damaging numbers are present. If 50 sweeps gather 8 or more, give most captures at weekly, 20 captures or 3 30-second leafhopper, treatment is necessary. Make water counts when it is calm, warm and sunny.
- LATE WATER - Holding water water (in May 20-25 or draining bog in late March and following from mid-April to May 20) promotes emergence of all insects and controls false armyworm, yellow-headed leafworm, red mite and may control four-tent. Favors cutworm infestation.
- FLOODING
 - About May 18 for 10 hours, controls false armyworm and blossom weevil.
 - About June 1 and 12 for 16 hours controls grass spawworm, small black-headed fireworm, spotted and leaf cutworms and armyworm, but it may INCREASE FRUIT ROT and REDUCE THE CROP.
 - About May 12 and holding up to July 15-20 kills all insects but with the loss of the crop.
 - Best 20-30 flooding periods for 10 days every third year. Discourage grass and blossom weevil. May be done with late berries still on vine.
- KEROSENE - Broadcast kerosene treatments at rates used for weed control kill twigs, red mites, Sparganthis fireworm and weevil insects, but it may injure to reduce the crop and increase sensitivity to low temperatures.
- CONCENTRATE SPRAYS may injure new growth, bloom and small berries particularly in hot humid weather. Formulate formulations or check with system type to prevent disease loss injury.
- FUNGICIDES - Use mix with small amount of water until a smooth suspension is obtained before that dilute. Use immediately. Blossom injury may occur with concentrate sprays or from poorly distributed granular applications of same.
- COLOR is may be necessary to delay harvest to obtain acceptable color in thick vines or when mounds or zineb are used.
- SOUNDING AND FERTILIZING. Insected blight-resistant methoprene is controlled, feeding checking and harkling helps reduce bugs infested with late blossom. Regular visitors inspect hedges, ground and green stemwork.
- Some pesticides may cause or avoid frost damage to leaf formations. It is usually not advisable to use hot-water materials in spaced containers. Follow regulations of the Pesticide Board when shipping of pesticides and their containers.

Timing	Pests	Treatment
Dormant To Delayed Dormant	RED MITES	Use late water or apply 200 gals. water white kerosene per acre. Be alert for outflow following late water (Note 2 & 4).
	ROOT GRUB WHITE GRUB	Drain bog thoroughly from early April to May 12. Berlese May 13-July 20. Keep well flooded. If cutworm infestation develops spray 5% 50 WP or 2½ lbs. 80 sprayable or 3 qts. 4 flowable CARBARYL or 1½ PARATHION 8 flowable per acre or dust 5% 4 BARRYL 50 lbs. per acre. (Note 1, 3 & 6. Caution 1).
New Growth Up To ½ Inch	WEEVIL FIREWORKS CUTWORMS SPARGANTHIS FRUITWORM GYPSY MOTH TIPWORM	Apply 1 pt. DIELEDRIN 1.5 EC per acre. (Note 1 & 2. Caution 1, 2 & 4).
	RED MITE	Spray 4 lbs. 50 WP or 2½ lbs. 80 sprayable or 3 qts. 4 flowable CARBARYL or 4 lbs. 50 WP DIAZINON or 1½ qts. DIAZINON AG 500 or 1 pt. PARATHION 4 flowable or 1½ pts. 2% MALATHION or 1 pt. MALATHION 8 flowable or 4 lbs. 50 WP MALATHION per acre or dust ½ CARBARYL or 4% DIAZINON or 4% MALATHION 50 lbs. per acre. (Note 1, 2, 3, 5, 6 & 8. Caution 1 & 6).
½ Inch Growth To Hook Stage	New Growth Insects GREEN SPANWORM TIPWORM	Spray 4 lbs. 50 WP DIAZINON or 3 qts. DIAZINON AG500 per acre. Note effective by aircraft. (Note 2 & 4. Caution 1 & 4).
	RED MITES	Spray 1 pt. PARATHION 8 flowable or 4 lbs. 50WP DIAZINON or 1 qt. DIAZINON AG500 per acre or dust 4% DIAZINON 50 lbs. per acre. (Note 1, 3, 5 & 8. Caution 1 & 4).
Hook Stage To Start of Bloom	All insects through Hook Stage BLUNT-NOSED LEAFHOPPER GIROLER MOTHS RED MITES	See appropriate control measures under growth stage above. CARBARYL or PARATHION or DIAZINON as for new growth insects. Repeat if necessary. (Note 1, 3 & 6. Caution 1, 3 & 4).
	RED MITES	Same as red mite in New Growth up to one-half inch section above.
First Scattered Bloom	FRUIT ROTS	Apply 9 lbs. 80% Maseb or 7½ lbs. Zineb or 7½ lbs. Ferbam in 25-100 gals. water by ground rig or 12 gals. water per acre by aircraft at first scattered bloom, first scattered bloom and 14 and 28 days later, or apply 3 qts. Diflufen 4 flowable at 100-300 gals. per acre at first scattered bloom and 14 and 28 days later. (Note 3b, 6 & 7. Caution 1, 3 & 4).
	CRANBERRY FRUITWORM SPARGANTHIS FRUITWORM BLACK-HEADED FIREWORM BLUNT-NOSED LEAFHOPPER GIROLER MOTHS WEEVIL	Spray 1 pt. PARATHION 8 flowable or 4 lbs. 50 WP DIAZINON or 2 qts. DIAZINON AG500 or 4 lbs. 50 WP or 2½ lbs. 80 sprayable or 3 qts. 4 flowable CARBARYL per acre, or dust 4% DIAZINON 50 lbs. per acre. Make fruitworm egg counts every 3 or 4 days until August 10 on Early Blacks and until August 20 on Hoves. Two substituted and separated fruitworm eggs per 100 berries used treatment. Do not wait for appearance of red berries. Repeat 1 time at 10-day intervals for fruitworm and Sparganthis. (Note 1, 2 & 8. Caution 1, 3 & 4).
Late Bloom	RED MITE	Same as red mite in New Growth up to one-half inch section above.
	GIROLER LARVAE	Apply 22 lbs. 14% DIAZINON granules or 3 qts. DIAZINON AG500 or 6 lbs. DIAZINON 50 WP per acre. Granules more effective. (Note 3d & 6. Caution 1, 3 & 4).
Late July	RED MITE	GIROLER DIAZINON spray applications kill red mites. Granules ineffective.
	GIROLER LARVAE	Flood 6 days (with late berries on vines if necessary). (Note 3d & 8. Caution 1, 2 & 4).
Sept. 26 To Oct. 1	ROOT GRUB WHITE GRUB	Apply 50 lbs. 10% DIELEDRIN granules in fall after harvest. (Note 3c. Caution 1, 2 & 4).
	FAIRY RING	Apply 9 lbs. 78% FERBAM in 100 gal water at 1 gal/sq. ft. Treat 1 ft. outside and 2 ft. within ring in fall immediately after harvest. (Note 5).

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PARATHION is extremely dangerous. Repeated exposure to phosphate type insecticides may, without symptoms, increase susceptibility to phosphate poisoning. Post parathion treated bags may stay off at least 48 hours after application.

Before using Parathion, read and post safety rules. Tell family and co-workers. Make certain your doctor understands. After an accident there won't be time.

CRANBERRY FERTILIZER CHART

I. E. DEMORANVILLE

REVISED JANUARY 1974

This chart is intended to furnish general treatments. More detailed information may be obtained from the Cranberry Experiment Station, East Wareham, Mass.

NOTES

- GOOD DRAINAGE AND ADEQUATE IRRIGATION** are essential for best response to fertilizer. A soil probe is invaluable for determining bog moisture conditions.
- DISCOLORATION** similar to nitrogen deficiency may be caused by insect, red mite or disease injury.
- GROUND APPLICATIONS** of non-pelleted fertilizer should be applied only on dry vines. Careful hand spreading gives the most selective application. Applications of pelleted fertilizer will not injure wet vines.
- SPLIT APPLICATIONS** provide a more uniform supply of nutrients for use by the cranberry vines.
- SUSCEPTIBILITY TO SPRING FROST INJURY** may be increased by fertilizer applied in the fall or early spring.
- KEEPING QUALITY AND COLOR** may be impaired by excessive use of nitrogen because of increased shading and higher moisture.
- Sprinkler systems may be used to apply fertilizer but unless distribution is uniform fertilization will not be uniform. The system should be checked before using it to apply fertilizer.
- A crop of 100 barrels per acre removes 23 lbs. of nitrogen, 10 lbs. of phosphorus and 18 lbs. of potassium from the soil. Applying 230 lbs. 10-20-10 or comparable amounts of other analyses replaces the nitrogen. Much of the phosphorus is unavailable to the plant because of the nature of cranberry soils and the potassium leaches out very rapidly.

Fertilizer for Cranberry Bogs

Remarks	When To Apply	Grade	Amount Per Acre
<p>OVER-VEGETATIVE VINES</p> <p>No NITROGEN for Early Black Uprights over 2½ inches Howes Uprights over 3 inches</p>	Early Spring	0-25-25 0-20-20 0-20-0 (Super Phosphate)	160 lbs. 200 lbs. 200 lbs.
<p>AVERAGE VINES</p> <p>20 pounds of NITROGEN per Acre per year for Early Black Uprights 1½-2½ inches Howes Uprights 2-3 inches</p>	April—Early August or October-November	5-10-5 10-20-10 10-10-10 16-18-16 15-40-5 12-24-12	400 lbs. 200 lbs. 200 lbs. 125 lbs. 133 lbs. 167 lbs.
<p>WEAK VINES</p> <p>40 lbs. of NITROGEN per Acre per year for Early Black Uprights less than 1½ inches Howes Uprights less than 2 inches This application may be used for bogs with very high production also.</p>	As Above	5-10-5 10-20-10 10-10-10 16-18-16 15-40-5 12-24-12	800 lbs. 400 lbs. 400 lbs. 250 lbs. 267 lbs. 333 lbs.
<p>NEW OR REBUILT BOGS</p> <p>3 or 4 applications, about 6 weeks apart, of complete fertilizer during the growing season. April Application, 20 pounds of NITROGEN per acre, summer applications, 10 pounds of NITROGEN per acre each. Urea may be substituted for 1 summer application. Sulfate of ammonia at the rate of 5 pounds of NITROGEN per acre may be substituted for any or all of the complete fertilizer treatments.</p>	April-August	5-10-5 10-20-10 10-10-10 16-18-16 12-24-12 21-0-0 45-0-0	200 lbs. 100 lbs. 100 lbs. 62 lbs. 67 lbs. 83 lbs. 25 lbs. 20 lbs.

HOW TO PICK A WINNER

Continued from Page 7

what you will—but successful farmers are never happy just “getting by.” They have a desire to accomplish. They won’t settle for anything less!

2. **They know where they want to go.** They’re always looking ahead. They have a goal, and they have a plan for reaching that goal. The plan may not be on paper—more than likely it’s only in their head—but it’s there nonetheless.

And while they may dream a dream, they’re hard-nosed realists when they set out to make their dream come true. Short-range decisions are made with their long-range plan in mind. They’re not rigid about their plan, however. They’re willing to change it as other things, perhaps technological, perhaps economic, change.

3. **They’re willing to take a risk to get there.** Risk and reward are related. Successful managers realize that if nothing’s ventured, nothing’s gained. They’re not only willing to take a chance—they even look forward to the challenge of making that chance pay off. But they’re not in the business of betting long shots. They tilt the odds in their own favor by only betting on reasonable propositions... propositions that they’ve thoroughly researched, and that they believe have a good chance of success.

4. **They can make decisions.** In fact, they enjoy making them. But they recognize that there are *different levels* of decision-making. A decision about whether or not the hay is ready to bale today is not at the same level as a decision to move to a haylage program.

Successful managers recognize that many decisions should be made quickly. They don’t deserve the expenditure of a lot of time... for instance, such things as, “Do I repair the tongue on the wagon, or do I change the oil in the tractor first?”

While many situations requiring an immediate decision arise on a farm other decisions should be anticipated, “Do I need a new chopper?” If a decision of this type must be made quickly, perhaps the farmer hasn’t been managing! He certainly hasn’t been looking ahead.

Barring the accidental running of the chopper into the corner of a barn or tipping it over the edge of a bank, the good manager will know just about when his old chopper might go. He anticipates... has already looked around, done some pricing, some talking, thought about financing. Before the chopper wears out, he’s ready!

Contrast that to the poor manager. When *his* chopper breaks down, he rushes out and buys one too big or too small, pays the long price and finances at the long rate. Both managers made a decision... one man was ready, the other was not... and the quality of those decisions eventually shows up on the lower right-hand line.

Certain kinds of decisions are of such a magnitude—requiring such a commitment of resources, or having

such an impact on the future direction of the farm business—that they might be labeled, as Chenango County agricultural agent Elwyn Voss tags them, “lifeline decisions.” The purchase of a farm, or the construction of a new freestall complex, are actions requiring this kind of decision.

Yet, while decisions such as these may affect a farmer and his family for most of his productive work-life, all too often they are given little advance thought. If your barn burned tonight, would you build back? If you did, what kind of barn would you build? If you don’t know—why not? God forbid, but it could always happen tonight!

5. **They consider all options.** Successful farmers know that there’s more than one way to reach a goal. They not only are aware of, but can “rate” various alternatives. They keep their eyes open; they’re not hidebound by history or tradition. And while they think objectively, they also think creatively. For example, a good manager may see the possibilities for a successful

Continued on Page 12

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HOW TO PICK A WINNER

Continued from Page 11

roadside market business where only a dairy farm existed before.

The good manager establishes a "pecking order" of priorities. He decides which use of his resources will provide the most immediate or best return. He'll stretch his resources to give him the most mileage along the road to his goal.

Compare two young farmers starting out, both with a large debt, a heavy repayment schedule and very limited capital. Both get an additional loan. One trades up to a complete new line of equipment. The other spends the same amount, but to increase the size of his herd and to bring his feeding and fertilizing rates up to par. Which one has rated his priorities correctly? Which one do you think is the better manager?

6. They get things done on time. The successful farmer not only does the right thing, he does it at the right time! (The right thing done at the wrong time is no longer right.) All dairy farmers do about the same job. Some just seem to get it done two weeks ahead of most everyone else. The ability to get things done on time is one of the most important of managerial talents. Timeliness doesn't cost, it just pays!

Nor does timeliness just happen—it's the result of determination, good planning and good execution. A successful manager has the ladders ready *before* the

fruit is ripe, the cutterbar sharpened *before* haying-time. He knows what needs to be done and when it needs doing.

He keeps a checklist of jobs to do... like maintenance and repair work. Sometimes a judicious expenditure for part-time help, if it improves timeliness, can return manyfold the dollars a manager invests.

7. They're willing to work. To be successful, a farmer must be willing to work. Management itself involves work—collecting information, keeping records, getting all the facts. A good manager bases his decisions on facts. He takes the time to *get* them, and he takes the time to *think* about them!

Many believe that management is a skill that can be readily transferred from one business to another—that a man who does a good job managing a farm business would also do a good job managing a shoe business. However, in a business like farming, where management and labor are inevitably intertwined, a manager must not only manage, he'd better enjoy filling labor's role.

8. They're organized. A manager has to be able to see the big picture, but he's in real trouble if he ignores the details. That means organization... organization good enough so that a manager doesn't get hung up on details, spending all his time fighting brush fires and ending up getting derailed from the track that runs to his goal.

9. They know how to use credit. The successful farmer isn't afraid to borrow—but only borrow with a purpose. He seeks only that amount of credit he can handle... as much as will bring him a return... an amount that in accord with his long-range plans. He brings his lender into his confidence, knowing that only if that way will the lender develop confidence in him. He has the financial and farm business record to know, and to let his lender know, just how he's doing. He lines up his credit long before he needs it.

10. They know how to work with others. Most successful farmers directly employ other people. But whether they do or not, they recognize the importance of getting along with others because they deal with people every day of their lives—the AI technician, the farm supply salesman, the milk-pickup driver, their farm neighbors. They believe in treating others as they themselves like to be treated... with honesty and directness and understanding. They have mastered one of the most difficult of skills—the fine art of communication.

11. They're objective. Successful managers stand back occasionally and take a look at themselves and their farm business. They ask the advice of others... the county agent, DHIC supervisor, farm credit representative.

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25 YEARS AGO

The 14 directors of the Cranberry Growers' Council met at the Hotel Commodore, New York, the evening of April 26. After signing the contracts which made the company an entity, the members voted an advertising budget of \$500,000 to back fresh cranberry sales. Under provisions of the contract only "Eatmor" will be mentioned in fresh fruit and "Ocean Spray" in processed.

Among the limited amount of new acreage going on in Massachusetts is to be four or five acres by a new grower, Harry Rhodes of Wareham. Last winter he cleared 3-4 acres at Double Brook near the South Middleboro-Carver line, and has sanded and planted this spring. Others are Manuel Moniz, who is finishing up about nine acres in the Marstons Mills area, and still a third is Frank Crandon, who is completing several acres of the piece he had previously begun.

New Jersey growers Bert Haines and brother are planning to set out some 20 acres of new bog this season. Right at present they are clearing an 11-acre piece of virgin land. By using a stump puller and a crawler tractor they have pulled over 400 stumps in a period of four hours. They are at their usual work of pulling the brushy weeds on early-drawn bogs.

Theodore Budd, Rogers Brick, and Vinton Thompson are also setting out new bog.

Wisconsin Cranberry Sales Company met on April 15 and ratified the by-laws, Articles of Incorporation and marketing contracts which the American Cranberry Exchange has already negotiated with Cranberry Growers' Council, Inc. Approximately 65 members were present at the session.

The honey bee can be a beneficial friend of the cranberry bog at blossom time, even more than it is, is the opinion of John Van de Poele of West Abington, Mass. Mr. Van de Poele should know whereof he speaks. He has been in the bee business since 1920, is deputy Bee Inspector of the State of Massachusetts (he has been acting chief). He has been written up in newspapers, in TIME Magazine, has been cartooned by "Believe It or Not" Ripley, been on broadcasts with Lowell Thomas, over the Blue Network on "Swap Nite," when he swapped bees for an airedale; he has lectured on bees before agricultural schools and granges all over New England.

A large proportion of the 1949 crop should be sold fresh, C. M. Chaney, general manager of American Cranberry Exchange, told members of the New England Cranberry Sales Company at the annual meeting, Carver Town Hall, April 21, and of this fresh fruit a large part must be in "consumer" or cellophane packages.

The long-desired closer harmony between the two co-ops, NCA and ACE, late this past month became an accomplished fact. The charter of the Cranberry Growers Council, Inc., has been filed and final details ironed out. Now the industry is waiting hopefully to see how this will work out.

Field mice are causing damage in the Bandon sector. These mice, sometimes called meadow mice, eat runways through the vines and in time large areas are completely killed out.

Final meetings of the Upper and Lower Cape Cod Cranberry Clubs, Bruce Hall, Cotuit, April 18, Orleans Town Hall, April 21, respectively, featured Marcus L. Urann, president of NCA, Dr. H. J. Franklin explaining the 1949 insect and disease chart and discussion of the plan for the Barnstable county-wide spraying program to eradicate the gypsy moth on the peninsula. Elections of officers were held and a supper was served preceding each meeting.

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NEW JERSEY

Continued from Page 3

Phil Marucci, of the Blueberry-Cranberry Experimental Station, New Lisbon, N.J., reports that blossom drop on blueberries is underway. This is a critical period for the infection of botrytis as the disease gets started on dead blossoms and spreads through entire clusters during cool, wet periods. So far conditions have not been favorable for the botrytis disease and none has been observed. Keep the early varieties protected with 5 lb. wettable powder captan per acre. In the Pemberton area the season is about 4-5 days behind. Captan treatments should be delayed here until appreciable numbers of blossoms begin to detach.

NOVA SCOTIA

The weather in April was somewhat warmer with a mean for the month of 41.4°F. as compared with the 50-year average of 39.8. Hours of sunshine was lower at 129.6 hours compared to 150 for the 50-year average. Since April the weather has been cold and we had a heavy frost on the morning of May 21.

OREGON



DAVE KEIR HONORED

A Farewell Dinner for Coos County Extension Agent, Dave Keir (left) was given by the Southwest Oregon Cranberry Club at The House of Raymond May 11.

Extending best wishes to Keir and his wife is William (Bud) Loshbaugh, new president of the cranberry club.

Keir is resigning effective May 31 to accept a position with Cascade Farm Service of Tangent. He will be working as a fieldman for the Tangent firm which provides chemicals and fertilizers in the mid-Willamette Valley area.

While serving as Coos agri-

cultural extension agent, he has had major responsibility for assistance to the Coos-Curry cranberry industry, and in working with other horticultural crops, home gardeners, forestry, soil and water conservation, and weed control.

— Western World photo

FARM LABOR FORCE INCREASES IN WISCONSIN

The farm labor force in Wisconsin totaled 167,000 for the survey week of March 24-30, 1974. This was a seasonal increase of 17,000 workers from a month earlier and 2,000 more than March last year. Family help, at 147,000, was 2,000 less than a year ago but the hired labor force of 20,000 was up 4,000 from March 1973. Hired labor worked an average of 35 hours during the survey week and received an hourly wage rate of \$2.17, an increase of 15 cents from a year ago. Family workers averaged 42½ hours during the survey week.

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- 2 cups apple juice
- 2 cups bourbon

Combine all ingredients in a container and shake until well blended. Shake well before serving.

In a bowl, mix cranberries, onion, pickles, pickle juice and garlic. Add salt to taste. Spoon into covered jars and chill until ready to serve.

MINIATURE CRANBERRY CHEESE CAKES

(Makes 24 - foil cups, 2 inches in diameter, 1 inch high)

- 1-1/2 cups graham cracker crumbs
- 1/4 cup sugar
- 1/4 cup melted butter or margarine
- 1 package (18-1/2 ounces) frozen vanilla pudding, thawed
- 1 package (3 ounces) orange gelatin
- 1/2 cup boiling water
- 1 package (8 ounces) cream cheese, at room temperature
- 2 cups Ocean Spray fresh or frozen cranberries
- 1/2 cup sugar
- 1/3 cup water
- 1/4 teaspoon nutmeg
- 1 teaspoon unflavored gelatin

In a bowl mix crumbs, sugar and butter. Divide mixture equally between 24 foil cups. Press mixture firmly into the bottom of each cup. Pour vanilla pudding into a bowl. Dissolve gelatin in boiling water. Beat hot gelatin and cream cheese into pudding. Beat until mixture is smooth and fluffy. Spoon mixture into foil cups and chill until firm. In a saucepan combine cranberries, sugar, water, nutmeg and gelatin. Bring to a boil, lower heat and simmer for 5 minutes. Remove from heat and cool to room temperature. Spoon cranberries and their juice over the top of each cheese cake. Chill until topping is firm. Serve cold.

CRANBERRY GLAZED PORK

(Serves 10 to 12)

- 1 smoked pork tenderloin, about 2-1/2 lbs.
- 1 fresh boned pork roast, about 3 lbs.
- 1 can (1 pound) Ocean Spray jellied cranberry sauce
- 1 cup firmly packed brown sugar
- 1 clove garlic, mashed
- 2 tablespoons soy sauce
- 2 tablespoons sherry
- Dash cloves

Cover smoked tenderloin with water and simmer gently for 2 hours or until easily pierced with a fork. Place fresh pork on a rack in a shallow roasting pan. Roast at 325° for 2 hours. Combine remaining ingredients in a saucepan and simmer until sauce is smooth and thick. Remove roasting pan from oven and drain off excess fatty drippings. Place fresh pork roast and smoked tenderloin side by side on rack in pan. Spoon cranberry mixture over meats, covering them completely and evenly. Replace in oven and roast another 30 minutes. Remove from oven and place roasts on a large platter. Spoon glaze over roasts again. Serve hot or cool and slice for sandwiches.



CRANBERRY ORANGE RELISH

(Makes about 3 cups)

- 2 cups chopped fresh or frozen Ocean Spray cranberries
- 1 navel orange, chopped skin and all
- 1 lemon, chopped skin and all
- 1 cup sugar

In a bowl, mix cranberries, orange, lemon and sugar. Spoon into covered jars and chill until ready to serve.

CRANBERRY ONION PICKLE

(Makes about 3 cups)

- 2 cups chopped fresh or frozen Ocean Spray cranberries
- 1 small onion, chopped
- 1/2 cup chopped mixed sweet pickles
- 1/3 cup of the sweet pickle juice
- 1 clove garlic, chopped
- Salt to taste

Editor's note: We have changed the title of this page from "Women's Page" to "Cook's Corner" in acknowledgement of the happy fact that the best cooks in the world include men AND women.

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12. **They're flexible.** The successful manager doesn't "lock in" on a single course. He stays loose and can move fast to take advantage of an unanticipated opportunity, or to keep an opportunity from escaping. The farm next door suddenly comes up for sale, and he's ready to move! With successful managers, of course, few opportunities are unanticipated because their thinking has already covered a wide

range of possibilities.

13. **They're observant, alert.** Some of his neighbors might call him lucky. He just "happened" to book some dairy ration at its low price for the year. Others might credit his "luck" to other things. They might observe that he made it a point to keep abreast of market conditions, that he's read and studied and kept track of what's happening in other barnyards. The successful manager is intelligent, and he keeps himself well informed.

14. **They're never quite satisfied.** Successful managers never feel they have it made. They're never content sitting on their laurels. They're like the old-timer who "just wanted to own his own land and all the land that bordered it." They continually look forward to new challenges. If they ever become content to stand still, they don't

remain successful long.

Successful managers aren't cut from a mould. There's no one recipe, no single pattern for success. There's many a road that leads there. But most of those who seem to arrive come equipped with a good many, if not most, of the characteristics enumerated here.

Can a farmer *learn* to be a success? According to students of human behavior, we are the end product of three interacting forces . . . our inheritance, our environment, and our training. Some of a winner's characteristics he was born with, still others are conditioned by a lifetime of experience, the balance are learned. Each person has some degree of control over the third leg of that triangle. He can learn to improve his management skills. He can help determine the kind of "man" that he puts into his management.



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UNIV. OF MASS.

VOL. 39 #2



Cranberry bogs, blueberry bushes, Christmas trees, and a pruned and thinned timber stand share this well-used piece of property in Kingston, Massachusetts. Story on page 15.

JUNE 1974

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"WORLD RUNNING OUT OF LAND," FREEMAN WARNS

Former Agriculture Secretary Orville L. Freeman warned that by 1976, 80% of the world's annual increase in food production will have to come from raising the yield of existing farmlands.

"We're getting to the end of our rope—the availability of arable land is nearing its limit," he said.

Freeman spoke June 11 at the annual convention of the Fertilizer Institute. He is president of Business International, a global organization that counsels more than 600 multinational corporations and governments.

"World demand for food is climbing for two reasons: in the less developed countries, because of growing populations; in the industrial countries, because of rising affluence. We can no longer count on the traditional approach to the production of more food, expanding the land under cultivation. The fact is that in many parts of the world, including areas that are most hard-pressed for food, there is actually less agricultural land available every year because of erosion, industrial development, residential and transportation requirements, and other factors," he said.

The problem is that the other basic physical resources for food production—fresh water, energy, and fertilizer—are also in critically short supply, and the world is facing serious difficulties in trying to expand these resources. "It is a challenge of staggering proportions," Freeman told the assembled manufacturers of agricultural fertilizer.

"The institutions for managing abundance are well developed," Freeman said, "but they're going out of style. In a world that's moved almost overnight from abundance to a shortage of essential raw materials, we've got to learn how to manage scarcity.

"The crisis is not just one of rising prices—as important as that problem has become. It's a question of availability at any price, and for the hungry people of this world, the outlook is bleak."

Freeman said that the past year has seen a rise in malnutrition among the world's poorest billion. "It appears certain," he said, "that reduced fertilizer supplies during the next year will cause a sharp drop in food production in several key developing countries even if weather conditions are good. The unfortunate result will be a demand for increased food imports at a time when global reserves are already at dangerously low levels and food prices are at historic highs."

He called for the creation of policies and institutions, on both national and international levels, to manage scarcity. Foremost among the new policies needed is a modern approach to food reserves. Price volatility must be controlled, he urged, and fortunate nations must accept the "human responsibility" of responding to crop failures and famine in poor countries. He expressed his support for legislation by Senators Humphrey, Aiken, Young and McGee to establish a national food reserve policy, and also urged more clearly defined land-use policies to protect agricultural land.

"The matter is too important to be left entirely in the hands of the private trade," he said. "These are matters of international concern and should be a part of national policies and actions."

Freeman predicted that in the near future nitrogen production facilities will be built "where the cheapest sources of natural gas are located—in the oil exporting nations." In a unified global economy, it is necessary to manufacture goods where they can be produced most efficiently, he said.

Strong protest from grower organizations has resulted in more reasonable, workable re-entry standards. And they went into effect June 10, 1974.

The loud outcry raised by grower groups, federal and state researchers, extension specialists, and industry representatives proved an effective weapon in forcing Environmental Protection Agency (EPA) to revise drastically its worker protection standards from those proposed in the March 11 Federal Register.

Reason has prevailed at last and the outlandish proposals for re-entry times, protective clothing, and posting of warning signs have been greatly modified. In fact, the final standards, which took effect June 10, 1974 (and were published in the May 10 Federal Register), closely follow those hammered out at a grower-industry-EPA session held in Washington, D.C., on April 24.

Major changes in rulings include dropping of the arbitrary use of pre-harvest intervals for 12 toxic pesticides, calling instead for 24- or 48-hour re-entry periods; deletion of Fundal/Galecron from the "toxic" list; replacement of the 12-hour re-entry period for all other pesticides with an "until the spray has dried or the dust has settled" stipulation; and greatly simplified protective clothing and warning requirements.

Continued on Page 20

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REGIONAL NEWS NOTES

WASHINGTON

ANNUAL FIELD DAY

The Annual cranberry field day of the Coastal Washington Research & Extension Unit, Long Beach, will be held Saturday, June 29 at 10:00 A.M.

Program Highlights:

10:00 A.M. to 12:00 noon

1. "Refinery Processes," 25 minute color film, Shell Chemical Co.

2. "Problems of Requiring Labels and Registration of Needed Pesticides," Dr. Lowell Rasmussen, Associate Director of Agricultural Research Center, Washington State University, Pullman.

3. "The effect of Fluorine emitted from Aluminum Plants on

Agriculture," Dr. D. F. Allmendinger, Vice Director—Agriculture Research Center, and Superintendent of Western Washington Research & Extension Center, Puyallup.

4. "Low Volume Concentrate Spray," William B. Hudson, County Extension Agent, Yakima, Washington.

12:00 noon to 1:00 P.M.

Smoke-Baked Salmon No-host Lunch, 4-H Leaders Council, Pacific County.

1:00 P.M. to 2:00 P.M.

Question Box

NEW JERSEY

May was a cool month with rainfall occurring in about the normal pattern. Extremely cold nights in the early part of the

month accounted for the average temperature being 1.1 degrees F colder than normal. Temperatures moderated in the middle of the month with highs frequently reaching into the eighties. The maximum temperature was 90 degrees on the 17th and the minimum was 30 on the 5th and 8th.

Rainfall occurred on twelve days and totaled 3.63 inches or about .08 above normal. The accumulative total precipitation for the first five months of the year is 16.92, which is about normal for this period.

Bad frosts on May 5th and May 8th caused severe damage to early varieties of blueberries in the Pemberton area, where some field temperatures were as low as 24 degrees F on both nights. In the Chatsworth and Hammonton regions little damage was sustained

Continued on Page 3

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Continued from Page 2

and a very good crop is in prospect.

Frost calls for cranberries were issued on seven nights but no serious frosts occurred on bogs. The lowest bog temperature recorded at Whitesbog was 25 on May 5th. As of June 5th conditions on New Jersey cranberry bogs appear normal. An unusual amount of algae on some bogs caused some growers to resort to hand raking of matted vines in some spots. The new herbicide, Evital, was tried commercially for the first time in this state.

Phil Marucci of the Cranberry-Blueberry Lab informs us that foggy, wet weather has kept the blueberry bushes wet for a long time which is ideal for the development of anthracnose fungus. For control spray with 50 percent wettable captan at the rate of 5 lbs. per acre at 10-day intervals. For the control of inch worms, leaf miners, fruit worms and sharp-nosed leafhoppers (the carriers of the stunt disease) add 3/4 lb. active guthion per acre. Home owners may use captan plus malathion.

WISCONSIN

Cold and wet weather prevailed during the week of the 13th. Temperatures averaged about 6 degrees below normal. Cloudy most of the week except for brief periods of sunshine and warmer temperatures on the 15th, 17th and the 19th. Locally heavy rains fell in central and southern areas on the 13th and 16th. The north and west received needed rain in lesser amounts.

Wisconsin's weather returned to a more normal stage with warmer temperatures that gave a boost to the growing season. The week of the 20th was highlighted by widespread thunderstorm activity on the 21st. Very heavy rains were measured in the Madison and Milwaukee areas with one thunderstorm producing wind gusts of 75

miles per hour in Milwaukee. Precipitation was generally light for the remainder of the week, occurring in southern and central areas on the 22nd and in the north on the 23rd and 26th. The Memorial Day weekend was mostly fair throughout the State.

Temperatures averaged slightly below normal over most of Wisconsin during the week of the 27th. Rather mild afternoon temperatures occurred early in the week and again on the weekend. Night-time lows were cool on the 27th and again on the weekend when skies were clear. Rainfall was extremely variable because of the showery nature of the rain. The heaviest rain was in a band across north central Wisconsin on the 30th where a few amounts approached 1 inch.

GARDEN STATE MAY BECOME MISNOMER

According to the New Jersey Farm Bureau, Senate Bill No. 12, if passed in present form, could spell the end of that state's agricultural industry. The bill would remove agriculture's exemption to the New Jersey Wage Law, requiring time and a half pay for over 40 hours of work. This could cripple growers' abilities to compete with outside producers.

FARMERS WILL NEED GOOD RECORDS FOR THEIR '74 FARM CENSUS REPORTS

Farmers and ranchers, get ready for the 1974 Census of Agriculture! Keep good records of your farming operations this year! This is the request of the Bureau of the Census, the Federal agency that will conduct the 20th nationwide Census of Agriculture during the first part of 1975. The Bureau is part of the U. S. Department of Commerce's Social and Economic Statistics Administration.

Farmers will receive their report forms by mail early in January. They should fill them out and mail them back promptly. Having accurate and detailed records will make it easy for farmers to do this. Questions will be much like those in the last previous agriculture census which covered farming and ranching during 1969.

Questions will ask for acreage of cropland harvested; quantity and market value of major crops produced; acres irrigated and means of irrigation; acreage treated with pesticides, lime and other chemicals; acreage fertilized by kind of fertilizer (dry, liquid, gas).

Questions on livestock and poultry will cover the number of each kind on the farm as well as the

Continued on Page 13

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THE IMMORAL BOYCOTT

by

Daniel Lyons, S.J.

In the past 12 months the membership of Chavez' union, the United Farm workers, dropped from 60,000 members to 6,000 members. Chavez would like to put all the blame on the Teamsters Union, and he would like to recoup his losses by getting every priest and bishop in the country to support his boycott against grapes and lettuce not picked by members of his union. This is one priest who is not going to help him with his boycott, and I will tell you why.

In the first place, Chavez never deserved to have 60,000 workers in his union. He got most of them by coercion. Instead of convincing the workers they should freely join his union, he ignored them and forced the growers to sign contracts with his union because his boycott against their fruit and produce made it difficult to sell their product to the stores.

To the best of my knowledge, and I have made many trips to California in the past few years to interview farmers, Chavez never suggested to any grower that he hold an election among his workers, until the Teamsters came along. Instead he used the boycott like a gun against their heads, threatening to destroy the farmers economically if they would not sign a contract with the union.

The farmers then told their workers they had to pay dues to the union or quit their jobs. Thousands of workers resented the coercion just as much as the growers did, and were glad to get out of paying dues to Chavez. They resented the fact that his union is very poorly run and they were dragged into joining it in the first place.

Use of the boycott, instead of convincing workers they should freely choose to join by secret ballot, is a very crude and unjust form of union organizing. We are

given the impression that Chavez has the workers in Southern California enthusiastically behind him. The facts are that he has failed utterly to convince most of the farm workers they should pay dues to his union. What he has done is put pressure on stores across the country by mass picketing.

We are told that his union, the United Farm Workers, is very poor, and that he has put his life savings of \$1200 into it. The facts are that the AFL-CIO has given more than 4 million to help him promote the boycott. "It looks like the boycott is a better weapon than the strike," George Meaney said to Chavez.

We read that Chavez is helping the poorest of the farm workers, whereas in reality he is trying to force into his union the highest paid farm workers in the United States, the grape and lettuce pickers in Southern California. It would make more sense to boycott the food grown in every other state — which makes no sense at all.

We are told that Chavez insists on non-violence. Yet his union has been ordered by the courts to pay thousands of dollars for damages as a result of vicious assault and

violence by the union. His pickets continually harass customers and threaten store managers to make them remove non-union product from their shelves. In many cases the threats are carried out, a serious damage is done to merchandise in the stores, to store windows and to workers' autos.

Chavez uses the boycott to coerce supermarket managers to stop handling non-union products. This economic pressure makes farmers sign contracts without any elections.

The boycott is immoral because it discriminates against all those who vote in favor of the Teamsters Union, or who freely vote against joining either union. The boycott is immoral because it discriminates against the family-size farm, where the members of the family are self-employed and so cannot join the union. The boycott is immoral above all because it is used as a substitute for union organizing and free elections.

(Father Lyons, a Jesuit priest, wrote the above article for the National Catholic Register. It is suggested you show this reprint to your own clergyman as an example of one person's opinion on the morality of the boycott.)

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- Our 35th Year of Publication -



Issue of June 1974 | Volume 39 - No. 2

I personally feel that the present food shortages have done more than any other recent development to increase the awareness of the average consumer of the tremendous need to keep agriculture producing profitably. Previously, the only way the farmer could increase his net and stay in business was to grow two blades of grass in that same piece of ground where only one was meant to grow, even though as Secretary of Agriculture Butz has pointed out, in many cases the farmer still only got paid for one blade.

Research was the dominant factor in helping the farmer, and if we are wise, we will seize every opportunity to point out to the consumer that he, too, has a stake in continuing funding of agricultural research, for he is the ultimate beneficiary. The farmer hasn't been getting rich as a result of the research, but the wage earner has been able to spend less and less of his 136% increase in wages for food. Although many consumers apparently don't know it, greater abundance is the key to lower food prices, and greater abundance has come about through research.

Now, at a time when more and more demands are being put on agriculture by the government, by the public, and by environmentalists, at a time when traditional production areas are being dislocated by concrete (and certainly this is most apparent in the great valley of California), at a time when American diet patterns have shifted dramatically from grains and cereals to meat and poultry, we also find a hue and cry from the urban public to limit funds for agricultural research. I sometimes wonder what the U. S. consumer really wants, and even more, what he is willing to pay for.

- Excerpt from a speech given by Mr. Lester Heringer, President of California Tomato Research Institute. Reprinted in HORTICULTURAL SCIENCE.

I. S. Cobb . . . publisher

J. B. Presler . . . editor

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Robert Devlin attended a meeting of the Northeastern Section of the American Society of Plant Physiologists at the University of Maine in Orono, Maine from April 25-27.

The author had hip surgery in late April and is now back at the Station on a part-time basis. Have also graduated from crutches to a cane and hope to discard this soon. I would like to take this opportunity to thank all of my friends for their good wishes during my inactive period. A special thanks is due my fellow workers at the Station and in particular Bill Tomlinson and Dr. Cross for their assistance and willingness to add to their workload for my benefit.

Frost

There were seven warnings issued during May, with the first one on May 2. This is about the usual timing but the weather then became cool, damp and cloudy and everything slowed down after this. The warnings in May compares with six in 1973, five in 1972, six in 1971 and 14 in 1970. There does not appear to be any great amount of frost injury so far.

The Frost Warning Service has 194 members this year as compared to 202 in 1973.

Weather - April

April was 1.6 degrees a day above normal and the warmest since 1953. Maximum temperature was 70 degrees on the 30th and minimum 28 degrees on both the 10th and 20th. Warm periods occurred on the 3-4th, 15-18th, 21-23rd and 28-30th. Cool days were the 2nd, 7th, 9th, 10th, 19th and 25th.

Precipitation totalled 3.26 inches which is about 1 inch below normal. There was measurable precipitation on 13 days with 1.73 inches on the 8-10th as the largest storm. We are 2 inches below normal for the first four months of 1974 and 1 inch behind 1973 for the same period. We also recorded 1/2 inch of snow on the 10th.

Weather - May

May was 2 degrees a day below normal and was our coldest since 1968. Maximum temperature was 79 degrees on the 17th and minimum was 34 degrees on the 2nd. The only warmer than average days were the 16th, 17th and 22nd. Cool periods were on the 2nd, 5-8th, 10-11th, 23-24th, 26-27th and 29th.

Precipitation totalled 3.98 inches which is about 1/2 inch above normal. There was measurable precipitation on 15 days with only 0.69 inches on the 3rd as the largest

storm. Just a lot of small storm which didn't leave much precipitation but kept the temperature low giving us many cool, raw days. In fact, eight of the last 10 days of the month, we recorded some rain. We are now about 1.4 inches below normal for 1974 and exactly 1 inch behind 1973 for the first 5 months.

Final Keeping Quality Forecast

Weather conditions to June 1 1974 show a total of 11 points of a possible 16 which favor good keeping quality in the 1974 cranberry crop. The prospect is, therefore that the 1974 crop will have excellent keeping quality. It is apparently less critical this year for growers to use fungicides. However, comments made with the Preliminary Forecast relative to fungicide treatments to enhance fresh fruit quality, quality of water-harvested fruit and cumulative effects of annual fungicide treatments are valid and many growers will want the added protection.

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THE 2,4,5-T STORY

—IS THIS THE END?

Donald E. Davis

Courtesy of "Weeds Today," an official publication of the Weed Science Society of America.

The 2,4,5-T story might be described as a comedy of errors, except there is nothing funny about it. It's a depressing story of how decisions about pesticides are based on emotion, political considerations, and special interests rather than on scientific facts. It tells how biased views and unfounded charges might cause a valuable herbicide to be ruled unsafe and illegal.

What makes the 2,4,5-T story so unpleasant is that it is just a symptom of the problem facing agriculture. Losing 2,4,5-T would be important in itself, of course, but what is more serious is the climate of fear and mistrust that surrounds the use of all pesticides in this country. While agriculture is the immediate loser, the ultimate loser is the American consumer. Thus, the American public as well as agriculture and the chemical industry has a stake in the constant battle to prevent losses of necessary pesticides such as 2,4,5-T.

2,4,5-T Then and Now

In happier times, 2,4,5-T was a highly respected herbicide. It was widely used as a foliar spray to control woody plants and herbaceous weeds in non-farm forests, along rights-of-way, in pastures and rangeland, and in rice. Being a selective herbicide, it could be used for such jobs as killing curly indigo in rice. Except for a few instances of drift or vapor injury, 2,4,5-T has a record of relative safety covering more than two decades of use.

Safety of 2,4,5-T is illustrated by these established facts:

• It has low to medium per-

sistence in soils. At normal rates (1/4 to 2 pounds per acre) it lasts from 3 weeks to 3 months during the growing season.

• It is degraded in plants, soil, and water and is rapidly excreted by higher animals.

• It has about the same toxicity as aspirin to rats.

• It has no direct toxic effect on fish or wildlife when used as recommended.

• There is no evidence of accumulation in tissues of living animals.

With all these advantages going for it, plus being relatively inexpensive to manufacture, it's easy to understand why 2,4,5-T is considered a desirable herbicide. This was the situation before Vietnam, when trouble for the chemical began.

Trouble Begins

The story of 2,4,5-T's trials and tribulations begins with its use in Vietnam to defoliate jungle areas in the south where the North Vietnamese and Viet Cong were mounting ambush attacks. One of the most effective herbicides for this purpose was "Herbicide Orange," a 50-50 mixture of the butyl esters of 2,4-D and 2,4,5-T. The rate of application was as high as 33 pounds per acre. "Herbicide Blue" was 80 per cent 2,4-D and 20 per cent Tordon (picloram) and the little used "Herbicide White" was the sodium salt of dimethyl arsenic acid.

As soon as the defoliation program was publicized in the United States, it was vigorously attacked by three groups: (1) those concerned with the possible long-term ecological effects of the program, (2) those who believed that this was

in fact a kind of chemical or biological warfare that was contrary to world law, and (3) those opposed to the war, our participation in it, and any weapons used to pursue it. The last group mentioned was possibly the largest one, including those characterized as anti-war, anti-technocracy, and anti-establishment.

The 2,4,5-T Battlefield

Bionetics study. In 1968-69, I served on the National Academy of Science—National Research Council Committee that was studying the problem of persistent pesticides. One member brought to the committee a confidential copy of a report by the Bionetics Laboratory that had been studying a large number of commonly used pesticides. This laboratory was examining the potential of these chemicals to cause genetic mutations, cancer, and birth defects (mutagenic, carcinogenic, and teratogenic potential).

This study used highly susceptible animal species and massive doses of the pesticides, procedures justified only in determining whether a chemical has any potential to cause one of these effects. As might be expected with these techniques, several chemicals were found to cause one or more of the adverse effects. Among these was 2,4,5-T, which showed the potential to increase the number of birth defects.

Since the USDA paid for the study, the report was submitted to them. It was confidential because it was considered improper to alarm the public based on tests conducted under unrealistic conditions (very

Continued on Page 8

high rates and highly susceptible species). I presume that the next step was further testing of the suspect pesticides.

Birth Defects Reported in Saigon. During June and July 1969, newspapers in Saigon began reporting increased birth defects in babies born in hospitals in that city. Furthermore, these increases were blamed on the chemicals used for defoliation. There continues to be reasonable doubt about the cause of these increases, even though the number of recorded birth defects in Saigon did significantly increase. It is important to note that Saigon is not in the area where most of the defoliation was done, and an area having more complete defoliation did not record similar increases in birth defects.

A possible explanation of the increases is simply that (1) better reporting techniques were associated with the influx of U.S. doctors, and (2) increased movement of problem births to Saigon because of better transportation associated with U.S. activities in the area. It should not be overlooked, however, that it took sophisticated statistical analyses to show the birth defects that was widely reported.

U.S. Government Actions. In October 1969 a story was leaked to the press in Washington about the Bionetics study finding that 2,4,5-T increased birth defects. One of "Nader's Raiders" claimed credit for uncovering this information that "the USDA was trying to hide."

Later that month President Nixon ordered all use of Herbicide Orange stopped and apparently no 2,4,5-T was subsequently used. Some critics claimed its use was continued, but this was probably a misunderstanding that resulted because Herbicides Blue and White were not banned.

Early in April 1970 the Surgeon General reported his belief that the use of 2,4,5-T might be hazardous to our health. He was strongly

criticized for not acting sooner. On April 15, 1970, the secretaries of HEW and USDA issued a joint order suspending (1) all uses of 2,4,5-T on or around lakes, ponds, and ditch banks, and (2) all uses of liquid formulations around homes and recreation areas. (Suspend means stop immediately and is issued when use is considered an *imminent hazard*.) Joint action by both secretaries was an unusual procedure.

Another order by HEW and USDA was issued May 1, 1970, *canceling* (1) all uses of granular formulations of 2,4,5-T around homes, recreation areas, etc. (granules are less concentrated than liquid formulations), and (2) all use of 2,4,5-T on crops intended for human consumption. Use is *anceled* when the pesticide is considered a *possible hazard*. All use stops immediately unless the action is appealed. Since the cancellation action was appealed, use of 2,4,5-T in rice has continued. Use in rice was *canceled* rather than *suspended* because no 2,4,5-T residues can be found in whole rice as a result of application as called for on the label.

Industry Fights Back. In November 1970 Dow and Hercules companies appealed the 2,4,5-T cancellation and called for the formation of an advisory committee to consider the case and make recommendations to the Secretary of Agriculture. (Before the hearing was completed, the labeling of pesticides was moved from USDA to EPA.) Regulations for the appeal require the National Academy of Sciences to submit a list of experts qualified to consider the case and the USDA to select a committee from that group. I served on this committee, along with chairman J. G. Wilson, professor of research pediatrics and anatomy from University of Cincinnati, a mathematician from Washington University, and six other scientists who are teratologists or toxicologists. I was the only member with an agricultural background.

The advisory committee met about monthly from February 1971 through May 1972 and heard testimony about 2,4,5-T. New facts were uncovered during this period; some resulted from tests run at the request of the committee:

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(1) The 2,4,5-T tested by the Bionetics Laboratory contained 27 ppm dioxin, a material known to be highly toxic and a potent teratogen. In contrast, 2,4,5-T being manufactured at the time of the hearings by Dow contained less than 1 ppm dioxin and that by Hercules less than 0.1 ppm.

(2) Pure 2,4,5-T at the rate of 40 mg. per kg. of body weight was not teratogenic to mice, rats, hamsters, rabbits, sheep, reindeer, or monkeys. This level of treatment is equal to daily consumption by a 130-pound woman of 13 pounds of food and drink containing 400 ppm 2,4,5-T. (In over 10,000 measurements of food and feed from 1964 to 1969, only two had more than 0.1 ppm—milk with 0.19 and sugar beets with 0.29 ppm.)

(3) Reports about 2,4,5-T causing a deformed goat and chicken in Globe, Arizona, were found to be false. The goat was 5 years old and had been born before the spraying, and the chicken had a slipped tendon (not a birth defect).

(4) Investigation disputed the claim that 2,4,5-T caused a deformed child and reindeer abortions in Swedish Lapland. Controlled tests with reindeer showed no increase in birth defects or abortions from eating 2,4,5-T treated feed.

(5) Teratologists believe that any chemical given in sufficient amount at the right time to the right species will increase birth defects.

(6) The strain of mice used in the Bionetics Laboratory studies

have birth defects increased from many different actions, for example if fed on a diet of nothing but raisins for 1 day, flown to a new location while pregnant, subjected to 10 degree F temperature change, and subjected to loud noises.

Committee report to HEW. On May 7, 1971, the 2,4,5-T advisory committee submitted its report to the EPA director, Mr. Ruckelshaus. This confidential report in essence recommended that registrations for use be restored except that (1) no existing stores of 2,4,5-T could be used unless they contained 0.5 ppm dioxin or less—0.1 ppm if used around the home, accompanied by a conspicuous warning and (2) newly manufactured 2,4,5-T could contain no more than 0.1 ppm dioxin.

Although the report was supposed to be confidential until after the response by Mr. Ruckelshaus, it was strongly criticized in *Science* and *Nature* magazines before this time. The magazines did not divulge their source of information about the report. The committee was not at liberty to respond to such charges because the report was still considered confidential.

Mr. Ruckelshaus rejected the committee's recommendations on August 9, 1972, and called for a public hearing, stating that "EPA shares the judicial attitude that hearings are desirable to bring the public into the decision making process."

In October 1972 Dow called on Mr. Ruckelshaus to respond to the advisory committee's recommendations. Dow won the case in district court in Arkansas, but lost at a higher level.

Disposal of Herbicide Orange

With about 2.3 million gallons of Herbicide Orange on hand costing about \$400,000 per year to maintain, disposal is a real need. There has been much discussion about methods of disposing of this material, since it has a dioxin content varying from 47 ppm to 0.05 ppm.

Options for disposal include sale

or donation to foreign nations, sale to domestic markets, chemical conversion to other salable chemicals, fractionation so that the 2,4-D fraction can be sold, incineration, and biodegradation. All have inherent problems, but the need for disposal continues.

Where We Stand Now

The future of 2,4,5-T is in jeopardy to say the least, although action following the public hearings is unknown. What has happened in regard to this herbicide points up the risk to all agricultural pesticides regardless of their safety records. The anti-pesticide sentiment in this country represents a real problem, especially since politicians often respond to the most vocal group regardless of their cause.

My concern is not just for 2,4,5-T. I believe that difficult technical decisions should be made by those qualified in that area, not by the general public. Even more important, however, is my belief that our country's economic strength and ability to supply needed food, fiber, timber, and energy are sometimes being weakened by unreasonable demands made in the name of protecting people and the environment.



Dr. Donald D. Davis, author of "The 2,4,5-T Story" is an Alumni Professor of Botany at Auburn University and one of the most highly respected weed

in the United States. Although he is very active as a teacher in Weed Science and Ecology, he has done extensive research in metabolism and mode of action of herbicides. Along with his teaching and research responsibilities, Dr. Davis finds time to serve as Editor of the journal WEED SCIENCE and to serve on various national committees pertaining to herbicides. Dr. Davis is also the most recent winner of the Outstanding Researcher award presented by the Weed Science Society of America.

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As May ended, the marshes were looking very, very healthy, as described by "Del" Hammond, manager Wisconsin Cranberry Sales Company. Indications were that there can be an excellent crop again this year, insofar as production is concerned. Growth was ahead ten days to two weeks over 1948.

The New York, New Haven & Hartford Railroad, in naming its crack train from Boston to Cape Cod, express to Wareham, cranberry center and "Gateway to the Cape," "The Cranberry," has done the industry a distinct service. The inaugural run of this fine train, its diesel red-painted in honor of the berry, with the ceremonies at the Parker House and at the South Station of the "Hub of the Universe," has gained invaluable publicity for cranberries. It has awakened new pride in cranberry growing in

the towns along the way. All summer it will make its passengers conscious of cranberries as they glide along through cranberry land.

We hear discussion of the possibility of a new United States postage stamp in honor of the American cranberry. This thought seems to have originated with Congressman D. W. Nicholson of Wareham, Massachusetts. That would bring a little more publicity for cranberries. We are also watching with interest the development of the new cranberry product, "Cranberry Cola," and will have a little more to say about this later.

An independent marketing organization known as the "Bandon Cranberry Growing Cooperative," was established at Bandon, Oregon, early last month. This brings the number of marketing groups in the

Bandon area to three, the others being the Coos Cranberry Cooperative, which affiliated some time ago with the American Cranberry Exchange, and the Bandon group, with members who handle their berries through National Cranberry Association.

Al Sundberg, one of the partners of Sundberg & Catgard, has moved to Portland for the season and opened a restaurant which he has named "The Cranberry Merchants' Lunch." His partner is caring for the bogs in the meantime. Wilson Blair has hired the Harding brothers to operate his place until harvest and he himself is operating an oil station in Idaho.

Dr. J. H. Clarke and Mrs. Clarke of Cranguyma have been in England, where Dr. Clarke went to look over rhododendron plants in that country. They were expected to return early in June.

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Interview with the Carters:

BREAKING INTO THE CRANBERRY BUSINESS

by J. B. Presler



Left to Right: Sherb and Lyon Carter at their Indian Pond bog site.

Is it difficult to break into the cranberry business today? Not really, according to Sherb and Lyon Carter, two young growers from Kingston, Massachusetts who have been in the business for one year.

"You've just got to have the gumption to decide something and go out and do it," said Sherb, the older of the two brothers. They agree that cranberries is an "open field, accessible to anyone who wants to take the risk."

Indeed, the brothers got into the business rather suddenly as a result of investigating an advertisement for a 25-acre tract of land that included a cranberry bog. Lyon was looking for land on which to build a house. They were both unacquainted with the cranberry trade when they saw the land, but it was

suggested to them that it would be a great investment, that one could pick up an extra five 'grand' on the side every year by harvesting the bog. Though they found this report to be overly optimistic, they have enjoyed their first year as growers.

Presently the Carters own twenty-two acres of bogs, most of which are in Kingston, though they have some holdings 10 minutes away from the main bogs, in Plymouth. They plan to continue increasing their bog acreage whenever possible, with the intention of working these bogs themselves, rather than becoming owners only. It appears that they are growing quickly, as last year they started with nine bogs, five of which they harvested themselves, and four of which were water-picked. Lyon

explained that the acquisition of additional bogs poses some problems. "Bogs are often surrounded by other land and the owner is reluctant to break up the parcel."

Sherb and Lyon enjoy growing cranberries for two familiar reasons: "It's outside work and you're your own boss." Lyon feels the work is rewarding. "It seems like you're doing a lot. It's *productive*," he says.

Lyon was working in administrative work at Northeastern University in Boston prior to becoming a cranberry grower. With this in mind, one can better appreciate his enthusiasm for the more concrete nature of the cranberry business. Both brothers attended Tufts Uni-

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The Carters proudly display their latest acquisition; a bright red, 1946 International Harvester cub tractor. In the background is one of the Indian Pond Road bogs, with traces of recently dug ditches which accommodate a newly installed sprinkler system.

versity in Massachusetts. Lyon majored in economics; Sherb, in engineering. Fortunately, both fields are suited to their present vocation.

At this point the Carters confess that they are relying mostly on advice from others who have been in the business for awhile. They readily attest to the impressive generosity of these growers in offering helpful counsel.

"It is nice dealing with people like that. It's great to be able to ask questions and get an answer. The Experimental Station (in Wareham, Mass.) has been very helpful and the aid available to us as growers has really impressed us." Both Sherb and Lyon seemed pleasantly surprised at the cooperative spirit which seems to pervade the industry.

Becoming familiar with this industry has been an absorbing process for the brothers. Although they have found frost to be a slightly hazardous characteristic of the trade, Sherb says, "Frost is not really a problem if you treat it with the respect it deserves." Another aspect of cranberry growing that requires close attention is the matter of proper herbicide and pesticide use. Though Sherb expresses an interest in organic growing methods, he feels that it would not be economically feasible for them at this point. Consequently, they have set themselves to the chores of learning about bugs,

weeds, and chemicals. Lyon is most bothered by the weeds, particularly the wild bean weed. Says he, "There are lots of insects, but you can't see those. Weeds! They look terrible!" They are just beginning to understand the various aspects of weed control and consequently have no favorite method or chemical. They conceded, however, that chemicals do seem to be a necessary part of the process. "Hand weeding is a financial impossibility."

The Carters cultivate the Howe variety of cranberry and the Early Blacks, both of which are popular in this cranberry producing region. Together, these species spread the harvesting season. The brothers have made a start in utilizing their non-bog acreage by pruning and spraying the ten apple trees on the Kingston property, which they will harvest this Fall.

A number of houses are being built on the land adjacent to the Carters' Kingston property. This can be unfortunate for growers, depending upon the construction practices of the developers, and the nature of the land used. In this case, the Carters are fortunate. Though they don't like to see it happening, they are reasonably sure that no erosion or pollution problems will result. The house lots are fairly large, and each lot will have its own well.

"We hope to live in harmony with our neighbors," said Lyon. This may prove to be difficult on cold Spring nights when the Carters start up their unmuffled Ford,

Continued on Page 13

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Continued from Page 12

flat-head, V-8 pump and their Wisconsin pump, also unmuffled. "Maybe they will want to buy us new pumps," mused Lyon.



Looking up at the large barn which houses most of the Carters' machinery on the main property in Kingston. The 1953 Chevrolet dump truck is in good running order and serves a multiplicity of uses around the dump.

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CENSUS REPORTS

Continued from Page 3

number sold and the sales value. Quantities and sales value of their products will be sought.

Details will be requested about farm products produced or marketed under contract. A few questions will be included about hired and contract labor, the number of workers and cash wages paid; also about any injuries to workers.

Further expenditure questions will cover amounts spent for feed, fertilizer, pesticides, lime, gasoline and other farm fuels, machine hire, and livestock and poultry purchases.

There will be questions about the various types and uses of land, such as cropland not harvested, other pasture and woodland, and about the value of land and buildings on the farm.

Operators will be asked about farm related income such as recreational services, customwork provided other farmers, or payments for participation in Government farm programs.

Two types of report forms are being prepared: one for farms with sales of \$2500 or more, and another less detailed form for places with sales of less than \$2500. No matter which form a farmer receives, he need answer only those questions that apply to his operation. He should skip questions that apply only to other types of agricultural operations.

By Federal law, every report is confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. The mail method reinforces confidentiality. It also allows the farmer to complete the report at his convenience with accurate information from his records.

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DIE-BACK OF TERMINAL BUD IN BEN LEAR UNDER NOVA SCOTIAN CONDITIONS¹

I. V. Hall and A. C. Brydon
Canada Department of Agriculture
Kentville, Nova Scotia

During the past two years the performance of the cranberry cultivar Ben Lear in Nova Scotia has been somewhat disappointing while the cultivar Stevens has performed remarkably well. Ben Lear has matured its fruit a good two weeks in advance of native selections and Stevens, and the fruit has been of excellent size and color. The problem with Ben Lear is its poor productivity. About mid-July in 1972 and 1973 the terminal bud withered up and a new one developed from the nearest adventitious bud. The terminal bud so developed

(Fig. 1A) never reached the same stage of development by the end of the growing season as was found in Stevens (Fig. 1B).

An examination of microscopic sections from several buds collected on Nov. 28, 1973, showed that the terminal bud of Stevens reached the normal winter resting stage found in native cranberries (Bell and Burchill 1955) and Stevens (Hall and Newbury 1972); whereas in late fall Ben Lear only reached the stage of development found in other cranberries about the first week of August.

The possibility of a fungus attacking this cultivar and causing the condition is being investigated.

1. Contribution No. 1526 from the Research Station, Canada Department of Agriculture, Kentville, N.S.

REFERENCES

1. BELL, H. P. and JANE BURCHILL. 1955. Winter resting stages of certain Ericaceae. *Can. J. Botany* 33: 547-561.
2. HALL, I. V. and R. J. NEWBURY. 1972. Floral development in normal and frost-injured cranberries. *Hort Science* 7: 269-271.

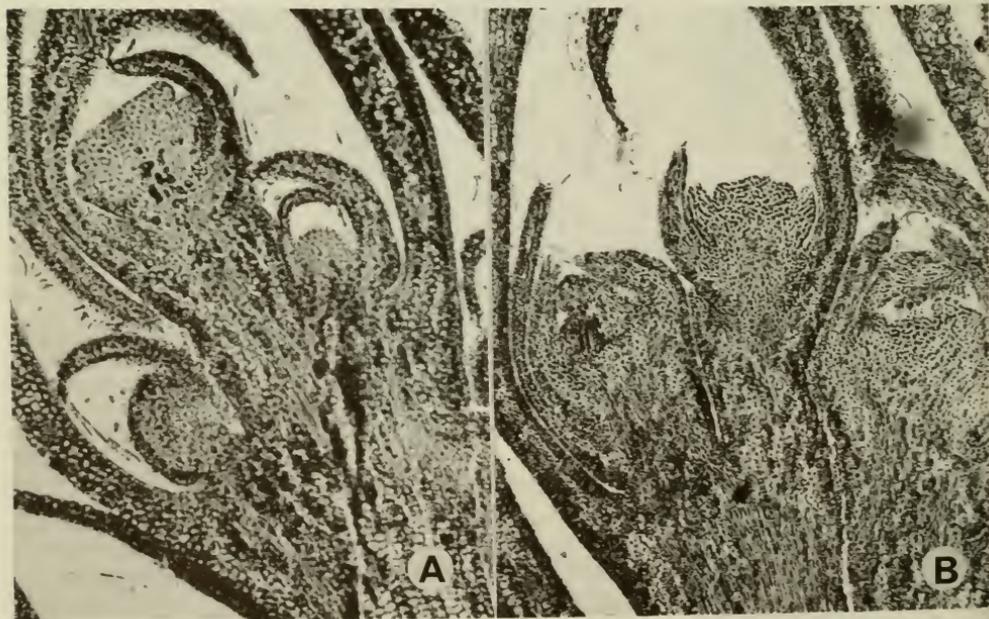


Fig. 1. Cranberry flower primordia development of buds collected from the field on November 28, 1973. A. Ben Lear which are retarded in development and B. Stevens which reach the normal winter resting stage. 200x.

USE YOUR LAND!



Ed Springer observes unassembled pruning tool which he is about to demonstrate.

An impressive group of experts gathered at the property of Fran Phillips in Kingston, Massachusetts, on June 12, to instruct interested cranberry growers on proper timber stand improvement and Christmas tree management.

The program got under way with a welcome from Mike Sikora, a community resource development specialist from the Cooperative Extension Service which operates in cooperation with the United States

Department of Agriculture and the University of Massachusetts. Mr. Sikora briefly outlined the afternoon program and indicated its purpose; to make information regarding land use opportunities available to interested land owners.

Russell Weeks, assistant regional supervisor with the Division of Forests and Parks, discussed the financial assistance available to landowners.

"The state has forestry, technical assistance available," he said, "and for more information on this you should contact Austin Mason." Austin Mason is the acting district forester for Plymouth county. Cost sharing is also available for "accepted forestry practices." This Agricultural Conservation and Stabilization Service program is available through the Plymouth county offices in Brockton, and up to 75% of the cost of the total program will be provided by the state for completing the practice to certain

specifications. This particular aid is only available for forestry projects.

In addition to the financial aid available to growers, there is a great deal of information freely offered by state officials as well as by private consulting firms. The Massachusetts Extension service has faithfully extended this type of help to growers in the area. The U.S. Forest Service in Portsmouth, N.H. also lends service. Ed Springer, of Springer Environmental Services, and Hugh Putnam of the N.E. Forestry Foundation, are two consultants available from private firms who are participating in the program.

Following these explanations, the group followed Austin Mason up toward the rear of Mr. Phillips property to watch a demonstration of proper timber stand management which involved demonstrations of pruning and thinning. Mr. Phillips' well-cared for tract of white pine had already been thinned, but there were a few extra trees still standing upon which the following procedures were carried out: the first method—lately the most common, though not the most efficient, as

Continued on Page 16

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The tools for thinning a timber stand: chain saw, axe, and plastic spray bottle containing Silversol.

LAND USE

Continued from Page 15

Mr. Mason stressed—is to simply girdle the tree with a chain saw, making several rings, or a spiral so that the tree cannot grow over the gap, deeply enough into the tree to cut through the live, outer layer of the wood, and thereby sever the food conducting passages in the tree. The second method is to cut three or four gashes in the tree, again making certain that these gashes are deep enough to be effective, and then spraying a chemical called Silversol into the wounds. This latter method is less cumbersome, because a small hatchet and a spray bottle are lighter than the smallest chain saw, it is cheaper in that the amount of chemical used is about one thimbleful per tree, and it eliminates the fire hazard that felled trees in the woods create. In addition to this, the roots of the tree are thoroughly killed also, thereby eliminating the problems of subsequent scrub growth around the trunks of trees felled in the first method. The chemical Silversol is a very safe one, Mr. Mason assured the listeners, and is available from one source only, that source being the T.S.I. company in Flanders, New Jersey. It was stressed that one should not use a metal spray container for the chemical, but a plastic one. The chemical costs roughly \$12 to \$15 per gallon. It is used full strength, and the tree is then left standing. Eventually the vital juices in the tree will dry up, the tree will become lighter and less dense as it dies and will eventually gently fall to the ground.

"It makes beautiful firewood after a year. Already seasoned and ready to be cut up and stacked," said Ed Springer, who has performed the operation with great success on his own land.

Proper thinning of the stand depends upon a number of factors: the species of tree, the size of the tree and the site of the trees. Always go for the best trees, these being characterized by straight trunks and good crowns (a good



From right to left, Ralph Goodno and Austin Mason take a breather while Ed Springer tells the assembled group how to thin a timber stand quickly and simply using only a small axe and Silversol (the chemical contained in the spray bottle).

crown covers about one third of the height of the tree). The large crown is an indication of a high growth capability and, of course, the straight trunk will yield straight planks more easily than a crooked trunk.

"In the fine art of thinning, the most difficult task is to choose the crop trees," urged Austin. The crop trees are those trees that will eventually be harvested. It takes roughly thirty to forty or fifty years for a stand of timber to

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become mature enough to log. Proper thinning and pruning practices must be consistently exercised during this period in order to produce a good crop. Mr. Mason and the other men who presented the afternoon program again urged all those present to seek them out for further information on this matter.

Austin Mason explained the Chapter 61 clause in the Forest Act which makes certain tax allowances available to landowners who have demonstrated an active practice in land use for two years. The act stipulates that such owners can, having satisfied the proper prerequisites, qualify for reassessment of their land by local assessors, and obtain a lowered assessment, thus enabling them to pay fewer taxes on the property that is in use for forestry purposes. This act serves to encourage landowners to make proper use of their land and practice good environmental procedures by keeping the land productive, rather than letting it

become developed in real estate or overgrown with scrub. This is a rather complicated act, and further information is available from the county forestry offices located in the Myles Standish State forest in Carver, Mass., as well as from the county headquarters in Brockton, Mass.

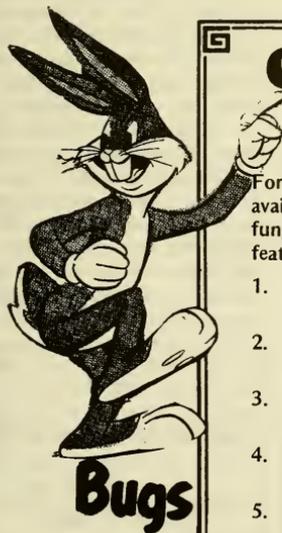
Mr. Springer, Mr. Putnam and Mr. Mason all urged the growers to use extreme caution when drawing up a contract with a logging firm. They extended again the offer of their expert counsel in this matter especially. Improper logging practices can be extremely harmful to the land, and discouraging to the owner.

After an extended period of questions prompted by the absorbing demonstrations and explanations, the group proceeded to the Christmas tree area where Mr. Ralph Goodno explained the management of Christmas trees. He discussed planting, shaping, layout, marketing and pruning and spraying practices. If this is of interest to

you, we suggest that you consult the June 1971 issue of *CRAN-BERRIES* in which an extensive outline of this program has been reprinted.



Fran Phillips about to demonstrate the simple pruning procedure he uses on his Christmas trees.



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Massachusetts FARM BUREAU FEDERATION

MFBF President Dave Mann of Buzzards Bay, along with another cranberry grower, was asked by USDA to give testimony recently at an Environmental Protection Agency hearing into the continued use of the pesticide dieldrin. Appearing with Mann were Farm Bureau member Paul Morse, a cranberry grower from Wareham, and Professor William Tomlinson, entomologist from the cranberry experiment station.

The three men were questioned for two days on the witness stand by attorneys from the Environmental Defense Funds, the EPA and the USDA. Similar hearings are being conducted all across the country. Seemingly constructive in scope of testimony, these hearings will be followed by a decision on the use of dieldrin by the Environmental Secretary.

To clear up any misunderstanding among consumers regarding the Farm Bureau position on farm labor, boycotts and strikes, it is suggested you read and save the April 26 copy of the Farm Bureau Newsletter in which it states:

Massachusetts Farm Bureau Federation favors enacting of federal legislation governing the relationships between farmers and farm workers. We believe agricultural labor should be covered under a special agricultural labor relations act, which would do several things: (a) Guarantee secret ballot elections for workers, (b) Prohibit secondary boycotts, (c) Exempt small farms, (d) Set up a farm labor relations board, (e) Allow for the unique character of agriculture, and (f) Protect the food supply.

We oppose boycotts as the means by which any union gains recognition. Boycotts serve only as a disruptive force in the marketplace, and eventually hurt workers, farmers and consumers.

American Farm Bureau Federation has asked OSHA to revise its proposed federal regulations which would require roll-over protective structures (ROPS) for all agricultural tractors. Says AFBF, "we are opposed to unnecessary and unneeded federal regulations and harassment." AFBF asks the regulations be amended to exempt certain kinds of tractors.

Farm Bureau stepped in and reminded the legislators that the people involved in Extension work, Experiment Station work and Control Services work are providing a vital service to the agricultural community, and hence to the general public. Their work does not involve (necessarily) strict classroom teaching, but the results of their work are of utmost importance to the production of the necessities of life.

Cranberry growers were kept busy during early May frosty nights, trying to protect their crop. Temperatures as low as 15 degrees were reported in the bogs of Plymouth county.

As reported recently in this newsletter, the Federal Energy Office has revised its regulations on fuel priority, effective on June 1, 1974. Under the new regulations, the definition of "agricultural production" has been broadened to include those industries dealing in fertilizer materials, pesticides and agricultural chemicals, floriculture, and ornamental nursery products. Those areas covered under "agricultural production" are entitled to 100 percent of fuel needs.

What's alarming is the subtle suggestion in so many consumer-oriented stories that farmers must accept less income to keep consumers happy.

ASCS funds for forestry improvement are available, according to the Worcester county ASCS office. It's possible that funds are available in other counties as well. These are funds which have been re-instated under the REAP program. Check with your nearest ASCS office for details.

Be sure to read a special article on pesticide use on nearby water supplies in the June issue of Northeast Agriculture. The article titled, "Living Together; Cranberries and Clams" was written by Dr. Chester Cross of the Cranberry Experiment Station in East Wareham.

On Capitol Hill, a bill on Land Use Planning (H.R. 10294) will be up for consideration in the House the week of June 3rd. Farm Bureau opposes this bill, favors instead the concept of grants from the Interior Department to assist states in developing and implementing land use plans. Farm Bureau wants control in the states, rather than in the federal government. Please contact your member of Congress, and go on record in opposition to H.R. 10294. We understand a substitute bill (H.R. 13790) which is consistent with our policy is waiting in the wings.

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In combining yogurt with cranberries we are introducing the old world to the new. Yogurt, one of man's oldest food creations, dates back thousands of years and was reportedly eaten by such notables as the Biblical Abraham and the notorious Genghis Khan. Centuries "younger," cranberries were discovered by America's pilgrims just a mere three hundred fifty years or so ago.

Used together today, all-season cranberries and yogurt make a tasteful team. For the palate pleasures of the dedicated dieter — or for a light and luscious summer treat, naturally good and nourishing — yogurt mixes with cranberry juice cocktail and jellied cranberry sauce for a superb pie.

Cranberry Yogurt Pie can be quickly prepared ahead of time, and refrigerated, so it is an especially good summer menu idea. Serve it as a luncheon entree along with a salad of crisp greens, or as an eye-dazzling dessert at supper. Though we suggest it for summertime, it is a recipe which can sparkle menus all year-round.

Along with your pie, serve a glass of Cranberry Health Drink — a beverage brimful of goodness, combining cranberry juice with carrots and oranges. The whole family will enjoy this cool and refreshing summer sipper.



CRANBERRY YOGURT PIE

(Makes 1 - 9 inch pie)

-1/2 cups graham cracker crumbs
1/2 cup sugar
1/3 cup butter or margarine
package (3 ounces) strawberry gelatin
package (3 ounces) lemon gelatin
cups Ocean Spray cranberry juice cocktail, boiling
cups (1 pint) plain yogurt
can (1 pound) Ocean Spray jellied cranberry sauce, cut into 1/2 inch pieces

1 a bowl mix crumbs, 1/4 cup of sugar and butter, with the fingers until well-blended and crumbly. Press mixture evenly into the bottom and sides of an ungreased 9 inch pie pan. Chill. Dissolve both gelatins and 1/4 cup of sugar in hot cranberry juice. Chill until consistency of unbeaten egg whites. (About 40 minutes.) Beat gelatin with a rotary egg beater until fluffy. Fold in yogurt and half of the cranberry cubes. Chill mixture again until it mounds when dropped from spoon. Pile mixture into pie shell. Chill until firm. Garnish top of pie with remaining cranberry cubes. Chill until ready to serve. Can be made two to three days in advance.

CRANBERRY HEALTH DRINK

cups (1 pint) Ocean Spray cranberry juice cocktail, chilled
carrot, scraped and sliced
slice orange, skin and all

Chir all ingredients in a blender until smooth. Strain, pressing all the juice out of the pulp. Serve in small glasses garnished with lemon slices.



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According to the new standards, individual states can make further recommendations and regulations for special climatic and geographical situations, as the California Department of Food and Agriculture is doing now. Also if a pesticide label has more stringent restrictions than the re-entry standard, the label restrictions apply.

In regard to changes in protective clothing requirements, gloves, fingerless or otherwise, have been dropped. "A clean hat with a brim" now only has to be a "hat or other suitable head covering." Shoes no longer have to "entirely cover both feet."

Procedures for warning workers have also been simplified. Now all that is required in this respect is that workers be given oral and/or written warning telling which areas cannot be entered without protective clothing, how long the area should be avoided, and what to do in case of accidental exposure. If signs are posted in lieu of verbal warnings, "reasonable effort" should be made to ensure that workers who cannot read understand warnings. When necessary, warnings should be given in foreign languages.

Besides the very real benefits represented in the modified EPA permanent standards, it is most encouraging to note that the combined voice of agriculture is a strong one.

Many organizations deserve recognition for their efforts in this area, particularly those who participated in the April 24 meeting, organized largely at the urging of International Apple Institute (IAI). Among those represented were National Canners Association, National Council of Agricultural Employers, United Fresh Fruit and Vegetable Association, California Grape and Tree Fruit League, Virginia State Horticultural Society, Florida Citrus Mutual, and National Agricultural Chemicals Association. Perry Ellsworth of IAI

expressed thanks to Congressman Ken Robinson of Virginia and Jamie Whitten of Mississippi for helping to arrange the top-level meeting.

Besides this meeting, an unprecedented landslide of written comments surely helped swing the balance in favor of agriculture—and sanity. To its credit, however, those in charge at EPA *did* examine the comments, *did* hear out those voicing concern and suggesting more logical rulings, and finally *did* issue more reasonable permanent standards.

But agriculture is not out of the woods yet. While we can claim a victory on re-entry, there are battles yet to be won. Still undecided are EPA regulations that will govern experimental pesticide use and classification of pesticides into general and restricted use category. Initial steps in establishing a dialogue between agriculture and EPA have been taken. Every effort must be made to keep the communication channels open.

DEFINITIONS

Re-entry time

The period of time immediately following the application of a pesticide to a field when unprotected workers should not enter.

Farm worker or worker

Any person or persons engaged in agriculture hand labor in the field.

Field

Any treated land area, or part thereof, upon which one or more pesticides are used for agricultural purposes.

Protective clothing

A hat or other suitable head covering, a long-sleeved shirt and long-legged trousers or a overall type garment, all of closely woven fabric covering the body, including arms and legs, and shoes and socks.

GENERAL STANDARD

Application

No owner or lessee shall permit the application of a pesticide in such a manner as to directly or through

drift expose workers or other persons, except those knowing involved in the application. The area being treated must be vacated by unprotected persons.

Re-entry times

(1) No owner or lessee shall permit any worker not wearing protective clothing to enter a field treated with pesticides until sprays have dried or dusts have settled, unless exempted from such requirement or a longer re-entry time has been assigned to that pesticide.

(2) Pesticides containing the following active ingredients have re-entry time of at least the interval indicated:

	HR
Ethyl parathion	48
Methyl parathion	48
Guthion	24
Demeton	48
Azodrin	48
Phosalone	24
Trithion	48
Metasystox-R	48
EPN	24
Bidrin	48
Endrin	48
Ethion	24

(3) The preceding requirements of this part notwithstanding, workers should not be permitted to enter treated fields if special circumstances exist which would lead a reasonable man to conclude that such entry would be unsafe.

—Courtesy American Vegetable Grower

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VOL. 39 # 3

CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

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JULY 1974

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USDA NAMES MARKETING COMMITTEE

Seven members and their alternates have been named to the Cranberry Marketing Committee by the U.S. Department of Agriculture (USDA). They will serve Aug. 1, 1974 through July 31, 1976.

USDA's Agricultural Marketing Service said the committee locally administers the federal marketing agreement and order for cranberries grown in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington and New York.

One of the committee's important functions is to investigate supply and demand conditions and recommend to the Secretary of Agriculture the total quantity of cranberries which may be handled in normal marketing channels.

Members and their alternates are:

District 1 (all from Massachusetts): George C. P. Olsson, Plymouth, and Gilbert T. Beaton, Buzzards Bay; John C. Decas, Wareham, and Robert B. Hiller, Rochester.

District 2 (all from New Jersey): J. Garfield DeMarco and Stephen V. Lee III, both of Chatsworth; Charles S. Thompson, Jr., Vincentown, and Alvan R. Brick, Medford.

District 3 (all from Wisconsin): C. A. Searles, Wisconsin Rapids, and Craig I. Scott, Warrens; Rich-

ard H. Indermuehle, Manitowish Waters, and Charles V. Goldsworthy, Eagle River.

District 4 (both from Washington): Norman I. Brateng, Long Beach, and Wallace E. Waara, Grayland.

GOP NAMES DeMARCO CHAIRMAN

J. Garfield DeMarco, farmer/businessman from Chatsworth, New Jersey, was elected chairman of the Burlington County Republican committee at the group's reorganization session recently.

DeMarco defeated former State Senator Walter L. Smith, Jr. of Cinnaminson by a narrow, five-vote margin.

Former State GOP chairman John E. Dimon made a strong nominating speech for DeMarco, noting his successful operation of the state's second largest cranberry farm and his background as a graduate of Yale Law School and a former Rhodes scholar in Italy.

The final 151 to 146 vote was

considered a victory for the old line leadership of Dimon and outgoing county chairman Frederick Adams, both DeMarco supporters.

A heated battle earlier in the evening brought several votes to the side of Smith, 57, a Cinnaminson attorney, when he successfully attempted to block a move to force an open vote.

Outgoing chairman Adams included the open-vote provision in a revision of the committee by-laws presented to the organization for the first time at the meeting.

The committee's attorney John Vassallo, argued that the revision was in response to a recent court decision granting constituents the right to know how their elected committeemen vote on crucial issues.

The vote was almost unanimous to return to a secret ballot after a lengthy discussion and Smith's assertion that there was not enough time for the membership to consider the proposal.

DeMarco noted in his acceptance speech there would be no groups in the committee and he intends to work for the entire committee.

Mrs. Polly Bush of Moorestown was elected vice chairman; Joan E. Alpert of Mt. Laurel, area one chairman; Charles Juliana of Willingboro, area two chairman; H. William Beyerle of Delran, area three chairman; and Charlotte Hitchner of Woodland township, area four chairman.

Patricia Park of Burlington was re-elected as secretary and Reese Thomas of Mt. Holly was re-elected treasurer.

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TAX NOTES

MANY IRS REFUND CHECKS UNDELIVERED

Some several hundred Massachusetts taxpayers have undelivered refund checks waiting for them at the Internal Revenue Service.

Any taxpayer who has not yet received his refund should call or visit his local IRS office as soon as possible, John E. Foristall, District Director of Internal Revenue for Massachusetts, said.

The most common reason for an undelivered check, according to Foristall, is that the taxpayer has moved and left no forwarding address with the U. S. Postal Service.

In cases where the taxpayer suspects his check may have been lost or stolen, Foristall urged the person to get in touch with his local IRS office as soon as possible so

that the IRS can put a tracer on the missing check.

Some refunds may have been delayed because of errors or omissions on tax returns, according to Foristall. Taxpayers affected should follow the instructions received from the IRS in order to speed up issuance of their checks.

Foristall stressed that in all refund inquiries to the IRS, the taxpayer should be prepared to provide the name and address as it appeared on the return, the actual name and address if different, the social security numbers, and the type of form filed.

While the IRS can remain an undelivered refund check within a few weeks to the new address, Foristall explained that after October 1, all undelivered refund checks are cancelled. The IRS must follow a more time-consuming procedure to issue checks in response to

inquiries received after October

Taxpayers in the Boston call area should dial 223-343 Worcester 757-2712; Springfield 785-1201 and elsewhere in Massachusetts 1-800-392-6288.

TAX HELP FOR SMALL BUSINESS

If you have questions about the tax position of your small business, or about requirements in keeping business records for tax purposes, you may contact the IRS year-round for tax assistance. Its comprehensive booklet, "Record Keeping for a Small Business," Publication 583, is free. If you're just starting a small business, pick up a copy of "Your Business Tax Kit" (Publication 454) at an IRS office. It's a package of business tax forms and tax publications designed for small businesses.

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REGIONAL NEWS NOTES

WISCONSIN

Farmers were favored with sunshine and warmer temperatures when the month of June arrived in Wisconsin. The last week of May was most satisfactory for planting corn and other field work but good weather was frequently lacking in May. Accumulated growing degree days averaged 15 percent below normal by early June in the State, ranging from about 10 percent short in the Southeast district up to 20 percent short in the Northwest. Rainfall in May was near normal in the northern districts but almost twice the usual amounts in some central and southern areas. Moisture since April 1 has exceeded normal across the entire State, ranging up to over two-thirds above average in most central and southern districts. The first 10 days in June have been marked by more rain but with generally milder temperatures.

The number of workers on Wisconsin farms during the survey week of May 19-25 totaled 190,000 the same as a year ago. Hired help at 25,000 was 5,000 more than the previous year but the 165,000 family workers were down 5,000 from May, 1973. Family workers averaged 50.0 hours per week while hired laborers averaged 37.6 hours.

Considerable cloudiness and rather cool weather prevailed during the week of June 10 except for periods of sunshine around midweek. Frequent showers fell throughout the week but they were generally light until Friday when some severe storms with damaging winds and hail passed over central and southern areas of the State. A few tornado clouds were sighted with these storms. Temperatures for the past week averaged about 7 degrees below normal, turning sharply cooler after the passage of Friday's storm. Brisk north winds

kept weekend temperatures unseasonably cool.

The weather was cool at the beginning and end of the week of the 17th, but warm and humid at midweek. There were moderate to heavy showers west central to southeast on the 18th. Heavy thunderstorm southwest on the 20th with four inches of rain at Platteville and 85 mile per hour winds at Dubuque. Showers again in the extreme south and southwest early Saturday.

OREGON

CITIZENS ENCOURAGED TO HELP WITH LAND PLANNING

Residents of Coos County have a new opportunity to participate in the public involvement program of Land Use Planning through membership in a Citizens Planning Committee in one of 13 Planning Districts throughout the rural areas of the county, reports Robert J Bailey of Bandon, who is affiliated with Coos Country TV.

Having completed the Land Use

Inventory in 1972, the Committees applied Interim Zoning to county lands in 1973. This zoning was done to give guidance to land use during the up-coming phase of Comprehensive Land Use Planning.

The Citizens Planning Committees are now being reorganized to begin Comprehensive Land Use Planning in the fall. County residents who wish to have a voice in the future of their communities are urged to contact the Planning Office at the County Courthouse in Coquille to inquire about membership in a Citizens Planning Committee.

NOVA SCOTIA

Cranberries have been in bloom about two weeks as of this date (July 15) and bees have been pollinating actively on fine days. Plots that were treated with a fluorinated pyridazinone provided by Sandoz at 7½ lb/A have shown good control of *Carex lasiocarpa* and *Calamagrostis canadensis*.

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WASHINGTON

Thirty-seven members of the Washington State University faculty have been promoted to full professor, or equivalent rank effective later this year.

The list also included promotions to associate professor and 12 to assistant professor, or equivalent ranks. The promotions are effective Sept. 16 for academic faculty, and July 1 for all others.

Promoted to associate p. Horticulturist was Azmi Y. Shawa, Long Beach, and equivalent rank to Richard E. Moulton, Grays Harbor County and Earl J. Otis, Puyallup, extension information specialist.

Cranberry Field Day, 1974, Saturday, June 29th at the Coastal Washington Research Unit brought growers from Oregon and Canada as well as Washington. Agribusiness and University people were there from Oregon, Arizona, California

and Washington. Notes on the program speakers will be available later. Special guests included Mr. and Mrs. D. J. Crowley, past superintendent of the Cranberry Research Station at Long Beach, Dr. and Mrs. Lowell Rasmussen, Dr. and Mrs. William B. Ackley, and Jim Johnson from Pullman campus, Dr. C. C. Doughty, Glenn Jones, Dr. Lee Campbell and speaker Dr. D. F. Allmendinger from Puyallup, Dr. R. A. Norton, Mt. Vernon Research Unit, and Dr. Carl Shanks, Vancouver, WA Research Unit.

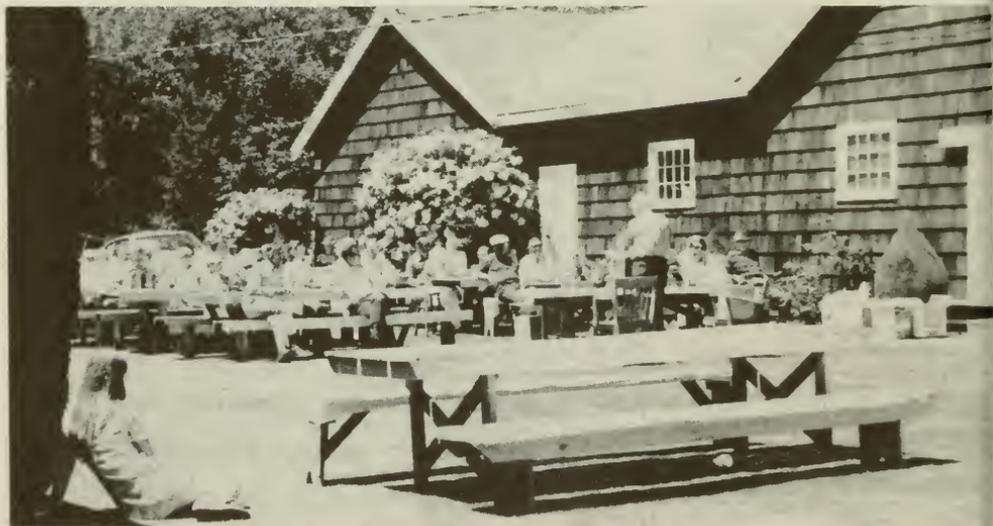
GROWERS ATTEND ANNUAL FIELD DAY

More than 125 people attended the annual Cranberry Field Day at the Coastal Washington Research and Experiment Unit in Long Beach on June 29.

The morning program was followed by a lunch served by the 4-H Leaders' Council and featuring bar-

becued salmon prepared by Bo Shire. Mrs. Jerry Jackson was in charge of the luncheon. Grower problems were discussed during question and answer period following the noon break, after which the growers toured the experimental plots at the station.

Program highlights included 25-minute color film, "Refining Processes" from Shell Chemical Co.; Dr. Lowell Rasmussen, Associate Director of Agricultural Research Center, Washington State University, Pullman, speaking on the "Problems of Requiring Label and Registration of Needed Pesticides," "The Effect of Fluorine Emitted from Aluminum Plants on Agriculture," by Dr. D. F. Allmendinger, vice-director of Agricultural Research Center and Superintendent of Western Washington Research and Extension Center, Puyallup. William B. Hudson, County Extension Agent from Yakima presented "Low Volume Concentrate Spray."



One of the several speakers at the June 29 Cranberry Field Day activities at the Coastal Washington Research and Extension Unit addresses a portion of the over 125 people who attended the gathering. A luncheon came after the morning program which was served by the 4-H Leader's Council. Mrs. Jerry Jackson was in charge of the luncheon with Peggy Neiland assisting. Attending the Field Day were cranberry growers from Canada, Oregon and Washington along with agri-business and university people from Oregon, Arizona, California and Washington. Of special interest to those gathered was a talk entitled "The Effect of Fluorine Emitted From Aluminum Plants on Agriculture," by Dr. D. F. Allmendinger, vice director of Agriculture Research Center and Superintendent of Western Washington Research and Extension Center in Puyallup.



CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

— Our 35th Year of Publication —

I. S. Cobb . . . *publisher*

J. B. Presler . . . *editor*



Issue of July 1974 / Volume 39 - No. 3

Vice President Gerald R. Ford says in an interview in *Dun's Review*: "I am worried about interest rates. I hope that the Federal Reserve, once it sees that there is an honest-to-goodness effort being made in fiscal policy, will not be too tough too long."

"Respectfully" disagreeing with Treasury Secretary William E. Simon, who has suggested budget cuts of as much as \$20-billion, Mr. Ford proposed reductions of "a couple of billion dollars" from the \$305-billion level. "The President and the Congress have to really clamp down on anticipated expenditures over and beyond this budget," said the Vice President.

Opposing a tax increase or decrease at this time, Mr. Ford also urged restraint by labor and management. "If management capitulates in toto to whatever the excessive demand," said Mr. Ford, "it has to recognize that although it may save itself momentarily, it is only adding a very unfortunate part to a whole system."

* * * * *

Food prices are not likely to drop later this year, and beef prices in particular may move to record highs, according to Tilford C. Gaines, senior vice president and economist of the Manufacturers Hanover Trust Company.

In his monthly cassette report, "Gaines Talks Business," he noted that grain crops appear to be falling below earlier estimates by the Agriculture Department. He also pointed out that bad weather conditions in other grain-producing and consuming countries would lead to another demand for American farm products.

Mr. Gaines said food prices would further increase inflation pressures that averaged about 13 per cent, at an annual rate, in the first half of this year.

"I'm hopeful that we might get it down to a 10 per cent to 11 per cent rate by the fourth quarter," he added. "But, even so, 1974 will prove to be one of the worst years in our history for consumer inflation and probably the worst single year, except for 1946 and 1920."

— *The New York Times*

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OBITUARY

Food For The Spirit



by Robert L. Clingan
American Agriculturist

JOHN E. SPAAN

A former resident of Rosburg, Washington, John E. Spaan of Naselle, died June 20 at the New Seavera Convalescent Home in Long Beach. He was born November 20, 1892 in Zuidbroek, Netherlands.

Spaan received his education in the Netherlands and Germany as a horticulturist. He owned and operated the Hillside Nursery in Rosburg for 30 years. Spaan was also a former member of the Washington State Nurserymen's Association and the American Forester.

When Spaan was 21 years old he came to the U.S. and to New Jersey. He later married Anna Hoxie on June 11, 1927 in Sacramento, Calif.

Survivors include his wife Anna of Naselle; a brother, Henry Spaan of Courtland, Calif., and numerous nieces in California, Ohio and the Netherlands.

The late Phillips Brooks once described the membership of his church as "lamps on a shelf, highly polished, filled with oil, wicks neatly trimmed, but untouched by fire." This vivid description applies to most church congregations today, and to most of us "believing Christians."

We have inherited a great faith. We have continually improved our conduct of public worship until it moves so smoothly, but so often does not really move anyone. We are lamps, highly polished, filled with oil, wicks trimmed, but untouched by fire.

Why?

One problem is that we do not take our faith seriously enough. A faith that is vital and empowering is not something we possess, but something that possesses us. We are

too anxious to conform to the norm of our little world, and too unwilling to be brave innovators in the application of the gospel to our life and times. We need to be so possessed by our faith that there will be things we *have* to do simply because of what we *believe*.

A second reason is that we have yet to create the kind of warm, supportive Christian fellowship that sets us free of our inhibitions and gives us the full range of the courage of our convictions. The Christian fellowship most of us know has the effect of a damper in the chimney, not a draft on the stove! Yet it is out of sustaining and creative circles of fellowship that men filled with fire have gone forth in the history of the Christian church.

A third reason is that we have not grasped the vision of what this world could be . . . or what a man called of God, layman though he be, can accomplish in changing the world! Without vision, the Bible says, a people perish. Without a great vision, there is little human greatness in terms of personal leadership, or personal initiative, or the kind of courage we can only equate with fire.

FOOD PRICE HIKES

Retail food and beverage prices in the European Community rose by an average of 7 per cent between January and October 1973, according to an EC Commission answer to a written question from the European Parliament.

Prices rose highest in Denmark (up 13 per cent), Britain (11 per cent), France (10 per cent), and Italy (9 per cent). Costs rose less sharply in the other EC countries, ranging from a low of 2.8 per cent in Germany to 5 per cent in the Netherlands.

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The Peculiarities of Cranberry

Machinery Provide Jim DiBurgo

by J. B. Presler

with an Interesting Vocation



Jim's Job Shop is not easy to find, located as it is two miles outside of the center of Middleboro, Massachusetts, on Thomas St., a long, country road. Yet most of the local cranberry growers know how to get there. And they go here because Jim DiBurgo offers them a unique service.

He is the vital link between many a grower's conception of a machine, or a half-built machine, and the final, operating product. In other words, Jim builds custom-designed cranberry machinery upon request.

He also puts out a few inventions of his own, like the water wheel for picking, the hydraulically operated clam-shell attachment for ditch cleaning, the formidable looking rake which digs up bogs to prepare them for replanting, and a number of his own design.

The building which houses Jim's trade is partly obscured from the road by trees. Various lawnmowers and freshly welded and painted parts of machinery lie about the

entrance to the small shop. Inside the working area it seems that everything is of heavy metal and clothed in grease.

There is also a sales room attached to the shop, and here are endless rows of small boxes, each containing a different part, each of which could presumably occupy a vital position in an air-cooled engine machine.

Cardboard cut-outs of chain saws hang incongruously from a spot in the ceiling, advertising one of the products available from the shop. Jim's desk occupies one corner of this functional room. Over it is a display of cranberry machines that have been built at the shop. This display depicts the work that Jim enjoys most.

Jim did not come to the machinery trade unprepared. He was service manager for R. F. Morse in West Wareham, Mass. for 11 years before going into business for himself. He has been working out of Jim's Job Shop for four years now.

Although he would like to concentrate on cranberry machinery more exclusively in the future, he presently deals in the wider field of air-cooled engines, and most of the small and large machines that contain them. Work means anything from selling a chain saw, to advising a grower on a machinery problem, and, from fixing a lawn mower, to musing over possible designs for a cleaner dry-picking machine, and more.

Business seems to be proceeding apace, for, a new addition has become necessary in order to make room for new machining tools.

Jim likes building machines for the cranberry business. The work is unique and challenging. "It's something that somebody else hasn't done," he notes. No single large company has ever taken up mass production of large cranberry machinery because there are too few customers to make it worthwhile. Thus the field is open to innovators like Jim. The invitation to devise mechanical solutions to



A small sander for small jobs. It could be towed behind even a small lawnmower-type tractor, or pushed by hand.



A heavy duty rake which can be attached to standard equipment to speedily dig up old bogs and prepare them for replanting.

their own problems intrigues many growers as well.

The mechanization of the cranberry industry was, and continues to be, a critical issue for growers. The most obvious effect of machines has been to cut down on labor expenses and other problems associated with large labor crews. The advantages of the dry-picking rigs and the water wheels are much appreciated by growers as the cost of labor steadily increases.

In addition to the economic advantages of machines is the fact that they make the work easier. And besides, most cranberry men enjoy machines — building them, running them and comparing them. As one who deals in the mechanized area of the cranberry industry exclusively, Jim says, "I just try to make work easier for the growers."

There are problems associated with this trade, the main one being money. Says Jim, "Money is a

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problem! You have to invest (in building a new design of machine) and then hope it's going to sell. I've questioned a lot of the growers to see what they like. That helps out."

His lack of funds to invest in research, however, is what prevents potentially fruitful experimentation from occurring. This is where a large industry would have a pronounced advantage. Presently there is at least one specific and persistent need in the field, and that is an improved dry-picking machine, one that would pick the vine cleaner while doing it less damage. Jim says he is "... always thinking about it, but I don't have anything down on paper."

In the actual construction of the machines, Jim has several rules of thumb. He uses standard parts whenever possible, both in his own designs and in growers' machines. The machine is then more easily repaired and more economically maintained in the long run. This would seem to be a good policy, in accord with producing a high quality product.

More specifically, Jim feels that gear boxes are an improvement over series of chains. He used gear boxes on his water wheel, thus eliminating 75 percent of the chains necessary on other models in the field.

Again, Jim's byword seems to

be, "I just try to make the work easy for the growers." The effort is inevitably reciprocated as the grower continues to inspire Jim with their problems and ideas, and machines keep rolling into existence.



"Clam-shells" are operated by hydraulic mechanism and can be attached to standard back-hoe to clean bog ditches, and perform other useful tasks.



Jim DiBurgo and a helper run the joining rod through the two "shells" of this unique piece of equipment.

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Robert Devlin attended a meeting of the American Society of Plant Physiologists held at Cornell University from June 16 to 20. Growth regulating compounds were of primary interest at this meeting.

Frost

There were a total of eight warnings released during the spring of 1974. We seem to be in a groove because this is the same number as in 1973 and 1972; there were 10 in 1971 and 16 in 1970. There were no extremely cold nights, only borderline situations. However, there is some frost injury, probably about 1% overall from a very early season night and a night in June when temperatures dipped to dangerous levels in some locations. We wish to thank the weather observers, telephone distributors, radio stations and the personnel at the National Weather Service for their invaluable assistance to this service which is sponsored by the Cape Cod Cranberry Growers Association.

Weather

June was slightly on the cool side, averaging one half a degree a day below normal. Maximum temperature was 85 degrees on the tenth and the minimum 43 degrees on the eighth. Warmer than normal days were the 9th to 11th, 18th and 19th. The cool periods were 1-4th, 23rd and 25-28th.

Rainfall was 2.70 inches, which is just over a half inch below normal. About eighty percent of the total came in the period from the 16th to the 23rd. There were 14 consecutive days from the 2nd to 15th with no rain. There were 10 days with measurable rain with 1.06 inches on the 17th as the

largest storm. We are now two inches below normal for the year and about one inch less than 1973 for the first six months.

Crop Prospects

Reports and observations show a fairly heavy bloom, although not as heavy as last year. There was no winter kill, negligible oxygen deficiency and some frost injury. At this time the potential appears quite good. We are a little behind last year with very few set berries as of July 1. Bees have been working well when the weather permitted. It would appear that the crop will be somewhat in last year's range.

Annual Meeting

The 87th Annual Meeting of the Cape Cod Cranberry Growers Association will be held on Tuesday, August 20 at the Cranberry Station beginning at 10 A.M. The program is nearly complete at this time; however, there will be equipment displays and exhibits, a guided tour of the State Bog and the various research plots and a chicken barbeque at lunch. After lunch there will be a business meeting, committee reports, industry reports, a guest speaker and the official crop forecast by Mr. Byron S. Peterson, of the Crop Reporting Service.

Insects and Weeds

The first fruitworm moth was caught in Professor Tomlinson's black light trap on the evening of June 2, but then nothing until June 11, which is the more likely starting date. This is four days later than 1973 and 1972, three days later than 1971 and two days later than in 1970. Moth flights have been slow but are picking up with a few warm nights.

Sparganothis moth flights are heavy this year, which is a bad sign. Not much that works well on these pests; parathion is about as good as anything.

Girdler moths have been flying in large numbers, and this means trouble later in the summer. Bill Tomlinson advises that the diazinon treatments listed on the Insect Control Chart give good control of the girdler worms. The granular formulation is better than the liquid or wettable powder. This treatment should be applied about July 20 or shortly after when most of the bloom is gone.

Bogs infested with fairy ring disease will show the effects to a greater extent when the bog is dry. Affected areas should be fertilized and kept moist to minimize the damage and then treated with ferbam after harvest as recommended on the Insect and Disease Control Chart.

Dalapon may be used until the end of July for treating ditch weeds or poverty and switch grasses on shores. Shores and dikes may be sprayed with a solution of silver and water to control broad leaved weeds; this is especially good on poison ivy. Salt solution, one pound of salt to a gallon of water applied as a fine spray at not over 200 gallons per acre, will burn off wild bean and other tender weeds. Sulfate of ammonia or nitrate of soda at about three to four pounds per square rod applied to patches of haircap moss will burn it and give weak vines in these spots a real boost. Nitrate of Soda with a little spreader-sticker in water and sprayed as a fine mist will do as well as anything in burning off dodder. Do not use before the end of July.

CAUSE OF FIRE WHICH CLAIMS SCREENHOUSE IS UNKNOWN

by J. B. Presler

At approximately 5 A.M. on the thickly fogged morning of May 21, this Spring, a fire started in the screenhouse located on Mr. George Briggs' Indian Pond cranberry property in Plymouth, Massachusetts.

The fire was spotted by Peter Stearns, who lives in a stone house, only several hundred yards from the site of the then flaming screenhouse. Though the local fire department arrived promptly, there was little that could be done to salvage the building or anything housed inside it. Thus, a great deal of screening equipment was totally lost. In addition to these, numerous tools and a couple of trucks were also burned. Said Mr. Briggs, "An accumulation of sixty years worth of stuff was lost."

Mr. Briggs was not the only individual to suffer. Mr. William B. Stearns, Jr., another Plymouth cranberry grower, lost a small tractor, some tools and a large amount of sprinkler parts which he had stored in the building.

Most of the loss was covered by the owners' insurance arrangements, but the inconvenience caused was great, and some monetary loss was inevitable.

The cause of the fire remains undiscovered. The area seems susceptible to fires, however, as can be deduced from its history. In 1900 a large woods fire raged over the same area. In 1957, a huge fire which spread throughout the southern part of Plymouth county's forested area, touched this property also. And, as recently as four years ago, the house directly adjacent to the site of the screenhouse was completely leveled in a fire which



was caused by some disorder in the kitchen range.

Luckily, the screenhouse was separated from the surrounding woods by a wide margin of grass. This, the fact that the night was damp, and the absence of any high winds, confined the fire to the one building. The highly inflammable nature of the contents of the building, such as wooden boxes and the other screening equipment, was given as an explanation for the great speed with which the fire consumed the building.

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DO FORESTS PREVENT FLOODS?

by Henry S. Kernan
Forester, R.D. 1, Worcester, N. Y.
American Agriculturist

In a hauntingly powerful passage of the *Phaedrus*, Plato described the deforestation of his beloved Attic hills, the floods that ensued, and the soil eroded down to the very bones of mother earth. Man has since occupied much more land, cut down many more forests, and observed many more floods. Always and everywhere, Plato's inference has seemed inescapable — if deforestation causes floods, cannot preserving and extending forests prevent these most terrible of natural disasters?

That contention has many supporters. The Weeks Law of 1911 authorized the federal government to acquire and manage forests to "preserve the navigability of navigable streams." The idea also became part of the Flood Control Acts of 1936 and 1950, and of the Water Resources Planning Act of 1965.

Along the way, a heated controversy developed between the advocates of engineering works to control rampaging waters, and advocates of vegetative cover to hold water back before it rampaged. Much of the bitterness engendered by this dispute came about because of lack of research data to support the assertions so passionately advanced.

Argument by assertion is surprisingly effective. Validity, however, comes not from passion but from understanding and interpreting complicated hydrological processes. Research into these processes required time, space, facilities and expertise. Begun in the early 1930's, it is now advanced to the point of qualifying with scientific evidence the undoubted influence forests have upon the flow of water. Once the limits of that influence are set, the conflict can be resolved without a clear-cut verdict in favor of either side.



The sheer bulk and extent of our eastern forests (300 billion cubic feet, 373 million acres) suggest that they must hold back a considerable amount of water and thus lower the flood levels. In a general sense, they do.

No Forests

Imagine a landscape without forests — North Africa, for example, with its ruinous rainstorms and wrosion. Less often cited, though, are the landscapes of Ireland and England, almost without forests, and without these twin disasters. In fact, the argument has validity only insofar as practical alternatives to a forest cover exist.

In eastern United States, forests are a permanent and increasing part of the landscape. Their influence cannot be discounted, even for the sake of argument. We need not belabor their hypothetical disappearance. What we do need to know is how, and how much, they can lessen the potential damage from floods... a damage which rises every year, along with real estate values and occupancy of the flood plains.

Flood Sources

If forests prevented floods, one would, then, expect the floods to

arise principally from the plains, since these areas are the least forested and most intensively farmed parts of the eastern seaboard. But that is not so. Year after year, floods roll out of the heavily-forested Appalachian Ranges. In proportion to area, they give rise to more stormflow because they are higher and steeper, with shallower soils and more precipitation. Hence, damaging high waters are more likely to have gathered where forests grow.

Trees do mitigate the intensity of stormflow, but in ways whose effects lessen over time and area. Anyone who has stood under a tree in a storm knows that leaves intercept rain. He also knows that the longer the storm, the less they intercept.

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The crucial point of the forest influence lies not with the canopy, but with the soil. The flow of water over forest soils is practically non-existent, even in the heaviest rain. On the other hand, water in almost limitless quantities can infiltrate and flow through them. Much has been made of the forests' capacity to absorb and retain large amounts of water and pump it from the soil into the atmosphere.

However, the inference that they do thereby prevent floods is erroneous. When storm clouds are rolling, what is important is not the theoretical capacity of the soil to hold water, but the degree of dryness the soil has reached since the last precipitation. Too often overlooked is the fact that floods most often occur after prolonged storm periods have already saturated the soils. Every added drop that infiltrates into the soil causes another drop to be ejected into a stream below. The delaying influence of the forest soil has thereupon ceased.

Moreover, the larger the drainage basin, the longer the time required to reach flood proportions. Hence, the forest becomes increasingly less significant as the channel storage effects of larger watersheds become more pronounced.

Floods do start in small watersheds, and earlier and more often in some than others. As the storm continues, more area becomes contributory in proportion to that part of the total fall entering the stormflow. The most likely areas are steep, with high precipitation and shallow soils.

Where the soils are incapable of infiltrating rather than shedding water, they probably have been burned, grazed or cultivated. Because water flows over them rather than through them, these soils contribute a high ratio of sediment. Sediment decreases channel capacity and increases flood damage because dirty water is more damaging than clean water.

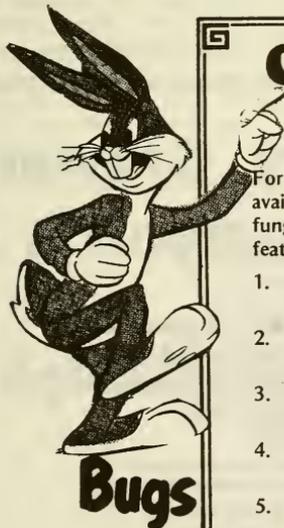
Thus, insofar as forests keep soil in place, they do lessen the prob-

lems of floods. In the heavily forested Northeast, soil erosion is locally important, but is not a large factor in the problem of floods.

The reasons have to do with the economics of hill farming and with the capacity of the native vegetation to grow rapidly and maintain soils that infiltrate water. For this purpose, brush can be as useful as trees, and young trees as useful as old. Mature and old-growth forest have no advantage.

Evidence does not support the widely and passionately-held belief that cutting and removing trees necessarily cause erosion and floods. Nor do present patterns of forest ownership and use allow for clearcut areas extensive enough to cause an appreciable decrease in the transpiration of potential flood water by trees.

However, that belief is still with us and is a major factor in our natural resources policy. Evidently the ghost of Plato has come to America and will not easily be laid to rest!



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massachusetts FARM BUREAU FEDERATION

Land Use Legislation appears to be a dead issue for this congressional year. In Washington, the House voted down an attempt to consider a bill on land use planning.

OSHA wants farmers to be held liable if employees fail to use seat belts. Farm Bureau says it's simply impractical to expect farmers to observe actions of employees over such a wide area.

Safety on the farm is a condition desired by all farmers; both for themselves and their workers. Programs to encourage farm safety are conducted by Farm Bureau at all levels.

Common sense on the farm is what farmers are asking from their government. Rules and regulations developed by people with no real comprehension of how to operate a farm in an efficient (and safe) manner only snarl our productive capability. They don't help save lives . . . which is what they're supposed to do.

Census Bureau reminds you to keep accurate records at your farm this year, so you may provide complete information on the official 1974 Census of Agriculture. Yes, this is a census year, and you'll receive the proper form early in 1975. The official census of agriculture is taken every five years.

Coming attractions - Open House on the cranberry bogs in the town of Carver, Mass. This promotion will be organized by the ladies of Plymouth County Farm Bureau. Dates and places to be announced later, but save your Sundays in early October for a trip to Cranberryland, U.S.A.

Clear plastic wrap used for produce in food stores, may not be produced in the near future. New OSHA regulations on the manufacturing of polyvinyl chloride (PVC) have been proposed, based on reports that the gas which is used is dangerous. If the PVC goes out of production, the produce industry will have to rely on other types of packaging materials. Among the alternatives are cellophane, polyethylene or simply bulk displays (remember them?)

Did you notice in the news that a proposal from Massachusetts Congressman James Burke of Milton to give a 7 percent investment tax credit to individuals for equipment used in the production of home vegetable gardens has been ap-

proved by the House Ways and Means Committee? This credit would be available for purchases of equipment up to \$100. Burke says "it is time the Congress took the initiative to encourage private production of food."

Also on Beacon Hill, Senate Ways and Means is considering two separate bills on Wetlands. Farm Bureau supports H-6379, which preserves the agricultural exemption. The other bill, H-6261, greatly restricts agricultural practices.

Write to Senator James Kelly at the State House, Boston, Mass. 02133, and tell him you support H-6379. Sen. Kelly is chairman of Senate Ways and Means.

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GROWER PATROLS BOGS AT NIGHT

by David M. Skoloda
Milwaukee Journal

While most of Wisconsin was asleep on a recent night, Bruce Potter was awake protecting part of the nation's Thanksgiving dinner fixings from frost.

Potter, who owns 155 acres of cranberry marsh 12 miles northeast of here, spent most of the night patrolling the narrow sandy trails that border his marshes. He was taking temperature readings from sensors placed at scattered locations among the vines.

When the temperature drops to 34 or 35 degrees, he turns on sprinkler irrigation systems to protect the vines.

Temperatures in the marsh were mainly in the low 40's as he made his first round at about 11 P.M. A crescent moon turned slowly from yellow to pumpkin orange and sank behind pine trees edging the marsh. Watchful deer bounded away through the vines at the approach of the station wagon.

Potter, who spotlighted the retreating animals, said he enjoyed watching the deer and made no effort to control them even though they damage the marshes.

The vines, which are about ready to flower, are susceptible to frost damage throughout the summer, he said.

Potter is a third generation cranberry grower. The marshes have been in the family since 1926 and he owns 3,500 acres in this area, including a small resort.

He lives with his family in a sprawling modern stone house on a knoll at the edge of one of his marshes, and he also owns other smaller marshes near City Point and Fifield.

Potter explained at the outset of the evening that the temperature would not get as low as the 24 to 28 degrees predicted for the state's cranberry bogs. But it probably would be cold enough to require sprinkling, especially just before dawn when the temperatures are the coldest, he said.

At one stop, he stood quietly measuring the night with all his senses. He said humidity, breezes, appearance of the sky and an intuition based on years of experience all influenced his judgment of the weather. "It's hard to explain," he said.

He pointed out that in one marsh, thermometers located only

about 900 feet apart indicated 10 degrees difference in temperatures. That is why the monitoring and alarm equipment in his office providing information on two locations is no substitute for patrolling the marshes in person, he said.

In one spot, a slight movement of grass indicated to him that a breeze was moving warmth from open water across the vines, keeping the temperature at about 50 degrees.

Patches of wispy ground fog in another area "tell me that it is 5 degrees or more cooler here than where we just stopped," he said.

Potter, who wore his pants tucked into the top of leather boots, decided to lie down at 2:30 A.M. but was back up for another tour at 3:30. Just after 4 A.M. he found a 35 degree reading in a 12 acre marsh and decided to turn on the sprinkling system.

The sprinklers sputtered into action as the sky began to pale in the east.

Potter said he had never had a loss from frost because of failing to flood the vines in time. He did have a loss he estimated at \$12,000 several years ago when the electric power to one of his pumps failed at 4 A.M. with the temperature at 22 degrees. He said he recently won a lawsuit against the power company.

At about 4:55, as the birds were beginning their morning carols, Potter checked his monitoring equipment one last time and decided flooding would not be necessary on the other marshes. He drove to the marsh where the sprinklers were working and turned them off.

A blanket of fog hung over the sprinkler dotted marsh. The cold damp air was pine scented. A great blue heron flapped languidly along the tree line.

Potter checked his instruments and said the temperature in the marsh had dropped to 32½ degrees but was now up to 36. A few minutes later he closed the sprinkler valve and his nightlong vigil was over, just before the sun burst over the horizon into a cloudless sky.

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Processing Quality of Cranberries after Extended Storage in N₂ Atmosphere with Low and High Relative Humidities

R. Stark, F. R. Forsyth, C. L. Lockhart and I. V. Hall
Canada Department of Agriculture, Research Station
Kentville, Nova Scotia

Introduction

Stark *et al.* (1971) showed that cranberries could be stored up to 12 weeks in 100% N₂ gas. The present study was designed to determine if relative humidity affected the processing quality of cranberries stored in 100% N₂ for prolonged periods.

Materials and Methods

The experiment began on October 15, 1970. Four treatments, replicated 4 times were set up: low (65 to 70%) and high (95 to 100%) relative humidity in air and low and high relative humidity in 100% N₂. One thousand grams of cranberries, dry harvested from a stand of a native cultivar resembling Howes, were placed in each of sixteen glass bottles (3760 ml) each having a screw cover with two outlets for flushing and removing gas samples. CO₂ was removed from samples by placing a kraft paper bag containing 200 g of hydrated lime on top of the berries, (Forsyth *et al.*, 1971). The low relative humidity series was produced by placing a paper drinking cup containing 150 g of calcium chloride in the bottom of each jar (Lockhart and Eaves 1967). For high relative humidity water replaced calcium chloride in each cup. After the covers were screwed tight and sealed with Strip seal (Tremco Manufacturing Co. of Canada Ltd.) bottles for the N₂ series were flushed with 100% N₂ for two minutes and the outlets were plugged. In the air series the outlets were left open. All containers were placed in storage at 3.3°C. A 10 Kg sample of cranberries, sealed in a polyethylene bag, was placed in a freezer at -23°C as a control for flavor evaluation.

Concentrations of O₂ and CO₂ in the N₂ series were determined at weekly intervals with a Fry micro

gas analyzer (Fry 1949). Before opening the bottles, volatiles were determined on 1.0 ml aliquots of gas by isothermal GLC with a Varian aerograph Model 204 B equipped with a hydrogen flame ionization detector. Separation was in a 366 cm x 3 mm column packed with 20% Hallcomid M-18 on Chromosorb P as in a previous paper by Forsyth and Webster (1971).

After 14 months 500-g samples were removed from each treatment and the amounts of decay and physiological breakdown were recorded. A section of decayed, soft or sunken area of each berry was plated on potato dextrose agar (PDA) to identify any organisms present. Cranberries with red color throughout the tissue were classified as physiologically broken down.

After storage for 14 months sauce was prepared by adding 1000 ml of water and 830 g of sugar to 1000g of berries, cooking to a final temperature of 102°C and canning with N₂ flush. Taste panel evaluation of the canned sauce was carried out after four months storage at 20°C. The Triangle Test Difference Analysis of Larmond (1967) was used to determine whether differences existed between the N₂ treated samples and the frozen sample. After establishment of differences, panelist preferences were determined using the Ranking Preference Analysis of the same author.

Results

A marked difference was noted between berries stored in air and in N₂. Many of the berries stored in air were covered with fungal growth and were unsuitable for making sauce. The berries in N₂ atmos-

pheres appeared free of decay, were firm and of a bright red color regardless of relative humidity.

The GLC analyses revealed that acetaldehyde, methyl acetate and ethyl alcohol were present (Table 1) in the N₂ atmosphere. However, only ethyl alcohol was detected in the atmosphere over the air stored cranberries. No abnormal odor was detected by smell from N₂ atmospheres on opening the containers.

Five fungi, *Acanthorhynchus vaccinii* Shear, *Botrytis cinerea* Pers., *Glomerella cingulata-vaccinii* Shear, *Godronia cassandrae* Pk. f. *vaccinii* Groves and *Guignardia vaccinii* Shear were isolated from air stored cranberries but not from N₂ stored cranberries. Microorganisms isolated from cranberries stored in N₂ and in air were *Cladosporium oxycocci* Shear, *Diaporthe vaccinii* Shear, *Penicillium expansum* Lk., *Penicillium* sp., *Rhizopus* sp., *Sporonema oxycocci* Shear and yeast.

Penicillium spp., and yeasts in similar amounts were the two most prevalent organisms isolated from the N₂ stored cranberries.

Sauce prepared from N₂ treated berries was significantly different in flavor, as determined by the triangle tests, from sauce prepared using frozen berries. Differences

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within the two N₂ treatments were not examined.

Preference tests conducted on these sauce samples showed that N₂ high humidity treated berries were superior to N₂ low humidity and these in turn were superior to frozen berries for sauce manufacture (Table 3).

Discussion

This experiment indicated that cranberries stored for 14 months in 100% N₂ at 3.3° C can be made into sauce without loss of color or flavor. Taste panels rated sauce from N₂ high humidity treated berries superior to that from N₂ low humidity treated berries and these in turn were superior to sauce from frozen berries.

The amount of decay and organisms isolated from berries stored in N₂ high humidity and the two air humidities were similar to values previously reported in a three months study by Lockhart *et al.* (1971). However, the N₂ low humidity treated berries had little decay (Table 2) and thus would be considered most suitable of the treatments tested for the purpose of making sauce.

Although a high percentage of the cranberries showed a red color throughout the tissue, classified as physiological breakdown, this condition had no apparent detrimental effect on the quality of the sauce. Isolations made on PDA showed that these berries were free of decay organisms.

It is concluded that cranberries can be stored successfully in a

Table 1. Volatiles from cranberries stored in air or in 100% N₂ for 14 months in mg/l.

Atmosphere and humidity	Acetaldehyde	Methyl acetate	Ethyl alcohol
N ₂ , 95-100% R.H.	2.69	8.94	21.36
N ₂ , 85 - 70% R.H.	3.93	12.76	14.24
Air, 95-100% R.H.	0.00	0.00	6.56
Air, 65 - 70% R.H.	0.00	0.00	7.57

Table 2. Decay and physiological breakdown of cranberries after 14 months storage at 3.3° C.

Atmosphere and humidity	% decay	% physiological breakdown
Air, 65 - 70% R.H.	37	63
Air, 95-100% R.H.	48	52
N ₂ , 65 - 70% R.H.	2	98
N ₂ , 95-100% R.H.	21	79

Table 3. Summary of ranked preferences of taste panel evaluation of sauce prepared from N₂ treated and frozen cranberries (four tests).

Rank of Preference	N ₂ High	N ₂ Low	Frozen
1	48.05 ± 0.63	30.88 ± 1.44	20.79 ± 0.338
2	39.55 ± 0.67	35.18 ± 1.18	24.85 ± 0.602
3	12.06 ± 0.62	32.00 ± 2.16	54.32 ± 1.15

nitrogen atmosphere at 3.3°C with a low relative humidity of 65-70% prior to processing into sauce.

Lockhart, C.L., Forsyth, F.R., Stark, R. and Hall, I.V. 1971. Nitrogen gas suppresses microorganisms on cranberries in short term storage. *Phytopathology* 61: 335.

Stark, R., Forsyth, F.R., Hal, I.V. and Lockhart, C.L. 1971. Improvement of processing quality of cranberries by storage in nitrogen. *Can. Inst. Food Technol. J.* 4: 104.

Acknowledgements

The authors wish to thank H. J. Lightfoot and Heather L. Sutton for technical assistance.

References

Forsyth, F. R., Eaves, C. A. and Lockhart, C.L. 1967. Controlling ethylene levels in the atmospheres of small containers of apples. *Can. J. Plant Sci.* 47: 717.

Forsyth, F.R. and Webster, D.H. 1971. Volatiles from 'McIntosh' apple fruits as affected by phosphorus and potassium nutrition. *J. Amer. Soc. Hort. Sci.* 96: 259.

Fry, F.E.T. 1949. A simple gas analyzer. *Can. J. Res. E.* 27:188.

Larmond, E. 1967. Methods for sensory evaluation of food. *Can. Dep. Agr. Publ.* 1284, Ottawa Canada.

Lockhart, C.L. and Eaves, C.A. 1967. The influence of low oxygen levels and relative humidity on storage of green tomatoes. *J. Hort. Sci.* 42: 289.

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Cleanliness is Best Method of Food Poisoning Prevention

by Rita T. Wood
Extension Home Economist
New Jersey

Summertime and the livin' is easy—the meals more casual.

But the rules and regulations for cleanliness in food preparation and storage must be stringently enforced because warm weather and picnics, camping and cookouts are the potential ingredients for growth of stomach-ache bacteria.

Food poisoning occurs much more frequently in the summer months. The bacteria that cause food poisoning (some 1500 varieties) are everywhere—in the air, on people, pets, plants and all non-sterile objects. It's an interesting fact that under favorable conditions, bacteria can double their population every 15 minutes!

The symptoms of stomach ache, cramps, vomiting, or diarrhea can last from a few hours to a few days. Often the cause is attributed to things other than bacteria invasion via food because the bacteria are not readily detected.

The food may look, smell and taste delicious and still be the culprit carrier. It is the multiplying of the microbe that creates illness and cleanliness that inhibits growth.

Bacteria spread can be controlled by 1) scrupulous cleanliness on the part of the food handlers, 2) good sanitation in the kitchen, 3) not letting food stand at room temperature for long periods or be on the leftover list for long, and 4) attention to the temperature to which food is cooked and stored.

Making habits of cleanliness measures will make you a better, safer cook. Heading the list is hand washing. Wash hands with soap and water before handling food—and again, if you go away and come back to your food preparations—especially after using the toilet.

It is important to wash after handling raw meat, poultry or eggs, before working with other food.

And, of course, everyone should protect himself by washing before sitting down to a meal—or grabbing a snack on the run.

In the common-sense category, food should never be allowed to come in contact with open sores or abrasions. And pet dishes, aquariums and what-have-you should not be washed in the kitchen sink. If use of the kitchen sink is necessary, it and adjacent areas should be carefully scoured before making a meal or snack.

Flies, notorious contamination carriers, must be "done-in."

It's a good idea to color-key sponges for specific uses, such as, counter wiping, dishwashing. And do toss them into the washing machine often.

Anyone helping in the kitchen should follow good cleanliness practices. These standards should include keeping work surfaces as clean as possible. Washing them after each exposure to raw meat or poultry is essential.

After every use, give kitchen tools soap and water treatment before reusing. Be especially careful about cleaning meat grinders, blenders, and can openers.

Chopping boards are great helpers—and equally good at spreading

bacteria unless care is taken. Scrub well after cutting fish, meat or poultry and always wash the board before using for something else.

In addition to these year-round kitchen health measures, there are some particular summertime hazards to be dealt with. For example, getting from store to home and refrigerator in hot weather.

To cope, arrange trips through the supermarket and/or specialty stores so that perishable foods are shopped for last. This applies particularly to precooked foods, especially those with low acid content, bland, and frozen foods.

Refrigeration at the right temperature prevents the spread of bacteria. Most refrigerator instruction booklets suggest setting the machine at a higher temperature in hot weather. Also a full refrigerator resists temperature change better than one partially full. Lots of chilled foods help keep it cool even when the door is opened frequently.

As frost builds up on freezing units, efficiency is impaired and the temperature rises. So defrost the unit as needed.

A little thought and an extra measure of caution are the "in" things for carefree summer meals.

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(Makes 1 2-quart mold)

- 4 envelopes unflavored gelatin
- 3 cups Ocean Spray cranberry juice cocktail
- 3 cups tomato juice
- 2 tablespoons lemon juice
- 1 cup minced celery
- 1/4 cup minced scallions
- 1 cup finely chopped peeled cucumber

Soak gelatin in 1 cup of the cranberry juice. Place over heat and

stir until gelatin is dissolved. Stir in remaining cranberry, tomato and lemon juices. Chill until slightly thickened, about 30 minutes. Fold in remaining ingredients adding salt to taste. Pour mixture into a lightly oiled 2-quart mold. Chill until firm. Dip mold into lukewarm water for a few seconds, tap to loosen and invert onto a platter. Surround mold with additional sliced cucumber and small rolls of ham and salami. Serve aspic topped with mayonnaise.

HONEY-CRAN COOLER

(Serves 4)

- 2 cups (1 pint) Ocean Spray cranberry juice cocktail, chilled
- 2 tablespoons honey
- 1/4 teaspoon almond extract
- 1/2 cup rum, if desired

Combine all ingredients; mix well. Divide equally among 4 tall glasses. Fill glasses with crushed ice. Suggested garnish: mint sprigs if desired or lemon slices.



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PROMOTION ANNOUNCEMENTS

Douglas H. Creecy has been appointed Division Advertising Manager for the Agricultural Chemical Division of Diamond Shamrock Chemical Company.

Mr. Creecy, 30, will be responsible for the advertising and sales promotion activities of the Agricultural Chemicals Division. He will be involved with the company's complete line of agricultural and turf care products.

Prior to his promotion, Creecy had served as a chemical salesman in the midwest regions of the country. He joined Diamond Shamrock in 1969 after serving two years as a Research Assistant at the University of Arkansas, where he received a B.S. degree in Agriculture.

MAINE BLUEBERRIES

The 1974 prospects as of mid-July are for a crop approximately 10 percent less than last year.

Lack of snow cover and ice storms during the past winter resulted in some winter damage. Cool, rainy weather during bloom restricted bee activity and will make harvest slightly later than

Donald W. Longshore has been appointed the new manager of engineering for the Agricultural Tractor Division of the Allis-Chalmers Corp., Agricultural Equipment Divisions. The announcement was made by Owen R. Davis, general manager, Agricultural Tractor Division.

Longshore will be responsible for establishing and implementing plans for development and improvement of tractor products.

Since joining Allis-Chalmers in 1959 as a Graduate Training Engineer he has held several positions in the tractor engineering department, the most recent being manager of design engineering.

He is a graduate of Ohio State University with a bachelor of science degree in agricultural engineering.

normal. Worm and blight damage are generally light. The size of berries are mostly medium and the quality of this year's crop is expected to be good. Harvesting will become general the first week of August in southern areas and about a week later in Hancock and Washington Counties.

GRAVEST CRISIS

"Europe is going through the gravest crisis since the creation of the European Community," Petrus J. Lardinois said May 28 in Wiesbaden, Germany. He was addressing the congress of the Deutscher Raiffeisentages, an institution specializing in farmer financing.

Lardinois, EC Commissioner responsible for agricultural policy, said European integration is undergoing a "process of dissolution affecting the very basis of the Community: the customs union and the common agricultural policy (CAP)."

"Without a common agricultural policy, European integration cannot survive," he said. The biggest obstacle to the functioning of CAP, he continued, has been Europe's lack of a coordinated monetary policy. He added that the farm ministers cannot solve this problem alone and that the help of all EC governments, particularly of the finance ministers, is needed.

GUEST EDITORIAL

The U. S., long preoccupied with rapid urbanization, now is rediscovering its economic heritage and still its biggest industry—agriculture. News of food prices, grain exports and supply and demand is in the headlines regularly, underscoring for citizens and national leaders alike the tremendous influence that agriculture has on the economic, social and political well-being of America and the world.—Gene Meyer, *Wall Street Journal*

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NEW JERSEY GROWER LOSES PACKING HOUSE AND EQUIPMENT IN A

\$200,000 FIRE

Thanks to some help from some good friends and neighbors it was "business almost as usual" at the William Haines farm in Chatsworth, New Jersey on July 24.

Even though Haines lost a 320-foot long packing house and most of his blueberry processing equipment in a \$200,000 fire on the evening of the 23rd, pickers and packers were on the job the next morning continuing the harvest and shipping the berries to market.

Fire officials still have not determined the cause of the blaze which razed the packing house and brought volunteers from 11 area fire companies to the scene.

Everyone Helps

According to Mrs. Sally Haines, neighbors began bringing in cleaning machines, packing tables and the like before firemen had even left the scene on Tuesday night.

"In a farming community everybody helps everyone else," Mrs. Haines explained.

Employees, under the direction of foreman Ernest DeStefano, began setting up the equipment in a cranberry processing building across the road on the Haines farm.

By 7 o'clock the next morning everything was ready to go and not a single employee lost a day's work, according to Mrs. Haines.

Haines is one of the larger growers in the area with 175 acres of blueberries and 700 acres of cranberries on his 9,000-acre farm.

He belongs to the Tru-Blu Cooperative in New Lisbon and hundreds of flats of blueberries have been shipped to market since the fire.

Insurance investigators are still trying to determine the total damages, but Haines estimates they will probably exceed \$200,000.

In addition the packing house and processing equipment, one of five houses in the area of the packing house was slightly damaged, and a storage shed filled with

"things that are hard to replace," things of sentimental value to Mrs. Haines, was also razed.

Mrs. Haines had plenty of praise for the dozens of volunteer firemen who responded to the alarm.

"The firemen were all just wonderful," she said, noting that many of them were at the scene until almost midnight. "They came from both directions."

When the fire was discovered the Chatsworth Fire Company was notified immediately.

"Then I called the Pemberton township dispatcher and asked him to send all the help he could," Mrs. Haines explained. "Then I called Green Bank and asked them to get all the help they could from that end.

"I'm just thankful the wind was blowing as it was," she added.

The wind blew the fire away from the five houses surrounding the packing house. If the wind had been blowing the other way, all of the houses would have probably been caught up in the blaze.

Will Rebuild

Mrs. Haines said she and her husband plan to rebuild the packing house, which she described as a landmark in the area.

"We'll rebuild but not on the same site," she said. "It's too close to our houses. We plan to build across the road (Rt. 563)."

The farm has been in the Haines family for three generations, and the Haines' son, Bill, Jr., is studying agricultural economics at Rutgers University's Cook College. He has worked on the farm all his life.

Their daughter, Holly, a sophomore at Florida Southern College, works as a packer on the farm during semester breaks.

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Continued on Page 20

Mass. Cranberry Station & Field Notes

by **IRVING E. DEMORANVILLE**
extension cranberry specialist

Weather

July was slightly warmer than normal, ending up 0.7 degrees a day above average; however, at Boston just the reverse occurred with a below normal month recorded. Maximum temperature was 92° on the 9th and minimum temperature 51° on the 21st and 24th. Warmer than average temperatures occurred on the 4th, 7th, 9th, 10th and 15th. Cooler than average days were the 12th, 16th, 20th, 24th and 25th.

Rainfall totalled only 1.23 inches for the month which is 1-2/3 inches below normal. This is the

driest July since 1966 but nowhere near the record dry July of 1937 when only 0.07 inches was recorded. We had measurable precipitation on nine days but these were of little consequence. The largest storm was only 0.45 inch on the 15th, in fact, there was only 0.05 inch for the last two weeks in the month. We are now 3.6 inches below normal for the year and five inches behind 1973 to date.

Harvest

Now is the time to plan for the harvest, berries are sizing up and

work on the bog should be kept a minimum. Do the repairs and maintenance on the harvesting equipment before the first day of harvest arrives. Line up the necessary labor and then wait for color and size to come along. When harvesting starts, run the picking machines, both dry and wet, at moderate pace; don't try to set any speed records. Fast picking tends to

injure vines, causes bruising of fruit and scatters berries unnecessarily. Harvest season is always a fright but some advance planning and work will help ease the strain.

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REGIONAL NEWS NOTES

WISCONSIN

Summer became well established over Wisconsin during the week of July 1st with the warmest weather of the season. Warm days and mild nights provided favorable growing conditions as temperatures averaged about 3 degrees above normal. Significant rainfall occurred on the 2nd and 3rd with some severe thunderstorms and hail on both days. The rain was variable over the State, with the eastern area receiving the heaviest amounts, and the west the lightest. Prospects are for hot summer weather to continue most of the coming week.

The week of the 15th started out cooler but slowly warmed up again to the 90's on the 18th and 19th before becoming cooler on the weekend. State highs were 98° at Baldwin and 97° at LaCrosse, while the low was 38° at Eagle River. Precipitation was generally light and spotty. Rain spread over the state late on the 21st.

Temperatures averaged close to normal over Wisconsin during the week of the 22nd. Very warm afternoon temperatures occurred in western sections on the 22nd and 23rd, throughout the State on the 26th and in the south on the 28th. Nighttime lows were on the cool side, especially in the northeast. Showers ended on the 22nd but general statewide showers fell again on the 24th continuing into the 25th. The dry central area received a good rain on the 24th.

NEW JERSEY

Dry weather in June and July caused some temporary concern over the cranberry crop in New Jersey. Although the rainfall records do not indicate drought

conditions the level of water in reservoirs on some cranberry properties by the end of July was getting close to marginal levels. A New Jersey Department of Agriculture report on July 30th stated that as of July 29th, the average soil moisture content, expressed in per-

centage of field capacity, was only 28% in southern counties.

The total rainfall in July at New Lisbon was 3.27 inches, about 1.18 inches below normal. Most of this was in hard showers which run off and do not soak into the soil. The total over the past three months has



CHAMPION PACKER... Donna Mortellite of Hammonton (center) was declared "Champion Blueberry Packer of the World" recently following a week-long competition at the Bergen Mall in Paramus. Presenting the trophy is Phil Sheridan, executive secretary of the North American Blueberry Council, while 1974 Blueberry Queen Melinda Susan Cobb looks on. Courtesy Times-Advertiser, Pemberton, New Jersey

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been 10.57 inches, only 1.15 inches below normal. However, some cranberry bogs did not experience the rainfalls which occurred at New Lisbon.

In regard to temperature, the unusually cool nights brought the average temperature down to 72.5 which is about 2.5 degrees below normal. There were 13 nights below 60° F, with two in the high forties. This was not quite balanced out by the ten days during which the maximum temperature was in the nineties. The extremes in temperature were 95 on the 4th and 48 on the 23rd.

In the first few days of August most cranberry bogs received over two inches of rain to relieve the dry conditions. As of this writing (Aug. 5) water levels in reservoirs are much improved but still a little below normal.

BLUEBERRY CROP BELOW LAST YEAR

Prospects for the 1974 New Jersey blueberry crop are for a smaller production than last year, according to Secretary of Agriculture Phillip Alampi.

The New Jersey Crop Reporting Service has informed him that blueberry production in the Garden State this year is expected to total 2,044,000 12-pint trays, a decrease of 10 percent from the 1973 crop of 2,263,000 trays.

Lower yields per acre are responsible for the decline. The 1974 acreage of 7,300 is unchanged from last year. Yield per acre, however, is indicated at 280 trays compared with 310 in 1973.

Frosts in early May caused some isolated crop damage. Some individual growers lost their entire crop.

Harvest of the Weymouth variety began about mid-June and continued through early July, when harvest of the Bluecrop variety got underway. Weather conditions have been generally favorable for harvest and berry quality has been good.

ANNUAL SUMMER MEETING OF THE AMERICAN CRANBERRY GROWERS' ASSOCIATION

SWEETWATER CASINO, SWEETWATER, N. J.
Thursday, August 29, 1974 - 10:30 A.M.

PROGRAM

MORNING SESSION 10:30 - 12:30 A.M.

1. The Estimate of the 1974 Cranberry Crop for New Jersey and the United States—Myron Flint, Jr., N. J. Crop Reporting Service
2. Soil Conservation Assistance in Establishing Prime Agricultural Areas Under the Blueprint Commission Proposal—Frederick Mahn, Soil Conservation Service.
3. Latest Information on the Cranberry Marketing Order—Walter Z. Fort, Field Representative for the Cranberry Marketing Order
4. Remarks on the Agricultural Situation in New Jersey (Blueprint Commission, Farm Bureau, Labor Problem, Flood Plains Legislation)—Edward V. Lipman, Manager, OCEAN SPRAY CRANBERRIES, INC., Bordentown, N. J.
- 5 Business Session

LUNCH 12:30 P.M.

AFTERNOON SESSION: *Field Tour of Rutgers Research Bog at Oswego*

1. Mechanical Demonstrations:
 - (a) Tom Darlington's new bog elevator will be demonstrated.
 - (b) Abbott Lee's new aquatic sanding machine will be on exhibit.
 - (c) A new cranberry dam brush mower will be at work.
2. Demonstrations in Cranberry Culture:
 - (a) Variety trials. This will be the feature this year. Varieties are producing well and are making a good display.
On bog #6 at least two varieties from the original 40,000 seedlings look very promising.
On bog #7 Ben Lear, Cropper, Stevens, Wilcox, and Le Munyon should be observed.
On bog #8 cross pollination plots of Early Black and Early Richard and Early Richard and Wilcox are producing well. A single plot of Pilgrim also looks very interesting.
 - (b) Color Enhancement Demonstration Plots
 - (c) Weed Control Demonstration Plots
 - (d) Biological Control Bog
 - (e) Oxygen Deficiency Tests



Issue of August 1974 / Volume 39 - No. 4

**PRESIDENT FORD SIGNS
LAW TO SUBJECT PRODUCE
DEALERS TO FINES**

The first bill signed into law by President Gerald R. Ford Aug. 10 authorizes a maximum fine of \$2,000 for misbranding fruits and vegetables shipped, sold, or offered for sale in interstate or foreign commerce, the U. S. Department of Agriculture (USDA) announced.

Officials of the USDA's Agricultural Marketing Service (AMS) said that the law, which amends the Perishable Agricultural Commodities (PAC) Act, will allow a violator to admit his guilt and pay a monetary penalty with the consent of the Secretary of Agriculture. This will give such a person an alternative to the current provisions, which call for a formal proceeding to determine whether a license should be suspended or revoked.

Regulations to implement the new law are currently being drafted by AMS.

The PAC Act establishes a code of good business conduct for the produce industry. It requires that interstate traders in fresh and frozen fruit and vegetables be licensed and authorizes USDA to suspend or revoke a trader's license for violating the Act.

CRANBERRIES

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— Our 35th Year of Publication —

I. S. Cobb . . . *publisher*

J. B. Presler . . . *editor*

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Food For The Spirit



by Robert L. Clingan

There are some strong words in our Bible about what faith can accomplish, and how a righteous man of faith can expect God to answer his prayers. For example, John 15:7 reads: "If you abide in Me, and My words abide in you, ask whatever you will and it shall be done for you."

It sounds as though the sky is the limit and everything is possible. We need to recognize that this is true for a person who abides in Christ and allows Christ's words to abide in him, for such a person will not ask for anything that would be detrimental to someone else if the prayer were granted. The kinds of things for which he would ask would surely focus on the gifts of the spirit, rather than material reward.

A second qualifying thought is that God does answer every prayer... but sometimes the answer is "No." Jesus pictured God as a loving father, and a good father never over-indulges his children, no matter how much they desire it, for he has to think of the child's true well-being.

For example, a ten-year-old child asks his father for a high-speed motorcycle. A loving and responsible father would have to say no. He would explain to his child that the laws of the state do not permit ten-year-old children to drive high-powered motorcycles on public highways, and that he could easily destroy himself and hurt someone else.

Jesus taught that the love of God was no less... far more, in fact... than that of an earthly father. Out of His love He sometimes has to say no to our prayers, but were we to know the full possibility of the consequences, we would know His wisdom in not giving us everything we might ask.

Our Lord gave us the example of how we should pray when He was in the Garden of Gethsemane. "If it be possible, Father," He prayed, "let this cup pass from me." He was referring to His pending crucifixion. He concluded the prayer: "Nevertheless, Thy will be done."

Too often this phrase is missing from our prayers. If we abide in Him, and His words abide in us, we will accept whatever outcome the wisdom of God determines in our behalf.

An anonymous writer told of the experience of a man who never seemed to get his prayers answered: I asked God for strength, that I might achieve—

I was made weak, that I might learn humbly to obey.

I asked God for help that I might do greater things—

I was given infirmity, that I might do better things.

I asked for riches, that I might be happy—

I was given poverty, that I might be wise.

I asked for all things, that I might enjoy life—

I was given life, that I might enjoy all things.

I got nothing I asked for—

But everything I had hoped for.

Despite myself, my prayers were answered.

I am, among all men, most richly blessed.

TAX NOTES

FEDERAL HIGHWAY USE TAX IS DUE

Owners of large trucks, tractors, or buses in Massachusetts are required to file a Federal highway use tax return, Form 2290, by September 3.

"The tax generally applies to single unit trucks weighing 13,000 pounds or more, to truck-tractors weighing 5,500 pounds or more, to trucks of 9,000 or more pounds equipped for use in combinations, and to buses with a gross weight of more than 26,000 pounds," said John E. Foristall, IRS District Director.

Revenue from the highway use tax program assists stages in financing the Interstate Highway System, but the tax is imposed on these vehicles using any public highways, city streets, state roads and interstate roadways.

"The tax year for the highway use tax begins July 1 and runs through the following June 30. For vehicles placed in service after July, Forms 2290 must be filed with the IRS Service Center serving the vehicle owners by the last day of the month following the month a vehicle is used on a public highway for the first time," Foristall added.

Further information on the proper filing of the Federal highway use tax returns are available at the Boston IRS District Office. Ask for IRS Publication 349, "Federal Highway Use Tax."

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The First in a Series for Cranberry Collectors: Postcards of the Cranberry Industry

Cranberry scoops from the late 19th and the early 20th century are well known Cape Cod antique items. But scoops are not all that the cranberry industry has to offer to collectors of memorabilia from past eras. Postcards of the colorful industry were being printed as early as 1906, and perhaps even before that.

The obvious advantages to collecting postcards rather than scoops, furniture, and other bulky items is that they tend to be much less expensive, easier to store (in an old cigar box, perhaps), and they are effortless to transport. In addition to these virtues, postcards bear pictures; pleasant scenes of old methods. And they very often have an intriguing legend to tell in the form of a written message, from one correspondent to another.

Thus the postcard serves to remind us that cranberries were being actively promoted through a variety of means almost since their infant stages of cultivation, and the brightly colored cards bear visual records of those time-consuming, but engaging methods of taming the wild 'crane-berry'.

The postcards that are reproduced below come from the collection of W. Neal Merry, of Duxbury, Massachusetts, and from the Mass. Experimental Station's Cranberry library, in Wareham, Mass. Though they appear in shades of gray here, the originals are all in color, with a bright red, cranberry color screened in to indicate berries. Particular note will be taken of various media and methods used where it is possible to discern such.

A primary purpose of this article, and ones which will follow it concerning other collectable items, is to establish communication between growers interested in such things. Please feel free to contact each other through *CRANBERRIES* magazine, Box J, Kingston, Mass. We will get you in touch with each other if addresses are unknown to you.

Front: "Refrigerating plant for Cranberry Cannery, Inc. at Barnstable, Mass."

Back: "Visitors to Cape Cod will be interested in this Cranberry Refrigerating plant at Barnstable (with a duplicate at Chatham) where vine-ripened cranberries are quickly frozen by a special process capturing their flavor and food value at the perfection point. These berries are then canned as needed, assuring consumers 'fresh pack' cranberry sauce every day in the year. Capacity of the two plants, 4,000,000 lbs. Ocean Spray is the grower's own brand, packed and backed with New England conscience and tradition." Manufactured by Curt Teich & Co., Inc. Chicago. Color Lithography. No date.



REFRIGERATING PLANT FOR CRANBERRY CANNERY, INC. AT BARNSTABLE, MASSACHUSETTS

2. *Front*: "Harvesting Cranberries on Cape Cod."

Back: "The cranberry is indigenous to Cape Cod. It is a highly profitable and highly specialized business which employs an army of scoopers to skim the great bogs for the delectable Feast of Thanksgiving." Manufactured by Tichnor Bros., Inc., Boston, Mass. Color lithography from black and white photograph. No date.



3. *Front*: "Picking Cranberries, a leading Cape Cod industry."

Back: No printer's legend. But this one was stamped (with a 2¢ stamp), postmarked on July 30, 1958, and sent to Salem Depot, N.H. from Plymouth, Mass. bearing the following inscription: "Hello to both of you. I am down here with the Smith family for a few days--will be up to see you someday. Mrs. A.B."



4. *Front*: "Plant No. 2 of the Ocean Spray Preserving Co., Cape Cod, Mass."

Back: Published by E.D. West Co., South Yarmouth, Cape Cod, Mass. No date. Color lithography.



5. *Front*: "Tallying Cranberries, Cape Cod, Mass."

Back: Bears a 1¢ stamp, postmarked on July 25, rest of date not readable, but must be early part of this century. It was sent from Falmouth, to Cambridge, Mass., from one lady to another: "Dear Gertrude—I am wondering how you are and what you are doing. Please remember me to your mother and write to me soon. Katherine was 7 months old the 4th of July and is very dear. Faithfully your friend, Luisa B. Osborne." A light message! Published by H.A. Dickerman & Son, Taunton, Mass. Color lithography from black and white photograph.

Tallying Cranberries, Cape Cod, Mass.



Front: "The Cranberry Bottle, Onset, Mass. on Rts. 6 & 28 to Cape Cod."

Back: "A Cape Cod Landmark. 250,000 visitors learn of the great cranberry industry on Cape Cod and take home the message of ready-to-serve Cranberry Sauce and Cranberry Cocktail made from vine-ripened cranberries *where they grow*, by the men who grow them. Ocean Spray is the grower's own brand." This card is stamped with a 1¢ stamp, postmarked on August 11, 1941, and addressed to Tessa Turcotte, Shriner's Hospital in Springfield, Mass. A thoughtful cousin has sent off the following message, painstakingly begun in his own, untrained scrawl, "I went (and where the last pencil line dwindled down jerkily, the mother took over and continued to take dictation) to Nantasket and on the little roller coaster for children. Daddy took Laurel and me to the beach



and camping overnight. Now Laurel is at Camp Four Winds, Rt. 2, Buzzards Bay, Mass. Love from your cousins, Cousin Will." Manufactured in Chicago. Color lithography.

& 8. Duplicate cards.

Front: "Cranberry picking on Cape Cod.

(a) Postmarked June 30, 1906. Stamped with a 1¢ Ben Franklin stamp, and sent to Brockton, Mass., presumably from somewhere on Cape Cod: "Dear Lizzie, I received your postal okay and would be more than pleased to have you come down. Come the night before the Fourth if you can. Answer right back if you decide to come. F.H."

(b) Addressed to Miss Edith F. Leonard, Raynham, Mass. No postmark, but there is an intriguing message which apparently never reached the lady who was the object of concern: "I thought of you last Friday in the storm and wondered if you would be able to get home that night. Yours with love, R.Q.K., Jan. 26, 1908." It is interesting to remember that the journey mentioned was most likely made by horse, or by



Cranberry Picking on Cape Cod.

horse and buggy. Consequently, the storm would be all the more worthy of concern. Printed in Frankfort, Germany, color lithography from black and white photograph.

The cards above are from Mr. Merry's collection. The ones that follow are from the library at the Experimental Station.

All were printed in Germany. None bear any dates, postmarks, legends or stamps. All seem to be contemporaries, probably from the early part of the century. They were made from black and white photographs by the color lithography method.



10. Screening.



11. Harvesting Cranberries. Cape Cod, Mass.



9. "Cranberry Picking on Cape Cod."

TIMING CRANBERRY HERBICIDE APPLICATIONS¹

by Garvin Crabtree² and David Keir³

A reduction in cranberry fruit production has been observed following late spring applications of herbicides. This was reported in studies with 2,6-dichlorobenzonitrile (dichlobenil) (1,4) but has also been observed with other herbicides (3).

To determine the extent of this crop reduction and tie the response to a developmental stage of the crop and yearly temperature variation, a three-year study was conducted to measure the extent of crop reduction following herbicide treatment at several stages of plant development and at levels of heat accumulation.

Plots were established on a commercial bog near Bandon, Oregon, with different areas of the same bog used for each of the three years. The cranberry planting had been established for several years, was vigorous, productive, and relatively free of weeds. Standard cultural practices were followed except for weed control and harvesting.

Granular formulations of herbicides were applied with a small plot granular applicator to plots 1.8 by 1.8 m. A 0.37 m² area was hand picked from each plot, the berries were weighed, and fruit size was estimated from the weight of 100 berries.

Herbicide treatments used during the three years are listed in Table 1. After noting in 1967 that greater yield reductions resulted from a combination treatment of (2,4-dichlorophenoxy) acetic acid (2,4-D) and isopropyl *m*-chloro-carbanilate (chlorpropham), only these two herbicides were included in 1968.

Yield data were analyzed with a factorial analysis of variance and a

herbicide application cut-off date was calculated for each year. This date was determined by straight-line interpolation between actual application dates, to find when the yield curve of the pooled herbicide treatments dropped significantly below the untreated check plot yields.

Herbicide application cut-off was correlated with cranberry plant development and with accumulated heat units. For the latter, weather data were taken from a station about one kilometer from the test site (2). For each year, beginning January 1 and with a temperature base of 0 C, degree-days were calculated through the season to the estimated herbicide application cut-off date. An average temperature calculated from the minimum and maximum for each day was used. Using series of values with two-day intervals for starting date, and 1.1 C (2 F) intervals for temperature bases, the three test years were compared to find the best agreement for starting date and temperature base.

The yield reductions associated with late herbicide application

dates for the three trial years are shown in Figure 1. Since the yield response to various herbicides and combinations on fruit production was similar, data from all herbicide applications were pooled for each application date. An exception to the similarity in response was noted for the April 14, 1967 applications when most of the yield reduction was associated with the 2,4-D + Chlorpropham treatment. This effect appeared as a reduction in yield by the pooled herbicide treatments, followed by an increase in yield for the May 1 applications. It now appears that the yield from this particular treatment (2,4-D + chlorpropham, April 14, 1967) was anomalous and that a significant yield reduction was only being approached as the herbicide applications were discontinued. A comparison of cranberry flower development during 1967 to 1969 and of lilac bloom dates⁴ for the

4. Montana Agri. Expt. Sta., Bozeman, Montana. Jan. 18, 1968; Jan. 3, 1969; Jan. 2, 1970. A report to cooperators of the phenological survey in the Western Region of the United States.

Continued on Page 13

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1. Oregon Agricultural Experiment Station. Technical Paper No. 3335.
2. Associate Professor, Department of Horticulture, Oregon State University, Corvallis, Oregon 97331.
3. Former County Extension Agent, Coquille, Oregon 97423.

In Support of a Food Policy That Works: COMPETITIVE PRIVATE ENTERPRISE

by David B. Mann

The Governor's commission on food was appointed for the purpose of suggesting policy needed to insure an adequate supply of food for Massachusetts citizens.

Adequate food has been the goal of man since civilization's inception, and is the one problem that had to be solved before society could advance beyond the stage of everyone digging for edible roots. The accomplishments of a society must be a measure of the success of its food policy, because as the labor needed to produce food decreases, time and assets are made available for other purposes.

This food commission report appears to ignore the fact that our present policy of allowing competitive private enterprise to function has enabled our food system to become the most highly developed one in history. Instead, we assume our present policy is no policy, hence the commission's duty to go "in search of a food policy." My participation in the search has only strengthened my confidence in our present policy of allowing private enterprise to function, and has pointed up the need of teaching how the private enterprise system operates to the next generation before we lose it.

If Massachusetts were a rural state the commission could have confined most of its efforts to trying to increase agricultural production by listing problems caused farmers by public policy, and then suggesting legislative solutions to correct them. This would hopefully keep farmers in the business of producing more food.

However, Massachusetts is an urban state that imports most of its food. For this reason the major thrust of the report concerned itself with subjects such as transportation, labor, and national legislation that will affect food

production. However, no matter what aspect of our food system we discuss the same basic economic principle of supply and demand will prevail. Our citizens are primarily consumers, not producers, for our citizens are concentrated in cities. Probably because of this they have come to look to the government for solutions to their problems, as evidenced by the abundance of consumer-oriented social action governmental programs spawned in this urban environment.

The commission's report places special emphasis on consumer needs. Who is the "consumer" everyone is trying to speak for, appeal to, represent, and protect? We are all consumers, so it would appear to me our elected officials are already representing the consumer.

Only recently, with the word "profit" connotating evil, with the crusade being mounted against large corporations, with a proposed Consumer Protection Agency, with Nader's Raiders, etc., has the word "consumer" come to connote an ignorant oppressed minority incapable of making a proper decision about even buying a box of cereal or a toy. The consumer is assumed to be incapable of spending his own money, hence needing the government to protect him from himself and profit making corporations. I think consumerism is a shield self-serving groups are hiding behind to advance their own socialistic philosophies.

Some specific areas of disagreement with the report's recommendations are:

1. Promotion of an expanded food stamp program. I think the average working man paying taxes wants to care for those truly in need, but he is feeling now that too much of his money is being used in one way or another for public support of many undeserving in-

dividuals at a standard of living equalling his. I would not advocate actively working to expand this program.

2. Establishment of a food policy office in the department of consumer affairs to provide central accountability for the food system in Massachusetts. I do not believe another governmental structure with limited power to act in the all-encompassing food system could accomplish anything. Further, I do not believe one governmental agency should have the power to intervene in any area affecting the food system which this office might think necessary. There is adequate evidence in Cuba and other regimented societies that agricultural stagnation and failure occur with centralized control. These societies end up looking to private enterprise agriculture to feed their people.

3. Establishment of food reserves and export policy to protect consumers against food shortages and abnormally high prices. I believe high prices are the best protection against high prices, for they generate production, which in turn brings prices down. In a free economy there is a direct inverse relationship between price and supply. The beef crisis of last year, which was one of the motivators for the initiation of this commission, is still in a state of turmoil because of last year's government intervention in the market system. Over time, the free market system works. The time required is a lot less than that required for governmental decisions and action, and the market solutions of economic problems are a lot sounder than political ones. Government held reserves cannot be insulated from the market. Consumers may like the price depressing effect these reserves may have short-range; but if the producer cannot expect a profit there will be no production

long-range. I am sure that if the level of food prices were to be determined politically, there would not be sufficient profit for the producer. Do you want low prices and empty shelves or slightly higher prices and abundant food supplies? The market will determine the right price if it is allowed to function.

4. An important area touched upon was our vulnerability to transportation strikes, with no recommended action by the commission. Labor unions appear to be the one major segment that has escaped government regulation. Labor is the largest contributor to the retail price of food. While farm prices have dropped from 20 percent to 40 percent for various commodities from January, 1974 to May, 1974, retail prices have not shown a similar decline—primarily because of labor costs in food marketing. Labor accounted for 48.4 percent of the total food marketing bill in 1973. Labor unions are exempt from anti-trust legislation, their political clout has been reflected by favorable governmental policies on labor management relations, and the proposed federal Consumer Protection Agency specifically exempts labor from their otherwise all-inclusive meddling power. Legislation is needed to insure prompt settlement of transportation strikes. As long as the other productive segments of our society are operating under strict governmental controls, labor presently has an unfair advantage. This should be corrected by either curbing labor union power or giving other segments more freedom.

5. Inflation is the greatest threat facing this nation, especially for the poor and those on fixed incomes. It is caused primarily by governmental deficit spending. We should insist governments live within their budgets. If new programs are enacted, taxes should also be levied to support them. Our elected officials must do a better job of managing our state and national fiscal affairs. The government's monetary and fiscal policies have reduced

employer resistance to union demands by creating inflationary expectations. We must stop expecting a free lunch from the government. It has been this attitude, plus the responsiveness of the politicians to do something for the people, that has contributed to fiscal difficulties. Political solutions to economic problems have ended up doing something to us not for us.

If the market system is allowed to operate it will continue to provide the best answers to our citizens' needs. Our system needs a minimal amount of government control. Increased productivity from every segment of our society is the only way to lower or stabilize costs while supplying all the food needs and desires of our citizens at reasonable prices. The government's role should be to create an atmosphere which will stimulate individual productivity not to assume responsibility for the infinite number of decisions necessary to make the food system operate.

Mr. David B. Mann, of Buzzards Bay, Massachusetts, is a cranberry grower. He is also the president of the Mass. Farm Bureau Federation.



INFLATION AND WEATHER PUSH FOOD PRICES UP

World retail food prices reported by U.S. Agricultural Attaches were generally higher on July 3 than in early May. Inflation, coupled with unfavorable weather conditions in some areas, accounted for the increase.

The upward trend in food prices reversed in one country, however. The Japanese food price index reflects somewhat lower prices, due to seasonally large supplies of vegetables and some meat price decreases.

In Tokyo, beef prices were slightly lower than had been reported in the May survey—reflecting joint Government-industry marketing promotion.

In the United States, beef was reported 30 cents per pound lower. The big drop in beef prices in Australia reflects the severe drop in live cattle prices resulting from the falling value of cattle for the export market.

Pork roast, heretofore selling at or close to pork chop prices, is substantially higher in six of the countries surveyed. Australia reported pork price increases resulting from higher feed-grain prices and continued strong demand. Japan's domestic pork market has trended upward recently. Lower pork prices in Brazil reflect increased availability of beef.

Seasonal price drops accounted for lower tomato prices in 11 countries. On the other hand, all six countries where oranges and apples are now out of season reported higher prices. Onions also trended upward in most countries, with Australia reporting a jump of 9 U.S. cents per pound.

Egg and poultry prices continued their decline in Europe and in the United States. In Paris, however, broiler prices remained steady.

All European countries reported higher bread prices. The sharp increase in London reflects the maximum subsidized price. Many U.K. supermarkets and chain stores reported somewhat lower prices.

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HERBICIDE APPLICATIONS

Continued from Page 10

same period would indicate that the cut-off date for 1967 should have been in early May instead of March 29 as indicated by these data.

If the herbicide application cut-off dates are chosen as May 13, 1967, April 5, 1968, and May 3, 1969, the best agreement of accu-

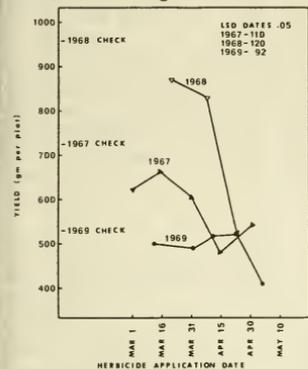


Figure 1. Yields of cranberry fruit from herbicide treated plots (pooled means) at several application dates compared to untreated checks.

lated heat units for these three years is obtained with a February 10 starting date and a base temperature of 4.4°C. The cut-off date would then occur when approximately 328 C degree-days had been accumulated after this date. These cut-off dates correspond somewhat with the "rough-neck" stage (Figure 2) of development in the cranberry. However, the use of phenological information from this crop is difficult since a given stage in flower development occurs over

Table 1. Summary of herbicide applications in cranberries for 1967-1969.

Year	Herbicide	Application rate (kg/ha)
1967*	2,4-D + chlorpropham	2.2 + 11.2
	dichlobenil	4.4
1968	2,4-D	2.2
	chlorpropham	11.2
	2,4-D + chlorpropham	2.2 + 11.2
1969	2,4-D	2.2
	chlorpropham	11.2
	2,4-D + chlorpropham	2.2 + 11.2
	dichlobenil	6.7

*Dates of application

1967 - March 1, March 15, March 31, April 14, May 1

1968 - March 21, April 8, April 23

1969 - March 12, April 1, April 11, April 23, May 6

a long period on various flowering stems in a bog.

Yield response to herbicides was associated with a reduction in number of fruit with no significant effect on fruit size.

To be a reliable tool for grower use, cut-off dates based on the starting date, base temperature, and degree days determined in this study need to be further evaluated, and modified in necessary.

Literature Cited

1. Anonymous. 1965. Dr. Klingbeil on weeds in Wisconsin marshes. *Cranberries* 30:12.
2. Anonymous. 1967, 1968, 1969. Climatological data, Oregon. U. S. Dept. of Commerce. Vols. 73, 74, 75.
3. Demoranville, I. E. 1977. Mass. Cranberry Station and field notes. *Cranberries* 32:3, 20.
4. Demoranville, I. E. and C. E. Cross. 1964. Casoron and weed control in cranberries. *Cranberries* 29:13-14.



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- 1) Contact the Supervisor of the Registry office you plan to use, and tell him you have a truck with farm plates.
- 2) If there is any question on his part as to whether you are permitted to use the truck with farm plates, refer him to the State Registry office on Nashua Street in Boston, in care of Driver Licensing. Your contact at the Boston Registry is either Mr. Sliger (the Supervisor) Mr. Rafuse or Inspector Proyer.

IN ANY CASE, obtain a letter from the principal dealership where you bought the truck, such letter to stipulate the exact gross weight of the truck. The truck must exceed the 18-thousand pounds in order to qualify for use in a Class II license test. You may use this letter from the dealer as proof that the truck is the correct size for the test.

Get Ready for that 1974 Census of Agriculture. The 20th nationwide survey of agriculture will take place early in 1975, and the Bureau of Census reminds you to keep good records in the meantime.

O.S.H.A. Seminar sponsored by the Farm Bureau and presented by the professional staff of the Massachusetts Safety Council was held on

August 7th at the Waltham Field Station, Beaver Street, Waltham from 9:30 A.M. to 4:00 P.M.

Seminar Outline included Inspection procedures, Standards, Citations, Penalties, Record Keeping, Rights and Responsibilities, Voluntary compliance as well as a critique of various agricultural operations that have been inspected using the same procedures that must be used by the O.S.H.A. Compliance officer.

Are you near the age 65? This is very important. BE SURE to convert your Blue Cross/Blue Shield to Medex coverage. Many people

assume this is done automatically and keep on paying Blue Cross **YOU MUST DO IT YOURSELF!** Contact the Farm Bureau office in Waltham at least 60 days BEFORE your 65th birthday, so we may make necessary arrangements. Call Miss Catherine Shea at (617) 893-2600.

Farmland Assessment Act. The state office would like to know the status of the many applications filed under the farmland assessment act. We would appreciate it if those farmers who filed would drop us a card or letter telling us of their experiences. We are interested both in those towns that have accepted, rejected applications or asked for modification of same.

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1974

by Mr. John S. Norton

Associate Professor, Cranberry Station,
College of Food and Natural Resources,
University of Massachusetts, Amherst.

This forecast is based on a study of weather conditions during the past 25 years and a correlation between those conditions and the cranberry crops for the same years.

The cranberry crop forecast, based on weather conditions from June 15 through July 20 (the bloom period) is for 940,000 bbls. to be produced in 1974. This value results from use of the formula devised by the author and first used to predict the 1973 crop. The derivation of the formula was described in detail in the August and September, 1973 issues of *Cranberries*. A review of the 1973 Forecast was presented on page 13 of the February 1974 issue of *Cranberries*.

Table 1 shows the weather conditions during the bloom period and the penalty values resulting from adverse weather during that period. Figure 1 is the graph from

which the Potential Crop was determined.

In effect, sunshine and daytime temperatures and precipitation during the bloom period are boiled down to a value which I call "penalty-points." This value, 45 penalty-points, is located along the base line of the graph. A vertical line is drawn from the base line to the upper curve. From the intersection of the vertical line and the upper curve, a horizontal line is drawn to the left hand margin labeled "Potential Crop." The "Potential Crop" in the present case, using 45 penalty-points is 830,000 bbls. This is the crop that would be expected if there were no unusual losses to frost, flood, scald,

etc. and if the entire crop were dry-picked. Since water-harvesting results in increased yields over dry-harvesting and, since the graph was developed from yield and weather data from a 25-year period starting in 1949 with water-harvesting being practiced for only the last four years, it is necessary to add the increase due to water-harvesting to the reading from the curve. This increase is estimated to be 40% of the water-harvested volume. My guess at the volume to be water-harvested is 300,000 bbls., so the increase over dry-harvest will be 120,000 bbls. Addition of the 120,000 to the 830,000 brings our estimate up to 950,000 bbls. From this figure we must subtract obvious losses occurring prior to the date of this forecast. Estimates of losses to frost at this time are 5-10 thousand bbl. Using the figure of 10,000 bbl. loss to frost, etc. results in an estimate as of July 24 of 940,000 bbl. potential for the 1974 cranberry crop. Obviously, if there are losses after the date of the forecast, or if the volume of berries water-harvested varies from the estimate, the forecast will be in error by at least the amount of those effects.

(see charts on page 16 and 17)

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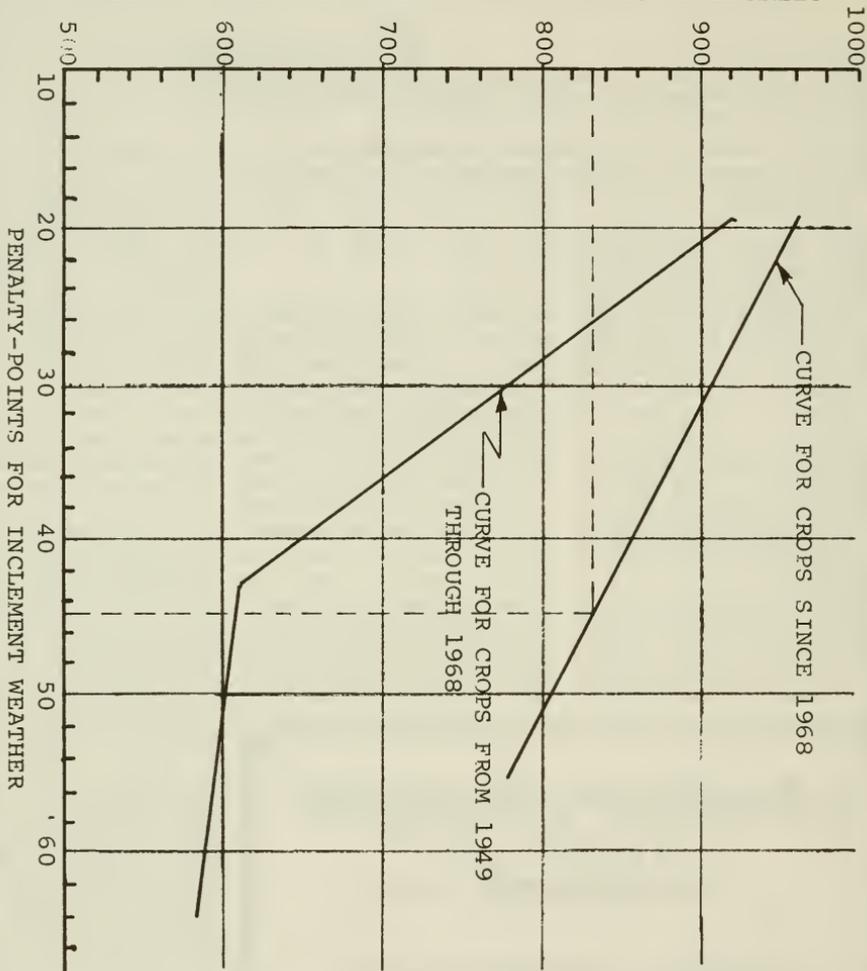


Figure 1. Relationship between weather during bloom period of June 15 through July 20 and the "Potential" cranberry crop for Massachusetts during a 25-year period.

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Table 1.

DETERMINATION OF TEMP-PRECIP AND DEFICIENT SUNSHINE PENALTY POINTS FOR 1974 CROP FORECAST

Date	TEMPERATURE				25 yr		1974		Penalty**	Percent Possible Sunshine at Logan Airport	Deficient Sunshine Penalty-Points
	9:00	3:00	Mean	Spread	Mean	Spread	Dev. From 25 yr	Dev. from 25 yr			
6/15	65	77	71	12	68.0	10.7	+3.0	+1.3	0	99	0
6/16	70	69	69.5	-1	68.0	11.1	+1.5	-12.1	4 p	8	4
6/17	68	70	69.0	2	68.0	10.6	+ 2	- 8.6	4 p	41	3
6/18	67	79	73.0	12	68.8	10.3	+4.2	+ 1.7	2 p	65	1
6/19	69	80	74.5	11	69.4	10.0	+5.1	+ 1.0	0	75	0
6/20	67	76	71.5	9	70.0	9.6	+1.5	- .6	0	46	3
6/21	70	74	72.0	4	70.4	9.9	+1.6	5.9	3	48	3
6/22	69	74	71.5	5	70.8	9.7	+ .7	-4.7	2	71	0
6/23	62	62	62.0	0	71.4	10.2	-9.6	-10.2	4 p	0	4
6/24	64	65	64.5	1	72.3	10.2	-7.8	9.2	4	94	0
6/25	57	56	66.5	-1	72.8	10.1	-6.3	-11.1	4 p	0	4
6/26	54	55	54.5	1	72.5	9.9	-18.0	8.9	4 p	0	4
6/27	55	65	60.0	10	72.2	9.7	-12.2	+3	2	66	1
6/28	59	67	63.0	8	72.1	9.8	-9.1	-1.8	1	76	0
6/29	64	73	68.5	9	72.8	9.7	-4.3	- .7	1	48	3
6/30	69	77	73.0	8	73.7	9.7	- .7	1.7	0	86	0
7/1	63	82	72.5	19	74.7	10.9	-2.2	+8.1	0	90	0
7/2	76	85	70.5	9	74.6	11.0	-4.1	-2.0	1	90	0
7/3	67	82	74.5	15	74.1	10.8	+ .4	+4.2	2 p	61	1
7/4	83	87	85.0	4	73.1	10.0	+11.9	-6.0	0	96	0
7/5	70	82	76.0	12	72.4	10.2	+3.6	+1.8	0	30	4
7/6	70	80	75.0	10	72.4	11.2	+2.6	-1.2	0	85	0
7/7	73	87	80.0	14	72.9	12.1	+7.1	+1.9	0	67	1
7/8	78	85	81.5	7	73.4	12.4	+8.1	-5.4	1	82	0
7/9	78	90	84.0	12	73.3	11.2	+9.7	+8	0	77	0
7/10	81	83	82.0	2	73.3	10.1	+8.7	-8.1	0	80	0
7/11	65	74	69.5	9	73.5	9.4	-4.0	- .4	0	95	0
7/12	67	70	68.5	3	73.9	9.6	-5.4	-6.6	4	100	0
7/13	69	83	76.0	14	73.8	9.4	+2.2	+4.6	0	89	0
7/14	67	83	75.0	16	73.4	9.9	+1.6	+6.1	0	70	1
7/15	77	88	82.5	11	73.7	10.1	+8.8	+9	0	79	0
7/16	69	75	72.0	6	73.9	10.9	-1.9	-4.9	2	38	3
7/17	70	77	73.5	7	74.7	11.1	-1.2	-4.1	2	96	0
7/18	68	80	74.0	12	75.1	11.0	-1.1	+1.0	0	52	2
7/19	76	79	77.5	3	74.6	10.5	+2.9	-7.5	2	48	3
7/20	66	71	68.5	5	74.2	9.5	-5.7	-4.5	2	61	1

Average daily percent sunshine

- 62 -

Penalty-points and %-deficiency in sunshine

51 38 46

Average of sunshine and temperature penalty-points and percent-deficiency in sunshine = $(51 + 38 + 46)/3 = 45$ composit penalty-points

* 25 year mean is a smoothed mean, determined by averaging the temperatures for a given date for the 25 years of 1949 through 1973 and then averaging this 25 yr. av. for three consecutive days to smooth the fluctuations still present in the 25 yr. average. The day before and the day after were combined with the date for which the smoothed mean is shown.

** In temp. precip. column, number followed by "p" indicates precipitation as partial cause of penalty.

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BUT INTRIGUING, PRODUCT

Leaf feeding damage by the gypsy moth decreased substantially this spring, according to a recently completed aerial survey conducted by John D. Kegg, entomologist, Division of Plant Industry, N.J. Department of Agriculture.

Forested acres attacked by the gypsy moth declined nearly 90 percent from 258,425 acres last year to 28,102 acres at present. This is the first decrease in population levels observed since the pest began ravaging the state eight years ago.

William M. Cranstoun, director, Division of Plant Industry, stated: "The department attributes the dramatic drop to a combination of selective chemical treatments in residential and recreational woodlands while at the same time releasing the natural enemies of the gypsy moth statewide. This policy of utilizing both chemical and biological control agents to combat the gypsy moth has now been demonstrated to be a feasible and pragmatic solution to the gypsy moth problem.

Wind machines, devices long used by growers to minimize frost damage to fruit and vegetable crops are enjoying a surge in popularity in California's lush San Joaquin Valley, according to a major supplier, SSP Industries of Burbank, California.

The 36-foot high machines sold under the brand name Tropic Breeze, mix warmer air high off the ground with the colder air below. Butler says the machines can raise crop-level air temperature by as much as 10 degrees. On a cold spring morning in the California central valley, such a temperature shift can save a farmer's crop.

D. E. Butler, SSP's president and chief executive officer, says a major selling point with growers is the Tropic Breeze's cost of operation. Compared with heaters or smudge pots, he says the Tropic Breeze is a much cheaper form of frost protection.

According to Butler, one Tropic Breeze can do the job on ten acres of cropland using about eight to ten gallons of fuel an hour. He says it would take approximately 500 heaters to provide an equal amount of frost protection and they would burn roughly 1,000 gallons per hour.

Major source for the Tropic Breeze is an International D-466 diesel engine set at 143 horsepower



at 2600 rpm. This unit rotates a 17-foot, 3-inch fan, which, through a reduction gear, rotates up to 600 rpm.

Manufacturers of heaters are quick to contend that wind machines can't always do the job. If the temperature falls 10 to 15 degrees below freezing, or the air 30 feet above the ground isn't much warmer than at ground level, they say wind machines can't provide the same protection as heaters.

But increased sales and a forecast of more to come are proof enough to Butler and SSP that their wind machines have proven themselves in the field and are here to stay.

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Want some more clues? Begin with a can of whole berry cranberry sauce, add apple, peanuts, ginger, raisins and spices and end up with a tangy chutney that's great with chicken and pork. And a zesty Cranberry Barbecue Sauce or dip for all traditional cook-out favorites can be quickly and deliciously prepared right on the grill.

CRANBERRY-LEMON MINT SAUCE FOR LAMB OR BEEF KABOBS

(Serves 6)

- 2 pounds boneless leg of lamb or sirloin of beef, cut into 1-inch cubes
- 6 small white onions, boiled
- 6 strips green pepper
- 6 cherry tomatoes
- 6 whole mushrooms
- Salt and pepper
- 1/3 cup olive or salad oil
- 1 teaspoon oregano, crumbled
- 1 clove garlic, mashed
- 1 can (16 ounces) whole berry cranberry sauce
- 1 teaspoon grated lemon peel
- Juice of 1 lemon
- 1/4 cup chopped fresh mint

Arrange meat cubes and vegetables alternately on skewers. Sprinkle on all sides with salt and pepper. Brush kabobs with oil mixed with oregano and garlic. Broil 6 inches above gray coals and turn kabobs until golden brown on all sides. Brush occasionally with oil mixture while cooking. Meanwhile, heat remaining ingredients for sauce in a saucepan placed on the grill. When kabobs are ready spoon hot sauce over kabobs.

CRANBERRY BARBECUE SAUCE

(Makes about 3-1/2 cups)

Note: Cook your meats as usual on the grill and spoon this sauce heated on the grill over them when they are served.

- 1 can (16 ounces) jellied cranberry sauce
- 1/2 cup butter or margarine

- 1/4 cup frozen concentrated orange or pineapple juice, thawed
- 1 cup catsup or chili sauce

Combine all ingredients in a saucepan and place on the grill while meats are cooking. Stir until sauce is bubbly and smooth. Spoon sauce over cooked meat or poultry.

QUICK HOMEMADE CHUTNEY

(Makes about 4 cups)

- 1 can (16 ounces) whole berry cranberry sauce
- 1/2 cup raisins
- 2 tablespoons finely chopped crystallized ginger
- 1-1/2 cups chopped peeled apple
- 1/2 cup chopped salted peanuts
- 1/4 teaspoon each cloves, allspice, cardamom, mace or nutmeg

Combine all ingredients and mix until well blended. Chill until ready

to serve. Serve with your favorite barbecued meats, as a relish.

SWEET AND SOUR CRAN DIP FOR FRUIT

(Makes about 2-1/2 cups)

- 1 can (16 ounces) jellied cranberry sauce
- 2 tablespoons lime juice
- 1/4 cup honey
- Assorted bite-size fruit pieces—grapes, bananas, melon, apples, pears, pineapple, strawberries, etc.

Press cranberry sauce through a sieve into a bowl. Stir in lime juice and honey. Place bowl in the center of a large platter and arrange fruit around bowl. Spear fruit with skewers, toothpicks or fondue forks and dunk into cranberry mixture.



MID-AUGUST CRANBERRY

PROSPECTS HIGHER

The mid-August forecast of cranberry production in Wisconsin for 1974 indicates a record crop of 900,000 barrels, up 19 percent from the 1973 crop of 756,000 barrels. Vines wintered well with little damage. There was a good bloom and the set has been mostly good. No frost damage occurred but there was some hail damage in the west central area. Growing conditions have been good although hot, dry weather in July put stress on berries. The water supply was below normal during the dry period but good rains have fallen in August. Temperatures to date in August have averaged a little below normal.

The first forecast of the Nation's 1974 cranberry production is 2,235,000 barrels, 6 percent more than last year's crop and 8 percent above 1972. Production utilized from last year's crop was 2,014,300 barrels and 1,976,000 barrels in 1972. The increases over last year expected in New Jersey, Washington and Wisconsin will more than offset anticipated smaller crops in

Massachusetts and Oregon. Much of the increase in production will come from Wisconsin which expects 900,000 barrels, an increase of 19 percent and their largest crop of record.

Massachusetts' total production for 1974 is forecast at 890,000 barrels down 1 percent from last year but 9 percent above 1972. Massachusetts' bogs suffered only minimal frost damage this spring. Full bloom occurred in July which is much later than last year. Fruit set is average but sizes are smaller than normal in unirrigated bogs.

In New Jersey, the crop at 230,000 barrels compares with last year's 228,000 barrels. Weather has been generally favorable. Although July rainfall was below normal, August showers replenished moisture supplies. Berry sets and sizes are similar to the 1973 crop.

The Washington and Oregon crops at 120,000 barrels and 95,000 barrels respectively are not significantly changed from 1973. Following a cold, wet spring the season is 2 to 3 weeks later than normal.

FARM DIRECTORY AVAILABLE

The New Jersey Department of Agriculture has recently published a new edition of its directory of agriculture organizations in the state, according to Secretary of Agriculture Phillip Alampi.

The new publication contains listings for each county board of agriculture and allied county organizations, such as the Extension Service, Agricultural Stabilization and Conservation Service, Farmers Home Administration, and county soil conservation districts.

Also included are entries for state and regional agricultural organizations, the N.J. Department of Agriculture, Cook College of Rut-

gers University, U.S. Department of Agriculture, agencies in New Jersey, and other state agencies.

In his foreword to the directory, Alampi points out that "the increasing complexity of the whole field of agriculture and agribusiness in New Jersey makes it important that farmers know where to go for various government services and where they can find the professional organizations which serve their particular agricultural interests."

Single copies of the publication may be obtained by writing to the Office of the Secretary, N.J. Department of Agriculture, P.O. Box 1888, Trenton, 08625.

N. J. FIRE

Continued from Page 1

Picking and Packing

Last week's fire was the first major catastrophe that has occurred on the farm, but through it all the pickers kept picking and the packers kept packing.

Because, as Mrs. Haines says, in a farming community everybody helps everyone else.

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MAINE BLUEBERRIES

Prospects as of mid-August are for a blueberry crop smaller than forecast last month and approximately 17 percent less than last year.

Excessive rain when the berries were in bloom resulted in a poor set. Lack of moisture in July and August hurt the crop considerably. Harvest is underway with quality generally good in all areas and size of berries mostly medium. Raking became general in southern areas around August 8 and was general in Washington County by August 12.

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REGIONAL NEWS NOTES

NOVA SCOTIA

July was cold with us and the mean for the month was 63.5°F compared with 66.2°F, the 50-year average. The early part of August was dry and it has reduced the crop of lowbush blueberries. During the last few days of the month, August 18, 23 and especially the 28th, substantial amounts of rainfall have been recorded.

NEW JERSEY

The month of August was rainy and seasonably warm. A total of 5.93 inches of precipitation occurred on 13 days. The accumulated total for the first eight months of the year is now 30.39 inches, or 0.52 inch above normal. The shortage of water in cranberry reservoirs has now been replenished and there should be an adequate supply for harvest.

In regard to temperature the month was about normal. The average was 73.3 degrees F, only 0.1 above the norm.

In contrast to last August when 100 degree temperatures caused sunscald of cranberries, the maximum temperature was only 90 degrees which occurred on five days—14th, 24th, 28th, 29th and 30th. The minimum was 47 degrees on the 12th.

WASHINGTON

Washington State University named Dr. J. Orville Young as director of WSU's Cooperative Extension Service July 29. Young is currently director of the South Dakota State University Cooperative Extension Service at Brookings and will begin his duties in Pullman Oct. 1.

In announcing the appointment, Dr. John S. Robins, dean of WSU's

College of Agriculture, said, "As director of the Extension Service,

Young will be responsible for coordinating the activities of 275 Extension workers throughout the state. The Extension Service is an educational branch of the university, and because of its organization, Extension is able to bring the university to the state's people. Extension works in several areas, including agriculture, human resource development, community resource development and the Expanded Food and Nutrition Education Program."

Because of the Extension program, cranberry growers of Washington State are given on-the-spot information gained through the work of part time Extension Agent Azmi Shawa, spending the other half of his time as Research Horticulturist at Coastal Washington Research & Extension Unit, Long Beach. Mr. Shawa coordinates the work of other researchers, Dr. C. C. Doughty, nutrition and frost, and specialists dealing with insects and diseases of cranberries, to bring immediate findings to the growers if applicable. Ongoing studies to benefit the grower of cranberries continue for the time needed to give results. Mr. Shawa is assisted by Gail Dunn, a graduate of WSU, in the gathering of data from research work.

A quarterly publication, *Cranberry Vine* is written by Mr. Shawa, for Washington growers and others interested. The August issue is in the mail, to the revised mailing list. Notice of revision was sent with the February and May issues. These publications are a part of the Cooperative Extension Service, Washington State University and U.S. Department of Agriculture cooperating.

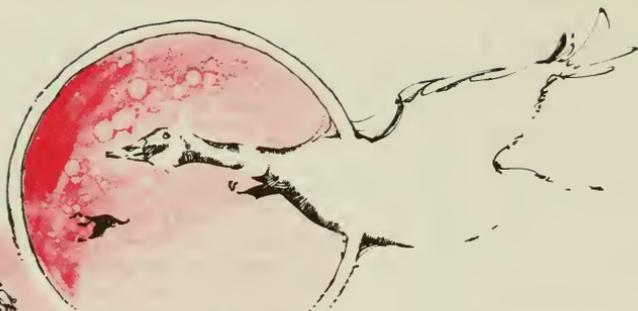
WISCONSIN

The first week of August was cool with temperatures averaging 6 to 10 degrees below normal. Partly sunny conditions existed until mid-week when cloud cover became more extensive and showers and thundershowers developed. Rainfall was heaviest in the north where Ashland reported 5 inches. Rains of 2 to 3 inches fell elsewhere in the north and some good rains also occurred in the west. Shower activity became light and spotty toward the southeast. Most of the rain fell from Thursday through early Sunday, with clearing taking place late Sunday, Aug. 4.

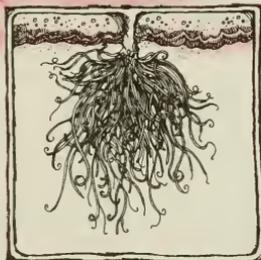
Temperatures for the week of Aug. 5 averaged slightly below normal. Afternoon temperatures were cool on Saturday and in the north on Sunday but were mild otherwise with readings in the upper 70's or mid 80's. Nighttime lows were cool early in the week with mid 40's to mid 50's but were in the 60's later in the week. Precipitation fell in the form of widely scattered showers and thunderstorms most of the week but became more substantial in many parts of Wisconsin over the weekend. The highest weekly rainfall total was 2 inches at Lacrosse.

Temperatures for the week of Aug. 11 were a little cooler than normal in the north and near normal in the central and south. Nights were cool except for warmer temperatures on the evening of the 15th. Daytime temperatures varied depending on the amount of cloudiness, with the warmest readings on the 15th in the west and south. The 13th, 14th and 15th were essentially dry. Thunderstorms created locally heavy downpours on Monday, the 12th and in the north on the 15th and again in the south on the 17th. Heavy winds, hail, and

continued on page 20



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PUTTING FARMERS AND CONSUMERS IN TOUCH

A nationwide program to put farmers and consumers back in touch with each other will be launched this week in the midwestern states of Iowa, Illinois and Minnesota by the new Agriculture Council of America which represents a broad cross-section of farmers, farm organizations and farm-related businesses.

"This is the first effort of its kind ever undertaken by the nation's farming and ranching community," said ACA Chairman J. S. Francis, Jr. of Peoria, Arizona. "Our purpose is to build a lasting bond of partnership between farmers and consumers based on their strong interdependence and mutual long-term interests."

The ACA program theme "Let's keep in touch—Together we'll grow" will be emphasized through specific activities geared to provide grassroots people-to-people contact between urban consumers and the nation's 2.8 million farmers and ranchers. Following a concentrated 90-day campaign in the Midwest, the program will be expanded throughout the country.

One program activity—a City-Farm Swap—will feature exchange visits between urban Chicago families and farm families from Boone County, Iowa. More than 50 Chicago families responded within minutes of the first broadcast

An excellent program from the Agriculture Council of America

announcement August 28 inviting participants for the exchange visits.

Scheduled for the weekend of October 11-13, the ACA Midwest City-Farm Swap is co-sponsored by WGN Radio-TV, Chicago; the Iowa Cattlemen's Association; the Boone Chamber of Commerce; and the Iowa Pork Producers.

Several activities designed to provide answers to questions posed by consumers, press and others will be coordinated through WATS lines installed in a new Midwest ACA office in Madison, Wisconsin, and the home office in Washington, D.C. For example, consumers in the three-state area will be encouraged to call 800-356-8113, a toll-free number, one night a week to talk directly with a farmer or rancher about any farm-related issue.

Another key service, "Farm News for City People," will provide specialized information for civic, business and educational groups.

To help keep ACA informed of major consumer concerns and the most effective means of response, invitations have been extended to

leading consumer representatives to participate on a Consumer Action Panel which will have direct input into the overall program.

"This is a comprehensive approach," Francis said, "which will permit individual farmers to respond to questions and concerns from individual consumers on a variety of levels. We are aiming for the best kind of communication—direct, face-to-face and straight to the point—which we believe will result in better understanding."

Francis stressed that the farmer and consumer have a tremendous basis for friendship and partnership because they depend so directly on each other. "Without the jobs, the markets and essential products city people produce, the farmer couldn't stay in business," he said. "And the farmer, of course, produces the food and fiber we all depend on."

Francis pointed out that a century ago most Americans lived on farms, but now 95% of the population live in urban areas. "People in cities today," he said, "have no way of knowing how or why such things as the recent drought, or last year's fuel crisis or strikes in a major industry affect the production of food and raw materials on the farm—and consequently the supply and cost of commodities to meet each family's basic needs."

Francis produces cotton and vegetables and is a cotton ginner. Other ACA officers are: Vice Chairman Baxter Freese, Wellman, Iowa, cattleman; Second Vice Chairman Thurman Gaskill, Corwith, Iowa, corn, hog and soybean grower; Secretary William Powell, Princeton, Missouri, dairyman; and Treasurer E. L. Hatcher, Lamar, Colorado, wheat grower.

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Weather

August was hot and dry, averaging 2 degrees a day above normal at East Wareham. This was considerably warmer than Boston which averaged less than 1 degree a day. Maximum temperature was 89° on the 14th and minimum 50° on the 12th. There were 23 days with a maximum temperature of 80° or above. Warmer than average days were the 1st, 2nd, 8th, 14th, 21st and 22nd. The only cooler than average days were the 9th and 10th.

Rainfall amounted to only 1.42 inches which is nearly 2.9 inches below normal. There was measurable precipitation on 8 days with 0.38 inch on the 29th as the largest storm; in fact, 1.07 inches fell

during the last week of the month, with 0.92 inch of this over the last three days. This was the sixth driest August in our records, but the period from July 16 through August 28 was the driest in our records with about 1/2 inch recorded. The two-month period from June 25 through August 23 had only 1-3/4 inches or 25 percent of normal. We are now 6-1/2 inches below normal through the eight-month period and about 7-2/3 inches behind last year.

The drought has caused severe vine and berry injury on a few bogs and lesser amounts of injury on a fair number of bogs. The rains came just in time to prevent a major loss as many bogs were out of water.

There is some general crop loss from cooking but it is not as serious as was feared earlier.

Annual Meeting

The 87th Annual Meeting of the Cape Cod Cranberry Growers Association was held at the Cranberry Station on August 20. The crowd was estimated at 225. Featured speaker was an old friend of the cranberry industry, Prof. J. Richard Beattie. Dick's subject was "A Look Back and a Look Ahead." It was thoroughly enjoyable and brought back a few memories to many of us. Officers of the Association re-elected for the coming year were: Willard Rhodes, President;

continued on page 15

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editorial

Issue of September 1974 | Volume 39 - No. 5

The trend of the current debate in Washington on the level of food aid to be made available to hungry people in other nations under Public Law 480 seems to be pulling President Ford toward what could be the first diplomatic disaster of his Administration.

Agriculture Secretary Earl Butz has warned that disappointing American farm production this year will limit this country's ability to provide increased food aid. If that warning is translated into a firm decision not to make a substantial increase in the P.L. 480 program, the world food conference in November—originally proposed by Secretary of State Kissinger—could turn into a shambles.

In planning for the conference the original hope was that the American delegation would go to Rome with authority to announce a measurable increase in this country's commitment to supply food aid. A decision on that point has now been delayed while policy-makers from various Federal agencies ponder two intervening developments—shortfalls in the expected United States crop for this year and President Ford's determination to cut the over-all budget sharply as part of his fight against inflation.

Both are powerful considerations, especially with domestic food prices shooting upward again. It is also a powerful consideration, however, that the world food problem is serious and becoming more serious each day. World population keeps growing at an appalling rate, and the emptiness of the talk at the United Nations population conference, just ended in Bucharest, removes any hope of effective international coordination of population policies.

The green revolution of a few years ago is faltering under the impact of the energy shortage and the decreased availability of fertilizer, so vital to increased food production in developing countries. Kenneth R. Farrell, deputy administrator of the Economic Research Service, has warned that "long-range projections of current rates of population growth simply run off the chart and beyond the range of agricultural solutions that are either possessed or conceivable."

* * * *

An international attack on the food problem, led by the world's food producers and industrialized nations, is essential. John A. Hannah, former United

Continued on Page 6

CRANBERRIES

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Food For The Spirit



by Robert L. Clingan

The Bible tells the story of men who spied out the promised land. The group came back with an almost unbelievable story of agricultural productivity. They found bunches of grapes so large that to be brought back, they were suspended on a pole between two men. The searchers said they had found a land "flowing with milk and honey."

Yet most of the group were unwilling for the children of Israel to attempt to take this promised land. The cities were well fortified, they said. Not only that, but there were giants in the land . . . giants so big that they would make the members of the invading force look like grasshoppers by comparison.

But two of the men, Gideon and Caleb, issued a minority report. "God has promised us this land," they said, "and He will deliver the enemy into our hands. God will see us through to eventual victory." Caleb was the old man of the group, but his voice was one of courage and of hope. He dared because his faith was strong.

Every church needs a Caleb. It needs a man who remembers the promises of God. It needs a man who has lived long enough to have seen the promises of God fulfilled in his own lifetime, and in his personal experience.

The Calebs of our congregations have spent a number of years sorting values, and observing those that have survived and enriched the life experience of those possessed by them. They have discovered for themselves that body of meaning which gives personal living support, direction, and sustaining power.

The Calebs have had their faith tested and proved as they passed through great changes in the history of man, the changes lived through

by the older members of every congregation. They have seen a technology of agriculture develop. They have seen the paving of village side streets and farm-to-market roads.

They have seen the industrial world move into the beginning of automation and computer-aided technology.

They have experienced the beginning of radio, the first public use of television, and the instant communication from any place in the world by satellite. With the younger generation, they have seen the placing of man on the moon and his safe return to earth.

Let these men and women who have seen so much, and developed a maturity of faith that inspires courage, communicate to others these resources fully known only to people who have spent some time on this earth. Never did our society or its churches need Calebs more!

CROPS AND CREDIBILITY

Continued from Page 5

States Aid Administrator, has warned that the Rome conference cannot succeed without a major positive approach by the United States.

If the United States is to persuade other countries to make real contributions—investments by the Arab countries in agricultural development in developing countries, for example, or financial contributions by Europeans to storing emergency food reserves—this country must demonstrate the genuineness of its own commitment.

Without a substantially increased program under Public Law 480, the United States protestations of alarm about the world food problem will have a hollow ring. This country's contribution in Rome would be little more than empty exhortations to others that they increase their own efforts while we failed to lead the way by our own example.

Such an American stance would be doubly difficult to defend in the light of Secretary Butz's repeated recent assurances to the home

panice that there is no reason to panic. "So far as food grains are concerned, we had a pretty good year," he says. To be sure, food prices are going up again, but agricultural economists insist that an expansion in the P.L. 480 program can be achieved without significant additional increases in the prices American consumers will have to pay in any case.

It cannot be argued that increasing the P.L. 480 program will be easy. It will entail a shift of priorities in deciding where cuts are to be made in Mr. Ford's budget. A sacrifice of some kind, modest in terms of the total budget and the total food supply, must be made if this country is to play a responsible role in the fight against the ravages of hunger which are afflicting ever larger portions of the earth's population.

Without such a commitment, the result in Rome will be no progress—or worse, a babbling of recriminations that will impede international cooperation for years to come and possibly even lead to large-scale starvation in the Southern Hemisphere.

—The New York Times



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CAPE COD CRANBERRY GROWERS ASSOCIATION

ANNUAL MEETING 1974

Machinery displays and tour of state bogs

by J. B. Presler

August 27, 1974, was a hot and sunny day. At the Cranberry Experimental Station in Wareham, Massachusetts, local cranberry growers began to gather around 9:30 A.M. to survey the elaborate displays of predominantly bright yellow equipment. Said one disconsolate grower, "It looks beautiful, but who can afford it? Nobody here, that's for sure!" Nonetheless, the equipment displays, a regular opening event at the Association's annual get-together, provide the cranberry men with a chance to examine a wide variety of heavy equipment, such as back-hoes, tractor mowers, brand-new tractors, and more specifically oriented machinery such as a water wheel, a sander and so on. Most growers are intrigued, even if they are out of range.

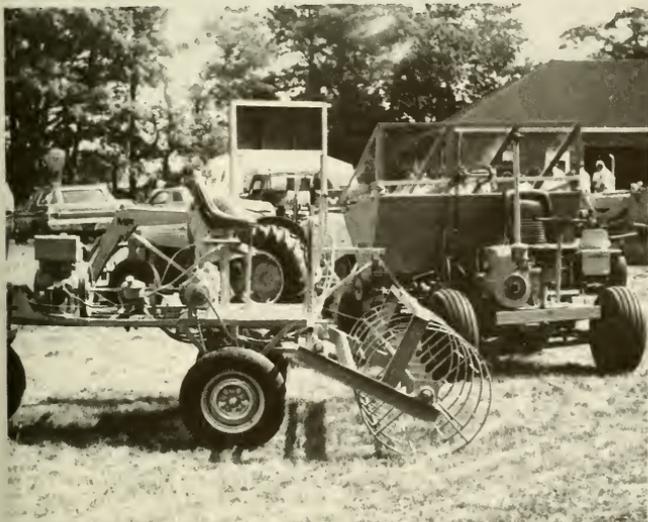


Mr. Norton gets a helping hand as he rolls up his flexible water boom.



The working gears and teeth of J. S. Norton's dry picking machine.

The experimental station itself contributes some items to the equipment display. Nearly all the other equipment exhibited is hauled to the site by the various distributors on large tractor trailers. Mr. John S. Norton of the experimental station, however, has only to open the garage door that looks out onto the displaying field, and drive his elaborate dry picking machine onto the turf. The machine, pictured in this article, is one which Mr. Norton has been working and reworking for a number of years. Its advantage is that it picks a bog cleaner, according to Mr. Norton, and at a much faster rate than the hand driven machines commonly in use. Its disadvantages are that it is heavy and it is rather expensive to build (roughly \$10,000 according to Mr. Norton) thus removing it from the average grower's reach. The machine is available every year during the harvest season to any grower who would be interested in trying it out.



Equipment displays attracted interest of most growers.

The second event on the schedule was a tour around the state bogs which the station holds for research. The crowd gradually left the machines alone on the field and began the trek around the bogs, under the guidance of William E. Tomlinson and Robert Devlin, both scientists who regularly conduct experimental projects on the bogs. Growers were attentive as Dr. Devlin explained the dilemma confronted this year when growers obtained only spotty control from Evital, a commonly used herbicide. The herbicide was marketed in sand granules this year, as opposed to clay granules which were used previously. Apparently, the sand granule form was not necessarily an improvement and, in Dr. Devlin's opinion, it was this new form that was responsible for the spotty results. Sand does not apply as evenly as the clay granules. "I think they better go back to clay granules myself," Dr. Devlin concluded.

Bog section II, relatively free of weeds and with a promising batch of green berries in sight, provided an example of what a heavy dose (160 lbs.) of Evital can do to an area that was heavily clogged with nutgrass. There was little nutgrass to be seen now, two years after the initial treatment.

Mr. Tomlinson and Dr. Devlin pointed out the plots that were planted with different varieties of berries and the group gradually worked its way over to the area on which Mr. DeMoranville was conducting his fertilizer tests, using various ratios of the three basic fertilizer components, potash, nitrates and phosphates.

Dr. Devlin explained the new herbicide, Devernol, as the crowd continued its walk. This herbicide is presently being tested at the state bogs, and it appears to be a very



Dr. Devlin points out results of experiments conducted on the state bogs.

effective and safe compound. The experimental station is working on getting the new chemical cleared through EPA. "It would be good to have a little competition on the market," said Dr. Devlin, referring to the present situation of Evital standing without competition in its

category. "This could help knock the price down a little." The herbicide has a two year control and has not caused any vine damage thus far. They will attempt to "sneak" through EPA along with the ornamentals. The bogs at the northern end of the plot are

presided over by several large spotlights. They are part of an experiment to determine the effectiveness of using the simple principle of light attracting moths in order to prevent fruitworm infestation on bogs. The principle is that the

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moths, being attracted to the lights, would spend less time on the surrounding bogs. In fact, this has worked out exactly as expected: the area of the bog nearest to the lights has the least amount of fruitworm infestation. As the distance from the lights increases, the incidence of fruitworm infestation correspondingly increases. Operating expenses are an increasingly bothersome factor for most growers, and this colored their collective response to the spotlight device. "Who could afford the electric bill?" asked one grower rhetorically.

Nearly everyone sought relief from the sun under the large oaks near the station buildings after the bog tour was completed. Growers and other participants formed a line for the noon-time chicken barbecue, thoughtfully served with large amounts of cranberry sauce and cranberry juice.



Dispensing with the fork, a grower enjoys the chicken.



Dr. Cross addresses the group at the afternoon business meeting.

Business

The business meeting commenced at 1 P.M., and everyone began to arrange themselves in the wooden, folding chairs that were set out under the large, old oaks.

President Willard Rhodes brought the meeting to order. Following a thoughtful invocation by a local minister, Dr. Cross introduced the guests slated to speak that afternoon. The secretary's report was delivered by Mr. DeMoranville, as was the treasurer's report which followed it.

Guest speaker J. Richard Beattie, Associate Dean and Director at the University of Massachusetts delivered a reflective speech entitled "A Look Back and a Look Ahead."

Mr. Beattie began by recalling a day in July, 1940, when he was introduced to roughly 180 growers at Ellis B. Atwood's station (now the Cranberry Experimental Station) in East Wareham. The meeting was to discuss fruitworm control, and the standard equipment used to identify the creatures at that time was a hand lens. Pointing up the progress made since then, Mr. Beattie called attention to the relatively new building at the Station which presently houses the scientific labs with their sophisticated equipment.

Mr. Beattie touched upon the major events that have taken place in the cranberry industry since 1940, as perceived by him from his former post at the Station. He reflected on the effects of World War II on the industry, mentioning the unique labor situation; German war prisoners, Jamaicans, and Kentuckians. "I think our imported help was treated fairly. The documentation is there." Returning G.I.'s were afforded the benefit of schooling in the cranberry industry at the Ellis B. Atwood Station. Several of the growers present at the meeting raised their hand in response to Mr. Beattie's query, "How many here attended those classes?"

Touching lightly on the happier days of DDT use for Gypsy Moth control in '45 and '46, Mr. Beattie commented, "To the best of my knowledge we didn't lose a single tourist, or a Cape Codder, and we did eliminate a miserable pest which we now have back with us."

On November 9, 1959, a disastrous day for the cranberry industry, Mr. Arthur Fleming from the Food and Drug Administration announced that a carcinogenic substance had been found in cranberries. Most growers are all too familiar with that sad story, re-

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ferred to by Mr. Beattie as the 'Cranberry Fiasco'.

Memorial Day, 1961, known to many local growers as the day of the 'Black Frost', remains memorable primarily for that reason. But that day had its silver lining, according to Mr. Beattie, for it provided growers with an extra incentive to take a long look at frost preventative measures, and hence the invaluable sprinkler systems began to be used on a much more extensive basis.

Looking ahead, Mr. Beattie voiced his support of the Cranberry Advisory Council which was appointed this Spring in an effort to increase communication between the Station and the growers, for the ultimate good of the industry. Mr. Beattie hopes the old 'booby trap' will be avoided: getting hung up on the question of whether research is basic or not. The Council should get on with the business of addressing itself to the industry. Environmental and water concerns are important, he allowed, but the concentration must be on the grower's basic problems, and the matter of the industry itself.

"Research has contributed, I think, to industry," said Mr. Beattie in conclusion. He based this conclusion on the evidence of increased yields in the industry, and gave some of the credit for those yields to research carried out at the Experimental Station.

The business meeting continued when Mr. David Mann, president of the Mass. Farm Bureau Federation spoke briefly on the importance of legislation before introducing Mr. Phil Good, executive secretary of the Federation who proceeded to list the various bills which will affect the cranberry grower and which will soon be up for discussion or have recently been acted upon at the State or Federal level. The leg-hold trap bill was signed by the Governor with some concessions, the main one being that wet trapping with a leg-hold trap will not be prohibited. Mr. Good discussed the bill relating to fines for trespassing with gas engines which

has increased the fine from \$100 to \$250. He concluded by alerting growers to the fact that the bills relating to land use will continue to be a big issue this year.

Mr. DeMoranville reported on the Frost Warning Service finances.

Mr. William Atwood informed the growers of the matters that had been discussed thus far by the Cranberry Advisory Council which included the registration of new chemicals: how can it be speeded up? They hope to hold a meeting of researchers from all over the country at the Cranberry Experimental Station in the near future.

Dr. Chester E. Cross delivered an address on what has been going on at the Station, noting Dr. Robert Devlin's article on DDT (see *Cranberries* Volume 38, Nos. 6 & 7, 1973), increased efforts at the Station to improve grower-Station communications, and the research that is taking place at the Station concerning herbicides, in particular.

Market prospects for the 1974 season were presented by Mr. John Decas, (Decas Bros.) Mr. Robert Hiller, (LeSage) Mr. Gilbert Beaton, (Ocean Spray) and Mr. Orrin Colley (Cranberry Institute) respectively. Mr. Colley and Mr. Decas expressed optimism about the foreign markets, and Mr. Colley spoke briefly of the importance of developing these markets.

Although Mr. Hiller acknowledged that the surplus to be dealt with and the economic situation of the country are disturbing factors, he, too, seemed happy about the prospects in the foreign markets, and claimed that 1974 will be a good year. "The bright side of the coin appears to be the fresh fruit market."

Mr. Beaton drew attention to the sugar problem. Costs on sweeteners have doubled by 285% since last year, according to Mr. Beaton, and this will necessarily be reflected in the price of cranberry products. Mr. Beaton seemed somewhat glum as he reminded the growers that cranberry products are not considered 'bread and butter' items by the average consumer, and therefore it will be difficult to increase sales enough to pay for the increase in the cost of production and still get the promised amount back to the growers. "We're fighting just as hard for you as you are fighting to produce cranberries," he assured growers.

The 1974 Crop Release was announced by Mr. Byron S. Peterson, Agricultural Statistician from the USDA, Boston. Mr. Peterson cautiously reminded growers that the forecast was subject to change and that the only change would be for the worse if rain did not come soon. The figures are reproduced below:

PRODUCTION OF CRANBERRIES

State	1972	1973	1974	1974
	Total	Total	Indicated	1973 %
	(1,000 Barrels)			
Massachusetts	819	901	890	99
New Jersey	196	228	230	101
Oregon	104	97.3	95	98
Washington	154	118	120	102
Wisconsin	805	756	900	119
United States	2,078	2,100.3	2,235	106

ANNUAL SUMMER MEETING

AMERICAN CRANBERRY GROWERS' ASSOCIATION

NEW JERSEY

The 105th summer meeting of the American Cranberry Growers' Association was held on August 29th. A morning session of talks, presided over by President Caleb Cavileer, was held at the Sweet-water Casino near historic Batsto, and after lunch a field tour of the Rutgers research bogs at Oswego was conducted.

Myron Flint of the New Jersey Crop Reporting Service gave the estimate for cranberry production in all of the states. The forecast for the nation's total is 2,230,000 barrels, 6% more than last year and 8% more than 1972. New Jersey's estimate was given as 230,000 barrels. Both the berry count per frame (126) and the size per berry (0.63 gms.) were the same as last year when the state produced 228,000 barrels. The Crop Reporting Service objective yield studies have shown a greater degree of accuracy than the use of growers' estimates. However, funding for

this work by U.S.D.A. has been cut off and its continuation will be dependent on support from growers and the state.

Walter Z. Fort, New Jersey Field Representative, gave a report on the present status of the Cranberry Marketing Order. No action has been taken on a set-aside for this year's crop. At the recent Cape Cod meeting of the Cranberry Marketing Order, New Jersey growers were given key positions. Garfield DeMarco is the new chairman and Charles Thompson is vice chairman. No report has been issued on the appeal hearings conducted at Bordentown last June. The 17 New Jersey growers who appealed their quotas are expected to receive some notification shortly. It is felt that as long as the present food shortage situation continues it would be unwise to institute a set-aside.

Ed Lipman gave an interesting talk on the agricultural situation in the state. Rapid urbanization con-

tinues to impinge unfavorably on farming. New legislation regarding farm labor is making it difficult for farmers. The measures militating against agriculture seem to originate with legislators from urban areas in North Jersey where agriculture is not a vital part of the economy as it is in the southern half. Public relations work being conducted by the New Jersey Farm Bureau and the New Jersey Agricultural Society helps to bring about better understanding. These programs must be strengthened and need the support from cranberry growers and other farmers.

Fred Mahn, of the Soil Conservation Service, described the work done by his agency in delineating important agricultural areas. The Blueprint Commission for New Jersey Agriculture has proposed that municipalities designate 70% of prime land within its boundaries as an Agricultural Open Space Preserve.

In a business session the budgeting problem of the New Jersey Crop Reporting Service in the continuation of the objective cranberry yield studies was discussed. A motion made by Walter Fort, seconded by Ed Lipman and unanimously passed, provided for appointment of a committee by the President to investigate the advisability of seeking monetary support for the Service.

In the afternoon tour of the Rutgers Research Bogs at Oswego, the main feature was the good display of cranberry varieties. Cropper, Ben Lear, Wilcox, Stevens, Beckwith, Pilgrim, Franklin and Le Munyon had unusually good crops. Seedlings #10 and #11 and cross

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Continued on Page 12

THE STATE OF WISCONSIN PLANS FRESH BERRY PROMOTION

Since last March, the Marketing Division of the State Department of Agriculture has been planning with Ocean Spray Cranberries, Inc. and the Wisconsin Cranberry Association a promotion for fresh cranberries to support the national effort of cranberry promotion for the industry.

To provide statewide publicity, the Governor has been asked to proclaim October as Cranberry Month.

A quick capsule from a marketing man's view—the Wisconsin crop is estimated to be a record crop of 900,000 barrels and, if the good growing weather continues, can be of very good quality. Harvesting will begin in volume late in September and most operators should complete harvest by October 25. Wisconsin will continue to put up about 25% of the product fresh, 65% for processing, and the remainder is shrinkage at harvest and in storage. Due to the big crop the authorities will have a set aside of part of the crop and Wisconsin will go all out to promote the record crop of cranberries. Due to stocks on hand and the record crop expected, the consumer should find cranberries an excellent low-cost food buy.

—John J. Polich
Cash Crop Specialist

“THE OCTOBER FUN BERRY” PROMOTION

September 27

Governor Patrick J. Lucey Signs
October Cranberry Proclamation

ACG MEETING

Continued from Page 11

pollination plots of Early Black plus Wilcox, Early Black plus Early Richard and Early Richard plus Wilcox were all impressive.

A mechanical demonstration of Tom Darlington's new bog elevator was conducted by Tom. A new bog dam mower was also shown at work. Abbott Lee's new aquatic sander, which will be demonstrated in November, was on display.

October 4-6

Cranberry Festivals at Warren and Babcock Areas

September & October

Wisconsin Cranberry Growers are Featuring Tours Through Cranberry Marshes and Processing Facilities

September 15-November 1

Wisconsin Department of Agriculture Public Service Television Tapes on Cranberries to be used by all state television stations

October

Wisconsin Department of Agriculture Informational Radio Tape on Cranberries to 60 Wisconsin radio stations

Wisconsin Department of Agriculture News Release on Cranberry Products sent to 1,000 newspapers, radio and television stations, farm publications, etc.

September & October

University of Wisconsin Extension Service has Scheduled a Series of TV and Radio Programs throughout the state featuring Fresh Wisconsin Cranberries—

“Cranberry Harvesting in Wisconsin”—late September

“There are Cranberry Varieties”—early October

“Wisconsin Cranberry Lore”—late October

(These programs are aired once on all state-owned AM and FM stations)

“Badger Home and Garden”

“October”

“Harvest From The Marshes”

“November-Wisconsin Is Cranberryland”

(These programs are one minute in length and are sent to 100 radio stations and are used as public service programs.)

September & October

Alice in Dairyland Programs on Radio, TV and Before Live Audiences

October 21-28

Statewide TV Cranberry Promotion Commercials

WISN-TV, Milwaukee; WFRV-TV, Green Bay; WKBT-TV, La Crosse; WEAU-TV, Eau Claire; WSAU-TV, Wausau; WKOW-TV, Madison.

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The meeting of the marketing committee was called to order on the morning of August 27 in the library in the back of the new building at the Cranberry Experimental Station in Wareham, Mass. Business proceeded quickly with minutes being read, reports delivered and, finally, officers elected. The new officers are as follows: Chairman, J. Garfield DeMarco, Chatsworth, New Jersey; Vice Chairman, Richard H. Indermuehle, Manitowish Waters, Wisconsin; Secretary, Norman I. Brateng, Long Beach, Washington.

Lively discussion commenced as the item of an extension of base period came onto the table. John C. Decas, from Massachusetts, forwarded a recommendation that the base period be extended from six years to eight years. Mr. Olsson, also of Massachusetts, agreed with Decas pointing out that such an amendment would avoid the necessity of having to rule on 140 or so individual cases of appeals that had been made by growers who felt that they had been, for one reason or another, unable to produce a truly representative crop in the six-year period.

Mr. Norman Brateng, urging the committee members to stick within the established six-year term of the program, called for a clarification from Mr. George Dever of the USDA as to whether the point was actually an amendable one or not. Many uneasy feelings were voiced about such an amendment, yet the problem remained of what to do with the growers who were truly in a dilemma.

Mr. Decas finally offered a well-constructed motion that had the effect of extending the base period for two years for growers who had put in new plantings in 1968 and 1969. The discussion preceding this motion had apparently caused a number of committee members to change their thoughts on the whole issue, for it was received with great affirmation, almost unanimously, and it was further decided that the motion should be rewritten during the lunch break, to be presented in its final and polished form for voting.

The motion was duly accepted and those growers with new plantings now have the opportunity to come up with a representative crop for two more years. Records will continue to be collected as they have been for the last six years. The feeling among the committee members was that the six year period was somewhat unrealistic, and a mistaken quantity on their part, for the determination of a representative number for newly planted bogs.

Crop prospects for this year were discussed with the USDA figures being presented and commented upon by all the representatives from the various states. No great disagreement was voiced, and the federal figures were adopted to apply toward marketing decisions.

Thereupon the committee was in a position to consider a possible set-aside. Mr. Beaton gave a rundown of the figures denoting the disposal of last year's crops on the markets and noting that Ocean Spray had a carry-over of 600,000 barrels, enough to take care of needs remaining until the next crop was harvested and processed. The independent handlers had very few berries left over, but there is less need for a carry-over there.

George Olsson moved to have no set-aside, and to appoint a committee to go to Washington to investigate the possibilities for an outlet for the extra berries. Mr. Decas objected to the motion of no



set-aside as being "hypocritical" in that the rationale behind the motion was felt to have been a consideration of the 'atmosphere' in Washington, referring to the general feeling of late among politicians and consumers that a set-aside is wasteful and slightly immoral in these days of high prices and low availability of food.

"We should be for it or against it on the basis of whether it's good for the industry or not," urged Decas, "and not whether it will make the politicians happy." Obviously a great deal of clarification of members' positions followed and it was finally decided to defer a decision until an investigating committee could go to Washington to feel out the situation further, look for possibilities such as a school lunch program, and in general find some more solid ground upon which to arrive at an intelligent decision. In the end, the government has offered to buy a certain amount of canned cranberry sauce from the industry and has requested prices and offers. The cranberry sauce will be used in the child nutrition program, otherwise known as the school lunch program. Most likely, a set-aside will not be adopted, partly because the lateness of a positive decision would be extremely difficult for the growers to comply with as they have plans set for the disposal of their crop already. However, the set-aside has not yet been actually voted upon.

The grower should be quite pleased with these major decisions of this year's annual marketing committee meeting.

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massachusetts FARM BUREAU FEDERATION

Resolutions from Plymouth County touched on several problem areas for farmers in Massachusetts. The importance of workable laws and regulations pertaining to use of agricultural chemicals was stressed, as well as the need for continuing input from farming people in government agencies responsible for the development of such regulations. Farm Bureau received a mandate from the members to maintain the strongest possible lines of communications on new regulations, appeals procedures on Farmland Assessment coverage and availability of fuel for this winter, particularly for nursery and greenhouses.

Land use planning and taxation also were subjects for resolutions in Plymouth County. Farm Bureau members expressed themselves solidly in preserving the rights of private land ownership, and the right of farmers to choose between filing on a cash or an accrual basis with the IRS.

Massachusetts cranberry forecast is down one percent from last year. Fruit set is average, berry sizes are smaller than last year. Estimated Massachusetts crop will be 890-thousand barrels. Total crop forecast is up six percent over last year, with increases expected from New Jersey, Washington, and Wisconsin.

Some applications for coverage under the new Farmland Assessment Act have been turned down, according to reports from property owners in several areas of Massachusetts. Reasons given for denial are quite varied, but they all raise the important question for those who have been denied coverage; What do we do next?

An appeal is in order and should be submitted by those land owners who believe their property qualifies as bona fide agricultural land. One problem: proper forms for filing an appeal on the Farmland Assessment Act (Chapter 61-A) won't be ready until early September. The state Tax Department has told Farm Bureau the forms are being printed now, should be off the press by the first week in September.

Meanwhile, you ought to write a letter to your local Board of Assessors, notifying them of your intention to appeal. We suggest this as a precautionary measure, in case the necessary forms are late coming from the printers. It's a good idea to let your assessors know your plans to appeal, so your records will be kept available for consideration.

We'll keep you informed on the progress of the appeals, and let you know when the proper forms are ready. Also, keep in mind that

applications for the tax year beginning July 1, 1975 must be filed prior to October 1, 1974.

Aldrin and Dieldrin are on the "blacklist" of the Environmental Protection Agency again. A ban on the manufacture of those pesticides which contain aldrin and dieldrin is the intent of an order issued early this month by the EPA. The manufacturer has requested a hearing on the proposed ban. EPA administrator Russell E. Train has said the two chemicals present an "imminent hazard" to the public health.

Bring back DDT says a medical biochemist from the University of California in the current issue of the *AMA Journal*. Dr. Thomas H. Jukes called the decision to ban DDT a political decision, rather than a scientific one. He expressed the hope that DDT will find its place again as a public health measure for essential uses in the battle against noxious insects.

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continued from page 4

Ken Beaton, 1st Vice-president; Dave Mann, 2nd Vice-president and the author, Secretary-Treasurer.

Frost Warning Service

The Frost Warning Service, sponsored by the Cape Cod Cranberry Growers Association is in operation this fall. Weather information relating to frost is recorded daily on the answering service and growers may telephone 295-2696 in the afternoon and evening for the latest reports. There are 194 subscribers to the frost warning service and 136 contributing to the answering service.

The following radio schedule also supplements the answering and relay services.

Station	Place	A.M.	F.M.	Afternoon	Evening
COD	Hyannis	106.1 mg.	2:00	9:00	
EEI	Boston	590 k.	103.3 mg.	2:00	9:00
BZ	Boston	1030 k.	92.9 mg.	2:30	9:00
PLM	Plymouth	1390 k.	99.1 mg.	2:30	9:30
QCB	W. Yarmouth	1240 k.	94.3 mg.	3:00	9:30
BSM	New Bedford	1420 k.	97.3 mg.	3:30	9:00

Crop Estimate

The official crop estimate released by the New England Crop Reporting Service indicates Massachusetts with a prospective crop of 890,000 barrels, down 1 percent from last year. Now that the rains have decided to bless us again, it would appear that berry size will be average to large, quality excellent and color good. Even with some cooking from the drought, we should be able to make this estimate.

For the other areas, New Jersey is estimated at 230,000 barrels, same as last year; Wisconsin 900,000, up 19 percent; Washington 120,000 barrels, up 1 percent and Oregon 95,000 barrels, down 2 percent. The national crop is estimated at 2,235,000 barrels, up 6 percent from 1973.

Fall Management

The following suggestions on fall management are offered for consideration: 1) it is an excellent practice, where water is available, to flood dry harvested bogs immediately after picking. This gives

the vines a good drink of water, which helps revive them after the rough harvesting operation and allows broken vines and other harmful trash to be collected and disposed of. 2) thin or weak areas of vines on the bog which are easily seen during the picking operations should receive an application of fertilizer. This will strengthen the vines without promoting weed growth. The old bucket technique of walking the bogs and spreading the fertilizer by hand on areas that need it, is still a good practice. 3) Casoron, or any of our approved herbicides, should be used to clean up weedy areas. Allow the bog a week or ten days to recover from picking before applying any herbicide. Casoron should not be used until temperatures are cool—it is broken down and passes off into the air very quickly when temperatures are 60 degrees or above and smaller amounts are lost at temperatures as low as 40 degrees. 4) Girdler, which is becoming a very common pest, can be controlled by flooding for a 6-day period in late September, applying a coat of sand sometime before the start of the next growing season, or by the use of diazinon during the growing season. Root grub can be controlled by using dieldrin. For more specific recommendation on using these insecticides, consult your cranberry insect control chart. 5) Plan on treating areas infected with Fairy Ring using the ferbam recommendation on the insect control chart.

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DOMINICAN REPUBLIC EXPECTS RECORD

SUGAR CROP

By **LAWRENCE R. FOUCHS**
*U.S. Agricultural Attache
Santo Domingo*

Sugar production in the Dominican Republic is seen moving to a new record this year, as producers move to capitalize on the high world prices now prevailing. But despite the lucrative export situation—which at times this year has boosted world prices above the usually higher U.S. price—this island nation is expected to continue its tradition of sending most shipments to the United States, where its market share is surpassed only by those of Brazil and the Philippines.

Current estimates place the record 1974 crop at 1.2 million metric tons, compared with about 1.1 million in the previous 3 years. This expanding output has enhanced sugar's already dominant position in the Dominican economy to the point where today it accounts for 20 percent of agricultural production and nearly half of foreign exchange earnings.

These successes notwithstanding, sugar's ascendancy is a relatively recent occurrence, and its fortunes in the last few decades have varied widely.

Sugar has been produced in the Dominican Republic for over 350 years—since the early days of Spanish colonization—but output did not really begin to expand until the early part of the twentieth century. From around 360,000 metric tons in the 1920's, production grew steadily until the 1960's, reaching a record 1.1 million tons in 1960. But at that point, diminished export opportunities and depressed prices halted sugar's advance, and production settled back to around 770,000 tons for the next 10 years. Not until 1972 did production again reach the peak achieved in 1960 and begin its current upswing.

In the early years, the sugar industry was characterized by several small mills producing a low-quality sugar. The mills could serve only a limited area of land, since ox carts were the only means of moving sugarcane to the mills. As cane areas became less productive, they were abandoned and production moved to new lands, also making it necessary to move the mills.

With the advent of new cultural practices and fertilizers, many of the previously abandoned sugarcane areas were brought back into production. New sugar factories were constructed from about 1912 until the early 1920's.

In the early 1950's, a second phase of the Dominican sugar industry was started. The Government organized a company known as Azucarera Nacional, C. por A.—later changed to Consejo Estatal de Azucar (CEA)—to purchase, construct, and operate sugarmills. Through the purchase of existing mills and the construction of others, the Government eventually

drew into its possession 16 sugar factories. These included all but four of the factories in operation today.

General supervision of the industry is charged to the Dominican Sugar Institute, in which the Government, producers, and labor representatives participate. The Institute is responsible for the compilation of sugar statistics and allocation of milling quotas for the domestic, U.S., and world markets. At the present, the share for the U.S. market is still based on tradition, with the existing 12 CEA mills getting 60 percent and others the remainder.

Despite its size, the industry has not made significant investments toward future expansion, with expenditures currently going only toward maintaining present facilities. Also, in 1972 CEA received a \$5-million line of credit from the Export-Import Bank to purchase replacement equipment.

Area planted to sugarcane during 1973 was approximately 625,000 acres or about the same as in 1960

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and around 13 percent of total cultivated land. However, plantings are expected to be expanded by some 50,000 acres within the next several years.

Production of the cane is carried out by three large companies, plus approximately 3,200 small farmers who grow about 20-25 percent of the total crop. Production at the field stage is largely by traditional methods, with all cane cut by hand and oxen used extensively for fieldwork. From this point, however, operations become more sophisticated. Transport to the mills is by truck or rail, and operations of the mills are mechanized.

Sugar's impact on the Dominican economy is greater than that for any other agricultural or industrial product. In addition to accounting for 20 percent of total value of farm production, the sugar industry is the largest industrial employer, with a work force of at least 100,000 persons.

Exports of sugar and its by-products accounted for some 46 percent of foreign trade earnings in 1973 and are expected to supply a still-higher share in 1974. In 1973,

such exports were valued at about US\$186 million for sugar itself, compared with \$159 million in 1972, and \$18.6 million for sugar byproducts, compared with \$16.6 million. The latter category includes molasses and furfural.

Both the current high export earnings and the fact that the Government is principal owner of the sugar industry put sugar in a unique and dominant position—a position expected to continue in the future, despite such planned changes as agrarian reform.

Current Government policy calls for expansion, but not to the extent that land areas better suited and needed for other crops will be affected. Long-term plans are for an annual production of 2 million tons of sugar, possibly by 1980, with gains coming both through increased acreage and better cultivation practices.

Concerning exports, the Government is maintaining a policy of fulfilling its traditional share of the U.S. market regardless of world prices, as it desires to maintain its reputation as a reliable supplier of sugar to the United States.

CRANBERRY CASE AWARD IS MADE

A Monroe county circuit court case involving cranberry crop damage ended on June 14 in Sparta, Wisconsin with jurors returning a verdict in favor of the plaintiff.

The Cutler Cranberry company of Shennington, located in the Juneau county town of Cutler, was awarded \$6,200 for partial loss of a 26 acre crop as the result of an electrical power failure.

The 12 member jury found the Oakdale Rural Electric Cooperative (REC) negligent in failing to require its supplier, Dairyland Power Cooperative of La Crosse, to properly construct, maintain and operate its Mather substation to prevent interruption of service. Jurors ruled that Oakdale REC was 25 percent negligent and Dairyland Power 75 percent.

The cranberry firm had sought \$11,830 for crop damages incurred during the night of May 26, 1971, when a power failure disrupted a sprinkling system.

Bruce Potter, president and general manager of the family owned cranberry company, testified he had installed an automatic sprinkling system powered by electric motors to provide protection from frost.

During that night, said Potter, the temperature dropped to 22 degrees and the sprinkler system was operating until 4 A.M., when the electric power cut off.

This, he said, caused severe damage to 26 acres of cranberries which were supposed to have been protected by the electrical system.

Judge Peter G. Pappas of La Crosse presided over the case that began June 12 with selection of jurors.

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The arrival of early autumn heralds the harvesting of cranberries. Few of us have ever beheld the unusual sight of an actual cranberry harvesting.

The versatile red berry, which once grew wildly and provided sustenance for both Indians and early settlers, is now carefully cultivated in northern areas of the United States and Canada. The Indians picked cranberries for pemmican cakes to see them through the harsh winters. The Pilgrims found them to be a base for tasteful tarts, stews and warm brews. As the pioneers moved westward, they took cranberries with them to ward off scurvy on their journey across the vast continent.

Up to 100 years ago, cranberries were harvested by hand with a variety of wood and metal scoops ingeniously designed. Today cranberries are harvested by two methods. One is used while the bogs are dry, and a mechanical picker, not unlike a lawn mower, gently scoops up the berries. The other which is so visually exciting is called the "wet harvest" method. In the "wet picking" method, the gates of the canal system which is used to irrigate the individual bog fields, are opened wide so that the bogs become flooded with water. Then a giant reel machine, called "the eggbeater" churns the water, and the turbulence causes the berries to dislodge from their vines and rise to the surface. Thus the cranberries float to the top in a scarlet sea. The berries are then corralled to the shoreline and scooped up by a conveyor which dries them.

Cranberry harvesting begins in early September, and the fresh, ripe cranberries are now being rushed to our local markets for good cooking and eating through early fall and the holidays.

Fresh cranberries bought early in the season are at their peak of flavor, and it's a smart shopper who buys them now. They can be immediately used for cooking, and the remainder are easily frozen by popping the bags or boxes right into the freezer. When ready to use, take the berries and use exactly as you would the unfrozen.

Cranberries are tasteful components to a multitude of baking recipes. Here are six which are both plain and fancy, for use at breakfast, for snacking and at elegant meals. By freezing your berries, you'll be able to try them all. Berry Bacon Bread is a tempting new flavor. Cranberry Molasses Bars will make a wonderful snack for all the family. Cranberry Cheese Biscuits, Buns and Croissants will be a delightful accompaniment to many a meal. And, for a cake to enhance the holiday feast, Cranberry Spice Cake will add a glowing touch to your festive table.

So gather your own harvest of berries and enjoy the fruits of a bounty of good cooking.

(Recipes courtesy of Ocean Spray Cranberries, Inc.)

CRANBERRY MOLASSES BARS
(One 13x9x2 inch pan)

- 1/3 cup vegetable shortening
- 3/4 cup sugar
- 2 eggs
- 3/4 cup molasses
- 1 cup coarsely chopped fresh cranberries
- 2 cups unsifted all-purpose flour
- 1 cup quick cooking oatmeal
- 2 teaspoons baking powder
- 1/2 teaspoon baking soda
- 1/2 teaspoon ground cardamon
- Grated rind of 1 orange

until fluffy. Beat in sugar, eggs, molasses and cranberries. Add remaining ingredients and beat until well blended. Pour mixture into a greased and floured 13x9x2 inch baking pan. Bake in a preheated moderate oven (350°F.) for 30 to 35 minutes or until puffed and firm to the touch in the center. Cool in pan and then cut into 1 x 2 inch bars.

BERRY BACON BREAD
(One 9x5x3 inch loaf)

- 1 package (13-3/4 ounces) hot roll mix

- 1/2 cup lukewarm water
- 2 eggs
- 2 tablespoons instant minced onion
- 1/2 pound bacon, fried until crisp and crumbled
- 2 cups fresh cranberries

Place yeast from hot roll mix into a large bowl. Stir in lukewarm water until yeast is dissolved. Stir in eggs, onion and bacon. Stir in flour from hot roll mix. Knead dough on a floured surface until smooth and elastic, about 10 minutes. Place dough into a bowl and grease top. Cover and let rise in a warm place.

In a large bowl cream shortening

until double in bulk, about 1 hour. Place dough on a floured surface and pat into a 9-inch square. Sprinkle cranberries on top of dough. Roll up dough jelly roll fashion. Place roll of dough seam side down into a greased 9x5x3 inch loaf pan. Cover and let rise in a warm place until double in bulk, about 30 minutes. Bake in a preheated moderate oven (375°F.) for 35 to 40 minutes, or until richly browned. Properly baked, loaf will sound hollow when thumped. Remove loaf from pan at once; cool on its side on wire rack. Cool loaf thoroughly before cutting into thin slices. Serve spread with butter.

CRANBERRY CHEESE BISCUITS

(Makes 16 - 2 inch biscuits)

3 cups buttermilk biscuit mix
 1-1/2 cups (6 ounces) grated sharp cheddar cheese
 1 teaspoon celery salt
 3/4 cup milk
 3/4 cup halved fresh cranberries
 1 tablespoon sugar

In a large bowl combine biscuit mix, cheese and celery salt. Add milk and stir until dough cleans the bowl. Fold in cranberries and sugar. Knead dough a few times on a heavily floured surface until a smooth ball. Roll out dough to 3/4 inch thickness and cut with a cookie cutter dipped in flour, into 2 inch rounds. Place rounds on a greased cookie sheet. Bake in a preheated hot oven (450°F.) for 10 to 12 minutes or until richly browned. Serve at once with pats of butter.

CRANBERRY CROISSANTS

(Makes 32)

Filling:

2 cups ground fresh cranberries (use blender to grind)
 1 cup sugar
 1 teaspoon grated orange rind

Dough:

4 cups unsifted all-purpose flour
 6 teaspoons baking powder
 1/2 cup sugar
 1/2 cup shortening (margarine or vegetable shortening)
 2 eggs
 1 cup (1/2 pint) heavy cream

In a bowl mix cranberries, 1 cup sugar and orange rind. Set aside. In another bowl mix flour, baking powder, and 1/2 cup sugar. Cut in shortening until particles are like coarse cornmeal. Add eggs and cream and stir to form a sticky dough. Turn dough out on a heavily floured surface and knead until a smooth ball. Cut dough into 4 pieces. Roll out each piece on floured surface into a 12-inch circle. Cut each circle of dough into 6 wedges. Place a heaping teaspoon of cranberry filling on each wedge at the outer edge of the circle. Turn dough over filling and roll each wedge towards its point. Place rolls on greased cookie sheets and turn ends down to shape a crescent. Repeat using remaining dough and filling. Bake in a preheated hot oven (400°F.) for 15 to 20 minutes or until golden brown. Remove crescents from cookie sheet while they are hot. Cool on a rack. Serve warm or cold.

CRANBERRY SPICE CAKE

(One 9-inch layer cake)

1 cup butter or margarine
 1-1/2 cups sugar
 4 eggs
 3 cups sifted all-purpose flour
 2 teaspoons baking soda
 1 teaspoon salt
 1 teaspoon each cinnamon, nutmeg and cloves
 1 cup milk
 2 teaspoons vanilla
 1/2 cup coarsely chopped fresh cranberries
 1-1/2 cups chopped, peeled and cored apples
 2 packages (5-3/4 ounces each) fluffy white frosting mix
 1 cup boiling cranberry juice cocktail

In a large bowl cream butter until light and fluffy. Gradually beat in sugar. Beat in eggs one at a time. Sift flour, baking soda, salt and



continued on page 20

continued from page 19

spices together. Alternately stir in milk and dry ingredients beginning and ending with the dry ingredients. Stir in vanilla, cranberries and apples. Spread batter evenly into two greased and floured 9-inch round layer cake pans. Bake in a preheated moderate oven (375°F.) for 35 to 40 minutes or until cake shrinks in slightly from sides of pan and feels firm to the touch in the center. Cool layers on cake racks. Pour frosting mix into a bowl. Beat in cranberry juice and beat with an electric mixer until very thick and fluffy. Place one layer on a serving platter and spread with some of the frosting. Top with second layer. Spread sides and top with remaining frosting. Cut into wedges to serve.

CRANBERRY BUNS (Makes 30 buns)

4 cups unsifted all-purpose flour
6 teaspoons baking powder
1/2 cup sugar
1 teaspoon salt
1 cup vegetable shortening
1 cup raisins
2 cups fresh cranberries
1 teaspoon caraway seeds (optional)
1 cup milk
2 large eggs

In a large bowl mix flour, baking powder, sugar and salt. Cut in shortening until particles are like coarse cornmeal. Stir in raisins, cranberries and caraway seeds. Add milk and eggs and stir until a sticky dough. Knead dough a few times on a floured surface until a smooth ball. Cut dough into 30 pieces about the size of a small plum. Shape dough with floured hands into smooth balls. Place balls on greased cookie sheets. With scissors snip top of buns into a crisscross. Bake in a preheated hot oven (400°F.) for 15 minutes or until richly browned. Serve hot with butter or cream cheese.

continued from page 1

some local flooding accompanied these storms but no extensive damage to crops occurred.

Warm temperatures with afternoon highs in the upper 80's and 90's prevailed over the State during the first and mid part of the week of the 18th. Temperatures cooled considerably at the end of the week with overnight lows in the 30's and low 40's in the north on the morning of the 24th and even some 40's in the south. Precipitation continued showery and spotty although most areas received token amounts on the 21st and 22nd. The heaviest official rainfall was 1.75 inches at Oconomowoc on the 22nd but nearby at Milwaukee the weekly total was only a trace.

STATE NOW BIGGEST CRANBERRY PRODUCER

John Polich, Cash Crop Specialist, Bureau of Marketing Services, Department of Agriculture, Madison, Wisconsin has informed the Warrens Cranberry Festival, Inc. that Governor Lucey will proclaim October as Cranberry Month with kickoff at the Cranberry Festival in Warrens, October 4-6. The theme will be "Wisconsin Fresh Cranberries—The October Fun Berry." His office also has informed the group the latest statistics on production of cranberries is Wisconsin estimate of 900,000 barrels making us number one with Massachusetts estimate of 890,000 barrels a close second.

RENEW MARKETING ORDER

The Wisconsin Department of Agriculture reports that state cranberry growers have voted to renew and amend the existing state Cranberry Marketing order for another 3-year period.

A tally shows that 112 growers returned their ballots in the recent referendum, with 104 in favor of the order.

The marketing order was amended to increase the assessment to 3 cents on each barrel of cranberries produced in Wisconsin.

Since the order was established in 1965, \$110,432 has been raised for research related to cranberry production and processing and for a special frost warning service. Since 1965, annual cranberry production has ranged from 416,504 to 808,926 barrels.

Advisory Council members elected in the referendum were: Irving Bennett, Donald S. Duckart and Robert Gottschalk, Wisconsin Rapids; John R. Rezin, Warrens; and Bruce R. Potter, Camp Douglas. Alternates elected were Gerald Brockman, Vesper; Richard Indermuhle, Manitowish Waters; Leonard E. Rodeghier, Wisconsin Rapids, and Eric Jonjak, Trego.

WISCONSIN GIRL IS ARIZONA'S TOP COWGIRL

A Wisconsin girl is Arizona's All-Around Cowgirl.

Jo Lynn Potter, daughter of Mel and Wendy Potter of Wisconsin Rapids, is the Arizona All-Around Cowgirl for the second consecutive year. The Potters are cranberry growers in the Wisconsin Rapids area for part of the year, and they winter in Arizona.

Jo Lynn, in winning the all-around honor in Arizona last year, also received as a prize, a Dodge Colt car. At 14, she was too young to drive it away, but it was taken to her family's ranch where she now drives it in those confines.

She has qualified for the Nationals in Tomah by winning a first in barrel racing, second in cutting, and third in breakaway roping. She has selected goat tying as her fourth event in Tomah.

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CRANBERRY



OCTOBER 1974

IMPORTANT MARKETING ORDER NOTES

See Page 5

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REGIONAL NEWS NOTES

WISCONSIN

Cold nighttime temperatures were the big story for the past week with frost occurring in low terrain areas both Tuesday and Wednesday mornings for much of the State and in a few places Thursday morning. Even official sheltered readings which are 5 feet above ground had temperatures in the upper 20's or low 30's. Temperatures averaged 5 to 8 degrees below normal for the week. Afternoon temperatures were cool but pleasant with gradual warming until reaching the mid 80's Sunday. Rainfall was quite sparse especially over the south and central where trace amounts fell at the beginning and end of the week. A few heavier amounts were reported over the weekend in northern Wisconsin with Spooner having the only weekly total over 1 inch.

Southerly winds and above normal temperatures prevailed in the first part of the past week but readings dropped below seasonal normals after mid-week when cool Canadian air moved into the Great Lakes region. Some scattered frost occurred early Saturday morning. Precipitation fell over the north and central early in the week and in the south mainly Thursday and Friday. Rainfall amounts ranged from 2.5 inches in the northwest to less than .25 inch in the southeast.

Fair to partly cloudy with mild temperatures early and mid-week. Temperatures were in the 70's and low 80's in the south. A strong cold front on Friday brought a hard freeze to the entire State over the weekend. some snow flurries were even reported in the north. Precipitation amounts for the week were light, mostly confined to the north in showers Tuesday and Thursday.

Freezing temperatures occurred statewide on Monday morning. Isolated freezing conditions occurred again on Tuesday and Sunday. Daytime highs moderated during

the week and record highs in the 80's were reached on Thursday. Cooling took place again over the weekend. Weekly temperatures averaged a little below normal. Light precipitation fell early in the week with a few snow flurries in the north. Heavier and more general showers fell over the weekend with amounts over one half inch in some areas.

NOVA SCOTIA

August was a wee bit warmer with a mean temperature of 66.4°F compared with the 50-year average of 64.8. Although I haven't seen the official figures for September I think it will show that we have had an excess of rainfall and warmer weather than usual in the first half of the month. Our first frost came on September 19. Our new plantings of Stevens are showing sufficient color on Sept. 20 to warrant pickings, but the crop is spotty.

The rainy spell which started the last week of August continued through September and into October. In September, we had 5.87 inches of rain. In spite of this, harvesting is nearly complete as of October 18. Local berries are meeting with stiff competition from imported berries on the fresh fruit market.

The following item is from the newsletter of the British Columbia Dept. of Agriculture: "Harvesting is approaching its peak. Early varieties are nearly complete with the main crop commencing during the first week in October. Fruit quality is excellent with most varieties showing a variable size. Total production is estimated at 9.5 million pounds—82% of the 1973 crop."

WASHINGTON

September was a great deal warmer than normal for the Long Beach Peninsula area. Maximum temperature was 92° on the 25th and minimum temperature 37° on

the 29th. The mean high of 71.1° gave warmer than average temperatures on the 2nd, 8th, 13th, 14th, 20th and 22nd through 25th.

Rainfall totalled only .91 inches for the month, the driest September since 1965, but not near the record of September 1918 when only a trace was recorded at the North Head Light House Station, weather recorder from 1883-1952. Measurable precipitation came on only 6 days. The largest storm was 0.56 inches on the 9th with the small amount of 0.01 recorded from the 11th to the 30th. Despite the fact that the August and September precip is well below the normal, the total for the year to date is 21.14 inches ahead of 1973.

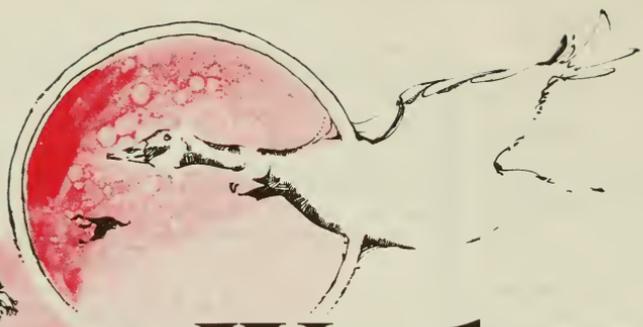
Harvest got under way September 29th in the North Beach and Grayland area for dry picking. Long Beach and Warrenton growers plan to start water harvest about October 7th.

NEW JERSEY

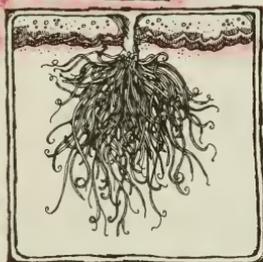
Frosty weather arrived early this year in New Jersey. The cool temperature to promote good coloration of cranberries is usually most welcome but this year it came too early and was too severe. Frosts occurred on bogs on the 13th, 16th, 24th and 25th. On the 24th temperatures as low as 24° F caused moderate losses to smaller growers who did not have enough water to flood. Damage was concentrated on Howes, Jerseys and Champions, but Early Blacks did not escape injury.

Although the weather has not been dry and the total rainfall at New Lisbon totaled 4.91 inches, some localized areas have lacked adequate rainfall. Less than an inch of rain has fallen in some areas in the last three weeks of September.

The average temperature for the month was 66.3° F, about 1° colder than normal. Extremes were 88° on



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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Harvest

General harvest began on September 14, with some growers starting a week or more ahead of this date. Berry color developed early and in sufficient quantity to allow an earlier start than in the past few years. This was surprising because both July and August were warm and dry which does not usually promote color. Quality has been outstanding and berry size fairly good. The weather has cooperated very nicely with no rain except on one day each weekend and the first frost night did not occur until September 24th. Harvesting of the Early Blacks was well along by October 1st and some harvesting of Howes started very shortly after this date. There were two general frost warnings in September with only one of any consequence and no damage reported. It is difficult to figure the crop at this time as there are some conflicting reports, but it will probably be fairly close to estimate.

Market Report

The first cranberry market report for fresh fruit was released on September 23 from the U.S.D.A. Agricultural Marketing Service under the direction of John O'Neil in Boston. This will be the 21st

season that these weekly reports have been prepared for growers and shippers. The reports include current information on the movement of fresh cranberries by rail and truck, price and terminal market conditions in the leading cities in the United States. Those who wish to continue receiving this report should return the necessary form to Mr. O'Neil. Anyone interested in the report may receive it by writing to the United States Department of Agriculture, Agricultural Marketing Service, 34 Market St., Room 10, Everett, MA 02149, requesting that his name be added to the cranberry mailing list.

Weather

September temperature was very near normal averaging out to +0.2 degrees a day. Maximum temperature was 83 degrees on the 1st and minimum 36 degrees on the 25th. Warmer than average days were the 1st, 10th, 12th and 13th. Cool periods were 5-7th, 22-25th and 30th.

Precipitation totalled 4.62 inches which is about 3/4 inch above normal. There was measurable rain on 10 days with 1.52 inches on the 7th as the largest storm. We are about 5-3/4 inches below normal for the year to date and 6-1/2 inches behind 1973 for the same period.

Late Fall Management

The following suggestions on late fall management are offered to the growers for their consideration. 1) Woody plants such as hardhack, meadow sweet and bayberry should be pulled out after harvest, this will greatly improve the picking operation next season. 2) A potato digger can be used in the shore ditches to pull out runners of small bramble,

virginia creeper or morning glory which may be crossing the ditch from shore. 3) Casoron can be applied at the rate of 80-100 pounds per acre for control of looestrife, aster, mud rush, needle grass, summer grass, cut grass, nut grass, marsh St-Johns Wort, ragweed, blue joint, sphagnum moss and wool grass. Casoron should be used in cold weather (after November 15) preferably just before a rain. It is less likely to harm vines that are healthy and vigorous. 4) This is an excellent time to rake and/or prune the bog, also do not forget the trash flood on dry harvested bogs where water supplies are available. These are very valuable practices that will keep the bog in shape for peak production next year. 5) Any bog that has not received sand for the past three years or more, should be sanded as soon as possible, preferably this fall or winter. Sanding, pruning and raking should be postponed until next spring on those bogs that do not have water for winter protection because the vines are more susceptible to winter injury following these operations. 6) Areas with fairy rings should be treated with ferbam as recommended in the Insect and Disease Control Chart. 7) The fall casoron treatment followed by an application of kerosene-Stoddard Solvent in the spring is very good for control of blackberry and fresh meadow grass and is quite helpful in controlling running bramble.

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1974 HARVEST TALLY

Production of cranberries in the five producing States is estimated at 2,255,000 barrels, up 1 percent from the August 15 forecast and 7 percent more than the total 1973

crop. This output ranks second to the record production of 2,265,000 barrels in 1971. All States expect increases from last year except

Massachusetts which anticipates a 1 percent decrease.

In Massachusetts, late September rains aided berry sizing and replenished water supplies for irrigation, frost protection and harvest. Harvest began in mid-September. Some frost damage occurred in unprotected bogs in New Jersey. Berry

color is good and harvest is ahead of last year. Wisconsin growers expect good crops with high quality. Sizes vary greatly due to available water supplies and cool weather in August and September. The Oregon and Washington harvest is underway although two weeks later than last year. Quality is considered good with normal sizes.

PRODUCTION

State	1972		1973		1974
	Total	Utilized	Total	Utilized	Indicated
			1,000 barrels		
Mass.	819.0	819.0	901.0	901.0	890.0
N. J.	196.0	196.0	228.0	228.0	230.0
Oregon	104.0	104.0	97.3	97.3	100.0
Wash.	154.0	148.0	118.0	118.0	135.0
Wis.	805.0	709.0	756.0	670.0	900.0
U. S.	2,078.0	1,976.0	2,100.3	2,014.3	2,255.0

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THE NATIONAL CRANBERRY MAGAZINE

— Our 35th Year of Publication —



I. S. Cobb . . . publisher

J. B. Presler . . . editor

Issue of October 1974 | Volume 39 - No. 6

Correction on the Marketing Committee Decision

There is some confusion concerning the Cranberry Marketing Order, and "Cranberries" hardly helped to clear matters up. We regret our error in the September issue.

The effect of the committee's decision is *not* to extend the base period for two years for growers who planted in 1968 and 1969, as reported in this magazine. Instead, a decision was made to give consideration to adjusting the base quantities of growers who planted in 1968 and 1969, *if* the committee feels in certain cases that the order gives them latitude. Growers who planted in 1969 must have obtained that extension of planting time from the committee in 1968. No other growers will be considered under this provision.

The Cranberry Marketing Order was established in 1962. All marketing orders are based on a law established in 1937. The Cranberry Marketing Order is definitely legal and has successfully withstood several legal challenges, including a suit against the Secretary of Agriculture.

Therefore it would behoove all growers to give their attention to the matter. Field men have been appointed by the Marketing Committee for all the cranberry producing areas in the USA and in Canada. If any grower has doubts or specific questions he should address them to the field man in his area.

Growers should have received notice of their base quantity in the mail around April 26, 1974. Any grower who wanted to appeal his assigned quantity should have done so within 30 days of receiving this notification. If he failed to do so, he technically has no recourse. According to Charles F. Hastings, Jr., Cranberry Marketing Committee manager, it is now too late to make an appeal in *any* case. However, the possibility of presenting a case to the Department of Agriculture does exist.

Misconceptions persist about the committee. Hastings urges growers to get them cleared up, either by contacting him personally or by attending the committee's meetings or both. The committee as a whole encourages grower participation.

Continued on page 11

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Food For The Spirit



by Robert L. Clingan

Dr. Thomas Harris, the author of *I'm OK—You're OK*, and the entire host of psychotherapists who call themselves Transaction Analysts, believe that most people are hostage to their parents. They go through life crippled by proverbs and directives which they have received from their parents, and which have a compulsive command over their lives.

The rural New England poet Robert Frost was aware of some of this, as was reflected in his poem *Mending Wall*. This narrative poem tells the story of how, each spring, he and his neighbor must mend the wall along the line fence between their properties.

Robert Frost asks, "Why? No longer does either farm have livestock." His neighbor answers, "My father said 'good fences make good neighbors.'" The poet farmer asks, "Isn't it only when there are cows?"

Yet the spring ritual goes on, because his neighbor cannot escape the saying of his own father, even when it no longer applies.

Sometimes we are imprisoned not so much by what one of our parents said to us when we were children as by our lifelong rebellion. There can occur in early childhood and adolescence a rebellious attitude against parental authority. This is most likely to happen when the parent seems to wield his authority irrationally, without sensitivity, and especially when he acts without any sign of caring or love.

And so the child-become-man is still rebelling against what a parent said, or seemed to stand for. This rebellion can become another form of imprisonment from which the individual finds it difficult to escape.

Dr. Harris, and the scriptures themselves, encourage us to free ourselves from the past, from either accepting it without thinking, or blindly rebelling against it. We are urged to become what we are called to be—mature adults who deal with the issues of our lives rationally, but with caring and concern.

The first step in attaining this maturity is to desire freedom and maintain the willingness to accept full responsibility for what we are, what we do, and what we think. It is not always easy to do this; it is often easier to hide behind quotations, and blame our parents for our failures.

The second step is to understand the influences that have helped shape our lives. If we identify the irrational influences of either submission or rebellion, we can will ourselves to be no longer subject to them. If they no longer apply, we should determine to no longer use them in our decision-making.

For Christians the words of their Lord will be truly supportive in this struggle to be free and become a fully-mature adult. Jesus said, "I make all things new." The writer of the Gospel of John said, "If the Son of Man make you free, you are free indeed." Freedom belongs to those who are no longer victims of either submission or rebellion.

OBITUARY

ROBERT H. BARTLETT

Robert H. Bartlett, longtime employee of Ocean Spray Cranberries, Inc., died unexpectedly June 5 at the age of 59 in Plymouth Mass., his lifelong residence.

Mr. Bartlett's work at Ocean Spray began with the Cranberry Trading Post. Later, in February of 1964, he became foreman of the cocktail department at Hanson. In August of that same year, he was named foreman of fresh fruit packing at Onset.

Shortly after opening the new Middleboro plant, Ocean Spray appointed Mr. Bartlett supervisor of its fresh fruit packing department. Just recently he had been designated foreman of the plant's fresh fruit operations.

Mr. Bartlett was a member of the First Congregational Church in Manomet. He is survived by his former wife, Dorothy Bernagozzi, and two daughters, Mrs. Judith Travis of Hingham, Mass. and Mrs. Elizabeth Duffy of Cochrasset, Mass.

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— Photo by Brian Kent



Frederick A. Shaw, now retired, responds to CRANBERRIES interview at his sister's home in Carver, Mass., August, 1974.

— Photo by J. Presler

Cranberries is one crop for which the injunction, "Go West, young man," never seemed to really apply. Massachusetts, the birthplace of the cultivated cranberry, has been the favored spot since the inception of the cranberry industry. The picture is not entirely rosy, however. In fact, there are difficulties inherent in the small state's hilly terrain that have vexed growers over the years. Bogs are often small and scattered, making coverage difficult, particularly during picking season.

It is common knowledge that New Jersey and Wisconsin growers are happily bereft of such problems. Not as many people are fully aware of the unique situation in British Columbia, the westernmost province of Canada. There the terrain is uniformly level. The cranberry bogs are entirely centralized, located as they are on a large river delta partly surrounded by the city of Vancouver. These were some of the advantages still awaiting the prospective cranberry pioneer as recently as 1950.

Massachusetts is now being outdone by the state of Wisconsin. For the first time in the history of the cranberry industry the Bay State has lost her first place honors in yearly production. Yet she has a title that will never be lost, and that is that Massachusetts is the state where it all began.

Other states learned, at least in some small part, how to grow cranberries from the experience of the Massachusetts growers. And as late as 1950, this state produced the pioneers for yet another part of the continent. They have turned the land in the rich river delta over to the tart cranberry.

Mr. Frederick E. Shaw, originally from Carver, Mass., together with his two partners, Norman V. Holmes and James E. Thomas, were

the pioneers who, in the summer of 1954, went out to Vancouver to cultivate cranberries on mined peat bogs.

They had made the cross-country trip earlier in the year at the suggestion of Dr. Frederick Chandler of the Cranberry Experimental Station in East Wareham, Mass. Dr. Chandler had been visited by a man from British Columbia who was in the business of harvesting or "mining" the rich peat bogs that cover the river delta in Vancouver.

The man's name was Mr. E. E. Crancross, and he had come to extend an invitation to the cranberry growers in the East. He wanted to see something growing in the stripped peat bogs and thought that perhaps cranberries would be the proper crop. He generously offered to help anyone willing to go out and try.

Bogs were difficult to get a hold of in Carver then, as they are today. Most growers had inherited their bogs, and so it was with Frederick Shaw. He inherited one bog from his father who had, in turn, inherited it from his father, and Fred went on to procure a one-third ownership in another bog with his partners, Jim Thomas and Norman Holmes. Later on, Jim and Fred developed a bog service business



Just beginning. From left to right, Fred Shaw, Norm Holmes and Jim Thomas inspecting one of their first crops on the then new bogs.

which did quite well. Norm Holmes had built up a business of boxes and to all appearances he was doing all right too.

But one afternoon the three men were talking to Dr. Chandler of the Experimental Station. They said they were interested in going somewhere and growing "really nice bogs." Dr. Chandler suggested British Columbia.

"So we went out and looked," said Fred. Mr. Crancross turned out to be a genial and extremely helpful host. The men discussed the situation on their way back East and by the time they arrived in Carver, they had essentially decided to go to British Columbia to grow those 'really nice cranberry bogs'.

Jim had no children at that time and so he was the first to pack up and go West, only one month after returning from the exploratory trip. Departure was more difficult for Norm and Fred. Norm had a business to tie up and Fred was reluctant to leave an ailing father. Soon, however, they were off. Norm left in July and Fred departed in August of 1954.

The fine impression the men had first received of Mr. Crancross was consistently borne out over all the years he worked with them. And he did remain working with them in an invaluable way, for the three were set up as a subsidiary of Western Peat Moss, Ltd., in which Crancross was a partner. They called this new branch, in which they were 50 percent owners, the "Big Red Cranberry Co., Ltd."

"We'll furnish the money and you furnish the know-how," Mr. Crancross is reported to have said. "Oh, he was a wonderful man, Mr. Crancross was," recalls Fred affectionately. It was largely due to the keen interest and generous spirit of this man that the three "emigrants" were able to succeed at their new venture, according to Mr. Shaw.

Since then, the Big Red Cranberry has dissolved, but many interesting things were learned about cranberry cultivation during the active years of the young company, things that came as a surprise to the three Easterners. Growing and harvesting procedures, as they were eventually worked

out, were of necessity very different from those used in Massachusetts and most other cranberry producing regions in the country.

The unique environment that the peat beds, literally thousands of years old, provided for the cranberry vines required close examination and virgin experimentation. Many differences were noted immediately. Others were discovered slowly.

There are different insects in B.C., and a great deal fewer than there are in Massachusetts. The peat is extremely deep and organic, as distinguished from the mineral soils generally found in cranberry bogs. Sanding, an invaluable procedure in the East and utilized by most Eastern growers, is completely inappropriate on these bogs. But this is hardly a high yield deterrent.

Yields range between 100 and 200 barrels per acre, with the



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average generally over 150 rather than below. The sand used in Massachusetts to cover sticks, insects and other problems that find their way into the bogs, is unnecessary in organic soil as rich as peat beds. Dead material is very quickly decomposed by the chemicals in the peat.

The different chemical make-up of the soil required different fertilizers and presented the growers with vine abnormalities with which they were often unfamiliar. One affliction was mistakenly diagnosed as tip-and-twig blight, only to be finally recognized as strawberry root weevil. The bogs were flooded in the winter and the problem was finally solved. But it took a bit of exploring, a bit of hard investigation and patience to determine the root of the problem.

In addition to the happy success of the business, the Shaw family has found the Vancouver area an extremely pleasant one in which to live. The Japanese Current keeps the winters mild, even though the area is situated on the beautiful northern stretches of the Pacific coast. British Columbia is one of the richest provinces in Canada, boasting lumber industries, vast mineral and peat mines, and of course a plentiful supply of salmon.

"I'm glad I lived there for the years that I did and I wish I'd been there since I was twenty," says Shaw.

For more information on cranberry growing in B.C., see *Cranberries*, Jan. 1970, Vol. 35-No. 1, and Feb. 1972.



Vegetation on a harvested peat bog before being prepared for cranberry vines.



Roots gathered into piles to be picked up and dumped.



A cleared and graded peat bog, ready to be planted over to cranberry vines.



A completed, 45-acre cranberry bog. The extremely large, flat area of the bog permits berries to be airlifted off bogs when harvested.

- Photos by F. Shaw

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DIELDRIIN IS BANNED

The EPA's decision to halt the production of dieldrin, the only chemical that effectively rids bogs of root grubs, was announced during the first week of October, 1974.

The Shell Chemical Co., the only manufacturer of dieldrin and aldrin, has appealed the decision. According to Irving DeMoranville of the Cranberry Experimental Station in Wareham, Mass., there is very little chance that the appeal will be successful.

The chemical had been difficult to obtain for some time before the ban was announced probably due to a step down in production in preparation for the eventuality of the ban.

The Massachusetts Audubon Society supported EPA's action and was very pleased with the strong decision. Their scientists contend that experiments have proved that low doses of dieldrin cause cancer in mice and strongly suggest the same results in rats. This, they deduce, shows that the chemical could be dangerous to human beings.

Mr. DeMoranville, who speaks for the Experimental Station at large, is opposed to the ban and countered that a high dosage of anything will cause abnormalities. He does not dispute the results of the experiments with rats and mice, but argues that this does not provide conclusive proof that dieldrin, as it had been used in cranberry bogs, is capable of causing the same reactions in human beings.

"The big users were other crops such as corn and we (cranberry growers) got dragged along in the backwash." Unfortunately, such fiery attacks against chemicals often incite bad feelings toward the growers themselves who appear to some to be ogres who would willfully annihilate the local population in their zeal to produce cranberries.

Such is not the case, of course, and growers need more public defense on this score. The Experimental Station has recommended on their annual spray charts that drainage on the bog be closed up for seven days after the bog has been sprayed. This gives the dieldrin time to "tie-up" with the soil particles after which it cannot move. Such practices are conscientiously maintained by the vast majority of growers in their use of all chemicals.

One careless grower or one unfortunate accident can earn the industry a bad name, however, and such was the case when an estimated 30,000 trout died last May in a Wareham hatchery after stream water contaminated with dieldrin flowed through their cages. Had the chemical been allowed the time to tie-up with the soil particles before draining occurred, this should not have happened.

On the other hand, one cannot argue the fact that dieldrin is a strong chemical and, to a large extent, an unknown quantity in its effect on human beings. The Environmental Defense Fund claims that dieldrin is readily absorbed by soybeans and other crops grown in rotation with corn and that the chemical is thereby transmitted

through the food chain to cattle, pigs and poultry.

Roughly \$20,000 worth of chickens were destroyed in Mississippi last March when they were found to be contaminated with dieldrin residues that were 10 times in excess of the maximum levels permitted by the EPA.

Obviously some traces of dieldrin would inevitably reach human beings and, indeed, scientists have found traces in 97% of the human fat samples that have been analyzed. This means that there is no control group available among human beings with which to conduct comparative experimentation.

As is the case with most chemicals so important to agriculture, one is left weighing the lesser of the evils. The chemicals are used, and they have been effective, in waging the war against the pests which would reduce the amount of food available to the world if they were not eliminated. Yet the strong possibility does exist, though both sides continue to argue over the degree of risk that some of the chemicals themselves are presently doing a slow job of weakening the human race.

The cranberry grower is left with one alternate method of combating the root grub and that is

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OBITUARY

EBENEZER SHAW

A funeral service for Ebenezer Albert Shaw, 78, of High St., North Carver, was conducted October 29 at a Middleboro funeral home by the Rev. Robert H. Merrit, pastor of the United Protestant Church of Carver. Interment followed in the Shaw family lot in Thomastown Cemetery.

Mr. Shaw died at St. Luke's Hospital, where he had been a patient for a month and 10 days. He was a retired cranberry grower. He had lived in Carver for 53 years.

Eben, known affectionately as "Buckle" Shaw, was born in Middleboro on May 14, 1896, the son of Dana and Nellie (Peckham) Shaw. He attended the Middleboro schools and was an Army World War I veteran having enlisted in Plymouth with the old Co. D. 101st Yankee Division. He was discharged at Camp Devens on April 5, 1919.

He was a past commander and life member of the Julian S. Southworth American Legion Post 164 and a member of both the Sons of Union Veterans of Carver and the Mayflower Masonic Lodge of Middleboro.

Eben had been a staunch Democrat all of his life. At one time, one of the very few registered Democrats in town, he was a great supporter of President Franklin D. Roosevelt. He lived long enough to see his party outnumber the opposition in what was once a Republican stronghold.

"Buckle" possessed a rare talent. He never failed to find a good source of pure water with his diving rod—a wooden fork obtained from the wild cherry tree.

Eben is survived by his widow, Winifred F. (Shaw) Shaw of North Carver; a son, Curtis Shaw of Dighton; a daughter, Mrs. Flora Wood of Plymouth; 10 grandchildren; six great-grandchildren; a brother, Henry Miller Shaw of North Carver, and a sister, Mrs. Harold (Olive Ward) McKay of North Carver.

flooding. This is very effective, but it means sacrificing the year's crop.

The Cranberry Experimental Station is engaged in researching the possibilities of another chemical that would rid growers of this pest, but no solutions are presently in sight. Even if anyone should come up with something immediately, the process of clearing a new chemical through EPA takes several years.

One can only hope that the pesky grub will content itself with barren meadows and develop a great distaste for cranberry bogs.

EDITORIAL

Continued from page 5

"There is a likelihood that the committee will be re-examining the order in November and possibly making amendments," says Hastings. "This is the grower's chance to get involved."

The Marketing Committee is *not* an arm of Ocean Spray. Neither is it possible to establish a new marketing outlet and be immune from the Marketing Order. The order definitely applies to everyone who sells

cranberries in the USA and in Canada, even if he sells them at a roadside stand.

We hope some questions have been cleared up. We regret our erroneous report which has added to the confusion.

We urge the Marketing Committee, however, to make a strong effort to keep all cranberry growers fully and accurately informed through some communication vehicle set up by the committee. And we urge growers to read any such communication thoroughly. It is both unfortunate and unnecessary that a few growers have found themselves in a difficult predicament on account of a lack of communication, or a lack of understanding, about an instrument that has come into being for the express purpose of providing some security for the entire cranberry industry.

J. B. Presler, editor

Further inquiries should be addressed to:

Charles F. Hastings, Jr.
Cranberry Marketing Committee
Box 429
Wareham, Mass. 02571

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BUILDING A NICE LOOKING BOG



Before the work began

Roger Correira, of Plymouth, Massachusetts, has lately been spending all his free time hand grooming a bog site in Kingston, Mass.

"I enjoy it. I could stay out there all day, but you have to work sometime," he says. Roger bought a 25-acre tract of land on Wapping Road in Kingston last year. The bog was included in the land, located in the front of the property, beside the road. The bog had not been touched for 12 years. Thick brush, cedar trees and pines had nearly obliterated it.

The bog had no base quantity allotment at the time that the land was purchased and it has no prospect of receiving one unless the marketing order is altered in the future. Roger is optimistic. "I don't know what will be happening four years from now," he says hopefully.

At any rate, that is not the important issue for Roger. The bog is essentially a hobby. He works steadily at clearing the land in back also in preparation for a house site. At a future date he will build his house and perhaps the bog will cover yearly taxes on the property.

"I want to make it a really nice looking bog." In addition to completely clearing the bog of all vegetation, Roger is meticulously clearing and grading the surrounding banks and ditches. Presently he has laid out the sprinkler system

and is about to dig it under the soil.

He explains that the grader hit some clay while leveling the bog surface, and so it will be necessary to sand before laying in the vines.

"I still have to check out what vines to get. I want to be careful about that. And I'm going to plant

all Howes, late berries," he said with evident enthusiasm. Hopefully one good drainage ditch will suffice, and the plan is to cut a perimeter ditch. A brook for flooding (gravity stream) cuts through the center of the bog straight down toward the rear of the property. On the other side of the flume, he has dug out a water hole which will make a nice duck pond as well. In addition to this pleasant touch, Roger is constructing a stolid pump house with much care.

Roger intends to forsake the use of herbicides and go the hand weeding route, a practice that is practically impossible for large growers. He will fertilize heavily in the beginning.

"I'd like to get it looking like a carpet."

No doubt there is not a cranberry grower alive who is unable to identify with that statement.



Presently: work in progress

THE MIGRANT SITUATION

Editor's note: A great deal of attention was aroused by the slaying of one migrant worker by another in the latter part of the summer of this year in southeastern Massachusetts. A number of local newspapers subsequently examined the migrant worker situation in Massachusetts as they had not previously done in recent years.

Though most of the articles that were produced as a result made no direct implication of the cranberry bog owners who employ the migrant workers, many growers became defensive when the inquiries persisted.

In most cases, this attitude was an unmerited reaction to the honest and often compassionate probing of the reporters. It is now common knowledge that the required housing for migrant workers must be provided by the growers and for the most part is. This knowledge is due, in part, to the publicity brought about by the articles.

The common lament of the articles was the lonely plight of the migrant workers on the bogs. The loneliness exists because of a lack of communication with non-Spanish speaking local people, lack of transportation, the isolated location of most of the migrant camps, and the fact that the men are separated from their families for most of the year.

The bog owner need not think that the public holds him responsible for these sad, but to a large degree inevitable, conditions. The newspapers' aim was not to convince the public that the grower alone is responsible for the workers, but simply to alert the public to the fact that the situation exists, despite in many cases, the often cited efforts of individual cranberry growers and public service employees such as the NEFWC coordinator mentioned in the article reprinted here, and concerned church groups

and volunteers from neighboring communities, to alleviate the problem.

The grower can rejoice that the burden of responsibility is being spread a bit more evenly throughout the community as the result of these articles. For the conscientious citizen will not point a wagging finger at the cranberry grower, who only has so many hours in a day and who clearly has a business to run (it is he, is it not, who provides at least an employment opportunity for the migrants). A responsible individual will perceive his own responsibilities in the situation and, in responding, perhaps play a small part in solving these sad problems.

The first article reprinted below is an example of the writing which was the direct result of the shooting. The second article is an enlightening account of the predicament of migrant family life and the effect it has on migrants' children.

Isolation: the migrants' biggest problem

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by COLIN STEWART

The recent slaying of one migrant worker by another at a lonely labor camp in the midst of cranberry bogs underlines the isolation of migrant workers here in southeastern Massachusetts.

The vast majority of the workers are poor Puerto Ricans who speak English haltingly, if at all, who are dependent on their employers for rides to food stores, and who may not see their families in Puerto Rico from March to November.

The workers' living conditions near the cranberry bogs are not luxurious, but in general are physi-

cally adequate, says a regional health coordinator of the federally funded New England of Farmworkers' Council (NEFWC) who asked not to be named.

The migrants' chief hardship is isolation, he asserts—as illustrated, in the extreme, by the killing at the Wankineo Camp.

The Wankineo Camp has a beautiful setting on a grassy rise overlooking solitary acres of cranberry bogs to the north, south, and west.

In dry spells, when the bog owners pump water through sprinklers, dozens of jets of white spray twirl gracefully through the air

above the cranberries.

The firm berries dangle from low branches and, as harvest time approaches, ripen into a pattern of red dots among the green leaves.

At sunset, orange light glints off the surface of an irrigation ditch and shines through the bullet hole in the kitchen door.

The kitchen has a sink, a stove, a food counter, wood paneling, a round wooden table, and two refrigerators.

The migrant workers who still live at Wankineo Camp point to the spot where the dead man lay on the

Continued on page 16

massachusetts FARM BUREAU FEDERATION

Here's a survey that should interest you. It was taken by USDA on the subject of "Who owns the farmland of America?" It should put to rest those commonly-heard claims that "agribusiness corporations" own and control America's agriculture.

First, there are approximately one billion acres of farming land.

Slightly over half (542 million acres) is farmed by its owners.

Of this 542 million, a total of 403 million is owned by individuals.

Of this 542 million, a total of 90 million is owned by partnerships.

Of this 542 million, a total of 49 million is owned by corporations.

Of this 49 million acres, 90 percent is owned by corporations with ten or fewer shareholders.

Slightly less than half (376 million acres) is rented out for farming. Of this 376 million, a total of 270 million is owned by individuals, estates and partnerships.

Of this 376 million, a total of 40 million is owned by farm operators.

Of this 376 million, a total of 50 million is federal, state and Indian lands.

Of this 376 million, a total of 16 million is owned by corporations.

Of all the land owned by corporations, 60 percent of this land is located in the Mountain and Pacific states. Add Texas and Florida, and you've got most of it.

Can we help dairy farmer Gerry Allen of Greenfield with his milking and chores? This young Farm Bureau member has injured his back, and is unable to handle the chores right now. He'd like to find a student who could help out, with room and board provided.

Our latest membership figures are the highest of the past ten years. Massachusetts Farm Bureau Federation is growing better as it grows bigger. This is a reflection of what's happening to Farm Bureau on the national level, too.

Farm Bureau takes a stand on national health care. In testimony before the House Ways and Means Committee in Washington, a Farm Bureau spokesman said that we favor a system of federal tax credit for premiums on private health care plans. Farm Bureau believes that tax-supported national health plans will take away spendable income, drive up the cost of goods and services, and remove the voluntary aspect of health insurance.

Lots of answers to county Farm Bureau questionnaire on farmer problems are coming back, and they are most interesting. Have you sent back your own form yet? Take a minute to read and survey, then tell Farm Bureau what's on your mind!

Here is a sample of our problems, as farmers see them:

Taxes. Local, state and estate taxes nag today's farmer.

Local zoning laws pose a threat to the future of farms.

Government regulation of farming operations a big threat.

Vandalism, lack of strong law enforcement another big concern.

Inflation eats away at farmer's income, buying power.

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USDA NEWS

PRODUCE SHIPPERS CAUTIONED ABOUT USE OF SECOND-HAND BAGS

Like everything else these days, produce shipping bags are costing more. As a result, many shippers are re-using old bags. The U.S. Department of Agriculture's Agricultural Marketing Service (AMS) warns that improper markings on these second-hand bags misrepresent the produce and violate the Perishable Agricultural Commodities Act (PACA).

Section 2(5) of the Act states that it is unlawful "for any commission merchant, dealer, or broker to misrepresent by word, act, mark, stencil, label, statement, or deed, the character, kind, grade, quality, quantity, size, pack, weight, condition, degree of maturity, or State, country, or region of origin of any perishable agricultural commodity received, shipped, sold, or offered to be sold in interstate commerce."

The use of second-hand sacks is permissible, but shipping produce in used sacks which misrepresent the grade of State of origin is a violation of the PACA. Growers, shippers, and handlers who pack

produce in used bags must either turn them inside out before packing or obliterate all incorrect markings.

The PACA does not require any particular markings on containers, but those that are used must be correct. Repeated violations of this nature can result in the suspension or revocation of a firm's license.

Some growers have inserted cards in used sacks stating the produce is "not original contents." Others have attached tags to the outside of the sacks. Since these tags are easily lost during loading and shipping, AMS marketing officials recommend that they not be used.

The officials do recommend that shippers inform their buyers at the time of sale that the produce is packed in used bags, to avoid disputes at destination.

A recent amendment to the PAC Act authorizes USDA to permit a violator to settle his liability for a misbranding violation informally by paying a monetary penalty up to a maximum of \$2,000, the officials note. If he repeatedly or flagrantly violates the PACA, he can lose his license to do interstate business.

USDA ISSUES PUBLICATION EXPLAINING PRODUCE LAW

"Plain Talk About PACA," a new publication explaining most aspects of the Perishable Agricultural Commodities Act, was issued by the U.S. Department of Agriculture.

Chapters of the publication, which is adapted from a series of articles originally written for a produce trade paper, cover such topics as record keeping requirements for consignments, filing of claims involving broken contracts, and the PACA counseling service through which produce growers, shippers, brokers, dealers and retailers can get free advice on contract problems.

Federal law establishes a code of good business conduct for the produce industry. Among PACA requirements are ones dealing with produce contracts, including prompt payment for purchases made and delivery of produce as agreed on. Licenses are the key to enforcement.

For a single, free copy of the publication, send a postcard with your name, address, and zip code to Office of Communication, U.S. Department of Agriculture, Washington, D.C. 20250. Ask for "Plain Talk About PACA," Program Aid 1096.

USDA PROPOSES AMENDMENT OF PLANT VARIETY PROTECTION REGULATIONS

The U.S. Department of Agriculture (USDA) has proposed an amendment of the regulations and rules of practice for administering the Plant Variety Protection Act.

The proposal would require publication of information as to whether an applicant for the protection of a newly developed plant variety specifies that seed of the plant shall be sold "by variety name only as a class of certified seed." It would also require showing the

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Continued on page 20

MIGRANTS

Continued from page 13

linoleum floor between the two refrigerators. He had recently cooked dinner for the worker who shot him.

The reason for the killing was unclear, according to the workers at Wankineo Camp, except that the migrant, now in Plymouth House of Correction, was "a trouble maker" who had often been behind bars.

In a less isolated setting, the incident might have been avoided, says the NEFWC coordinator, who visited the labor camps since March. The migrant who shot his fellow worker had reportedly told a companion earlier that day, "I'm going to kill a guy today." But the police station is miles from Wankineo Camp, separated by a language barrier.

The incident also could perhaps have been avoided if alcohol were used less at the camps, says the regional coordinator.

Several empty whiskey bottles were lying in the kitchen when the police arrived, the workers said.

The only frequent visitors to the labor camps come to drink, says the NEFWC coordinator. Puerto Ricans from Taunton, Brockton, and New Bedford, he says, visit the migrants on weekends to get drunk away from their families.

The NEFWC worker also argues that more attention to migrants' mental health might have forestalled the killing.

"The worker is caught out there," he says, "but he can see what the other guy's got—the car and the nice house. That'll tear at your mind. It'll really get at you."

In the evenings the migrants have many free hours with little to do, except during harvest season when they may be in the bogs from dawn to dusk. At other times, the work is usually from 7 a.m. to 4 p.m. After 4 p.m. they are usually alone.

Once a week in the evenings a green truck pulls into the camp. The driver, from New Bedford, has sold the migrants clothes off his truck for 20 years, he says. He is so well trusted, he claims, that work-

ers often give him their money to deposit in savings accounts in town.

Union organizers do not regularly visit the labor camps. A migrants' union is active only in the tobacco farms of the Connecticut River Valley.

Migrants' physical health was cared for from 1963 until 1972 by a federally funded Migrant Health Project that served Massachusetts until its grant expired.

Now the NEFWC coordinator, on his own, transports migrants to hospitals and serves as translator for the migrants and doctors.

In recent weeks, a small crack has appeared in the isolation of migrants working cranberry bogs in Plymouth, Carver, and Wareham.

A local church has arranged weekly visits by a carload of local residents to several of the camps.

On Sundays religious services are held in Spanish, followed by picnics and baseball. Migrant workers and middle-class local residents converse haltingly in simple English or through a translator. Despite the obstacles, some jokes are shared.

But so far the NEFWC coordinator is about the only Spanish-speaking person who regularly visits the camps to try to help the laborers.

Migrant youth's schooling

by KIRSTEN KELCH

They come as predictably as the seasons. Every year they trail their parents along the Eastern seaboard or down through Texas and California, following the seasons, harvesting fruit, flowers, tobacco, or vegetables.

They are the children of migrant workers—part of the most poorly educated and least paid single group of workers in the country's economy.

In terms of education and economy, the U.S. Department of Health, Education, and Welfare reports, most migrant workers are not as well off as a big-city ghetto dweller.

In Massachusetts, mainly Puerto Rican migrants come to work in the Connecticut River Valley tobacco fields, to landscape flowers near the fields that encompass Route 128, or to pick cranberries and vegetables in the southeastern part of the state.

They are a small group—just over 2,600 worked here in 1973. But in parts of Florida, California, and

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Texas, they make up a large proportion of the hired farm workers employed on labor-intensive crops where enough local labor is not available.

According to a report issued by HEW's Office of Education, most adult migrants have a formal education not exceeding the fifth grade. Many cannot read or write.

It is not surprising then that most migrant children do not do well in school.

To begin with, the HEW report contends, most migrant children are also members of minority ethnic groups. Thus, they sometimes feel like outcasts in a school from the very first day.

Because they move from community to community, there is little continuity in their educations. They make few friends outside of other migrant workers and they do not form ties to schools or teachers.

They are usually the oldest children in their classes, sometimes three or four years beyond the ages of the "resident" children in a grade.

As they move further along educational grade levels, many migrant children drop out of

school. In a study done in Idaho, the migrant high school dropout rate was four times greater than the statewide average.

With federal funding, the Massachusetts state Department of Education is trying to make sure that migrant children receive the services that they deserve under the law.

Michael Crampton, head of one of the state's two migrant-education regional centers, says all children between the ages of 3 and 21 are entitled, for example, to receive bilingual education, if their primary language is not English. He also mentioned Chapter 766, the state's special-education law, as another guaranteed right.

Massachusetts is trying to make sure that migrant children are not denied their rights. But it is not an easy task.

According to state officials, a migrant child is defined as one who has moved from one school district to another during the past 13 months with a parent or guardian seeking or acquiring employment in agriculture, including related food-processing activities such as canning.

First, Mr. Crampton explained, the migrant children have to be identified. Because they are so transitory, finding the children is often the most difficult part of the state's job.

Local persons are hired to do regional surveys to determine where migrant workers live and are employed.

"If we don't find any migrants with one survey, we later go back to that area and look again," Mr. Crampton said.

After the children are identified, their education needs are assessed, along with their general health, nutrition, and cultural background.

Mr. Crampton said most migrant children are deficient in the basic skills of math, reading, and language. Once the children are placed in local schools, the regional centers provide out-of-school tutoring, early childhood education, or vocational counseling if it is deemed necessary.

The state's goal is to provide supplementary educational and supportive services to migrant children, Mr. Crampton said. "We try to coordinate with local agency services as much as possible."

To combat the lack of continuity in a migrant child's education, a national computer data bank has been established in Little Rock, Ark. The data bank called the Uniform Migrant Student Transfer Record, contains information about a migrant child's health, test scores, special abilities, and background. It is designed to give schools quick information about these Gypsy-like students.

HEW sees the future of these migrant workers as unpromising. Migrancy as a phenomenon could completely disappear because of increased mechanization. But unless the workers who make up the migrancy force broaden their skills and flexibility, they cannot disappear into the mainstream of American life.

Education, the HEW report concludes, is at least possible salvation for the migrant child.

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FALL IS FESTIVAL TIME

Fall is the busy season for cranberry growers. Machinery is whipped into shape, extra hands are signed on, and the annual harvest gets underway. A pleasant companion to the laborious harvest procedures are the cranberry festivals and open houses that also occur in the Fall.

We have news from three cranberry growing areas in the country that sported festivals this year. It would appear from the amount of media on the three that the Bandon, Oregon, and the Warrens, Wisconsin festivals were larger events than the Massachusetts Open House, held in Carver, Mass.

The festivals have an inevitable effect upon moving the season's crop, at least on a local level, and so we say "Bravo!" to Bandon and Warrens for their all-out effort to produce what were, apparently the best celebrations ever held in either of the two towns.

Bandon held its 28th Annual Cranberry Festival at the beginning of the harvesting season this year. The event which traditionally receives the most attention seems to be the selection of a festival queen and her court. The competition includes demonstrations of talent from all the contestants and talent was "rated high" this year. No two-bit fair, was this event, for which last year's queen flew in from Walla Walla, Washington to place the crown and cape upon the new queen, Miss Cindy Goodbrod.

One of the duties of the queen and her court is to sell festival tickets, or promote the sales. Queen and princesses pulled in a record \$9,447.

Another major event during the several-day activities is the Grand Festival Parade which proceeded through the streets of Bandon surpassing all previous parades in length and grandeur.

Other events were a beef barbecue and a pancake breakfast, a 4-H horse show, a festival square dance, a Teen Dance at the local

high school gym, a trap-shoot, a fiddlers' contest, and a large selection of booths, like one might find at a state fair.

The Warrens festival is similar to this in that it also lasts for several days with various activities, including a parade, and a kick-off dance during which the coronation of the festival queen takes place, quilting contests, horse shows and so on.

This is only the second year of the Warrens festival tradition. Despite its relative infancy, the festival boasted a very large parade; over 100 units. There was a pancake breakfast and a chili lunch, a country and western show, and a Farmer's market. It seems a large percentage of the community takes part in the festival and, as in Bandon, more than just cranberries is promoted.

One feature of the Warrens festival that bears close resemblance to the Massachusetts Open House was the tour of the Habelman Brothers fresh fruit packing plant and the Babcock cranberry processing plant. In Massachusetts, visitors toured the Ocean Spray plant in Hanson, and toured two bogs selected for the program in Carver, Mass.: John Decas' bog was being dry-picked and Elizabeth Costello's "Cranebrook" bog was being water-picked.

Mrs. Charles Johnson, one of the organizing hostesses for this year's Open House, reported it as drawing the largest crowd of the three annual events thus far. About 7,000 people attended the open house and received a real education about how cranberries are grown, harvested, and processed.

The Massachusetts affair was purely cranberries, "for people who have never been close to a cranberry bog and would like to see." The event drew people from as far away as Nashua, New Hampshire. Guests and tourists visiting Plymouth and the Cape area from all over the country dropped by and

consequently had a glimpse of one of the Cape's main industries.

Fresh berries and samples of cranberry bread were given to guests on the bog sites.



Thousands lined the main street of Warrens, Wisconsin as the 2nd annual Cranberry Festival parade wound through the community.

- Tomah Newspapers Photo

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- 1/4 cup butter or margarine
- 1/4 cup firmly packed brown sugar
- Juice of 1 lemon
- 1 can (16 ounces) jellied cranberry sauce, sieved
- Dash of ground cloves
- 1/4 cup dark rum (optional)

Remove giblets from turkey and refrigerate for later use. Sprinkle turkey inside and out with salt and pepper. Roast in a shallow roasting pan at 350° F. for 5-1/2 hours. Combine all glaze ingredients in a saucepan and simmer until smooth and bubbly. Spoon some of the mixture over the turkey and roast for 30 minutes longer. At same time place squash halves with seeds removed cut side up, in a shallow baking pan side by side. Spoon remaining glaze over squash halves and bake covered for 45 minutes or until tender and easily pierced. Remove squash from oven with turkey. Place turkey on a platter and place squash halves around it. Fill squash halves with hot baby whole carrots and garnish with parsley sprigs.

CHILLED CREAMBERRY SAUCE

(Makes about 3 cups)

- 2 cups fresh cranberries
- 1/2 cup sugar
- 1/4 cup water
- 1 cinnamon stick
- 1 2-inch piece orange peel
- 1 cup (1/2 pint) heavy cream, whipped

IT'S THE BERRIES—FOR A SAUCY THANKSGIVING

In a small saucepan combine cranberries, sugar, water, cinnamon stick and orange peel. Bring to a boil and then simmer for 5 minutes or until cranberries are tender. Remove cinnamon stick and orange peel and let cool. Chill. When ready to serve, whip cream until thick in a bowl. Fold in chilled cranberries and their syrup. Serve cold, with turkey, or spooned over hot mashed sweet potatoes or squash.

In a 2-quart saucepan melt butter and saute mushrooms until wilted, about 5 minutes. Stir in flour. Gradually stir in cranberry juice, chicken broth and sherry. Stir constantly over low heat until sauce bubbles and thickens. Season to taste with salt and pepper. Serve hot.

HOT CRANBERRY APPLESAUCE

(Makes about 4 - 1/2 cups)

- 1 can (1 pound) jellied cranberry sauce, sieved
- 2 cups thick applesauce
- 1/2 cup chopped walnuts or pecans
- 1/2 teaspoon ground ginger
- 1/2 cup port wine

Combine all ingredients in a 2-quart saucepan. Simmer, stirring constantly over low heat until cranberry sauce is melted and sauce is well blended. Serve hot.

MUSHROOMBERRY SAUCE

(Makes about 2 cups)

- 1/4 cup butter or margarine
- 1/2 pound mushrooms, sliced
- 1/3 cup all purpose flour
- 1 cup cranberry juice cocktail
- 1 can (10-3/4 ounces) condensed chicken broth, undiluted
- 1/4 cup sherry
- Salt and pepper



A LETTER TO THE EDITOR

Much has recently been written about Costa Rica and the many American "Pensionados" (retirees) who have settled there. Had it not been for a bout with breast cancer since I last wrote you, we would already be among them.

Now, though, because of the excellent medical facilities in Costa Rica, I have been given the okay to start planning our move to Guanacaste Province, near Liberia city.

We will soon be building our home in Ranchos Maricosta, where we will have a few cattle for the freezer, horses for our two children, a garden and fruit and nut trees. It is a long-awaited dream—and we can hardly wait!

Cost of living is still so low and taxes there so nearly nonexistent we can live comfortably on my husband's meager Navy retirement pay. We can hunt in the nearby mountains, fish in the Pacific and, if we ever tire of that, we can play golf and tennis, or just laze around in the sun (as we used to be able to do in now-many-times-more-expensive Hawaii).

We are really very excited about this. So much so, in fact, that if any readers would like more information about this beautiful, amazing little country and its Retirement Law, they can write to me. I will be happy to share what I know with them.

Mrs. Lewis M. Bird
7000 South Dent Road
Hixson, Tennessee 37343

• • •

CRANBERRIES Magazine welcomes comments, criticisms, guest editorials, photographs, interesting articles, helpful suggestions, and any other item that would enable us to better serve you.

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• • •

USDA NEWS

Continued from page 15

number of generations that the variety may be certified. The required information would be published in the "Official Journal of the Plant Variety Protection Office," which is widely distributed to interested persons.

Under present regulations, such information from pending applications cannot be published without the specific approval of the applicant. Officials of USDA's Agricultural Marketing Service said the failure to consistently publish the information creates confusion among farmers and seed certifying agencies. They need the information to comply with the rules for the sale and certification of seed.

The Plant Variety Protection Act offers protection against unauthorized exploitation by others to developers of protected seed-reproducing plant varieties. THE Act has been in effect since late 1970.

With a few exceptions, the kinds of plants that can be protected include major farm crops and almost all of the flower and vegetable plants for home gardening.

Notice of the proposed amendment is scheduled for publication in the Sept. 27 Federal Register. Comments in writing may be filed with the Hearing Clerk, USDA, Washington, D.C. 20250, until Oct. 29, 1974.

Copies of the proposed amendment may be obtained from the Plant Variety Protection Office, Grain Division, Agricultural Marketing Service, USDA, 6525 Belcrest Road, Hyattsville, Md. 20782.

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NEW JERSEY

Continued from page 1

the 3rd, 12th and 13th and 33° on the 24th. (These are sheltered upland temperatures at the weather station at Lisbon. Bog minimum usually run 10° lower.) The all-time September low for the weather station is 28° on September 2, 1957. However, it has been below 33° in September less than a dozen times.

Despite the frost reflows, harvesting of cranberries is progressing well. The frost losses were confined to smaller growers with small acreage and a near record crop is in prospect. Berries are larger than normal and the color is good. An indication of the poor economic situation is seen in the labor supply. Growers have more men applying for work than they can hire. Scoopers, however, are still difficult to obtain in the few instances where they are needed.



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REGIONAL NEWS NOTES

WASHINGTON

October continued warm and sunshine most every day. The maximum temperature was 73° on the 19th and minimum temperature 31° on the 5th, 21st, 22nd and 30th.

Rainfall total was 2.00 inches with the largest storm of .84 inches on the 27th. Measurable precipitation came on only 9 days. Going back in the Pacific County records, only two other years show a lower precipitation total, 1972 with 1.97 inches, and 1952 with 1.73 inches, 1945 had 2.35 inches. This is a very dry period for water harvest use, and the harvest period is still going on at the Long Beach area. Grayland completed November 4. Reports from the Long Beach plant indicate another week to ten days into November.

The Washington crop will total out very low, an explanation was given in the November issue of *Cranberry Vine* quoted here. "The highest yield ever produced by the Washington areas was in 1968. The yield of 1974 is, to put it mildly, low—but not the lowest ever produced. In general it may be at least 40-50% less than estimated earlier. The reason for such drop in yield can be related back to the sub-freezing temperatures for a period of a week in December 1972 down to a minus 5° on the 7th. Bud examination in spring 1973 showed a wide range of injury 10-30%. Injured buds did not initiate new uprights which bear fruit in 1974. Also it took a year before growers started to notice a good number of dead uprights in spring 1974. From this it can be seen that the number of uprights per acre were severely reduced. The second factor which contributed to low crop is the late start of physiological activities which delayed blossom time about 10 days. Cool weather and frequent precipitation during blooming period discouraged bee flight and

prevented release of pollen. These and other unfavorable conditions have reduced pollen germination and fertilization which consequently reduced berry set." To date the Long Beach Area crop is a little better than 18,000 bbl. The Grayland-North Beach crop is 74,000 bbl. The 1973 crop was 118,000 bbl., for all of Washington, according to the Washington Crop & Livestock reporting service.

NEW JERSEY

October was cold and dry in the cranberry region of New Jersey. The average temperature of 51.8° was 4.7 degrees below the norm and the second lowest mean temperature for October in the forty-five years of weather recording history at the Cranberry and Blueberry Lab. October 1972, with an average of 51.3°, was the coldest. However, the mean minimum temperature of 37.0° was the lowest ever recorded, being 2.5 degrees colder than 1972 and 1.40 less than the previous low in 1964.

Record lows established were 31° on the third, 26° on the fourth, 24° on the nineteenth, 25° on the twentieth, and 25° on the twenty-first. These were all weather shelter temperatures on the upland. On cranberry bogs at Whitesbog, readings were frequently in the low twenties with lows of 14° on the nineteenth and twenty-second, 18° on the twentieth and 19° on the twenty-first and twenty-fourth, and 21° on the twenty-third. The severe frosts caused an appreciable loss of berries on small cranberry properties where water supply was not adequate for protection.

Only 2.34 inches of rain occurred during the month of which 2.21 occurred in a hard rain, all of which did not soak into the ground to replenish low water supplies. In a few instances, lack of water delayed harvesting.

As of November a very large crop of cranberries had been harvested in the state. The total should be close to the 230,000 barrel estimate. A few growers obtained their highest yields ever, but the frost damage incurred may have prevented the highest crop of record for the state.

WISCONSIN

The week of October 6 began cool with scattered areas of frost Monday and Tuesday mornings. Temperatures moderated to the 70's on Thursday. Cool weather returned on the weekend with frost in the north and central areas Sunday morning. Rainfall was spotty and light except for heavier amounts on Sunday. The northwest area received the smallest amount for the week. The cranberry harvest is going good and a large crop is being gathered.

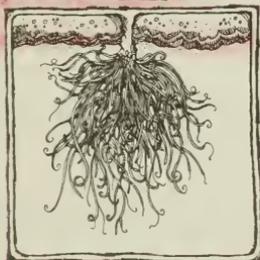
The week of the 13th started mild and warmed to the mid 60's in the south on Wednesday and Thursday. Temperatures turned colder in the northwest Thursday and were much cooler statewide on the weekend, with readings in upper 30's in the north and east and 40's in the south. Freezing lows in the 20's occurred Sunday morning with the State low of 18 at Eau Claire. Precipitation was light and spotty for the week in the form of rain and some snow in north and east. Harvesting is going good on cranberries.

Temperatures averaged slightly above normal for the week of the 20th. After beginning the week on a cool note, daily afternoon temperatures were mild. Thursday and Sunday were the warmest days as readings of 70's were common in the west and south. Nighttime readings were typically cool for the autumn season. The week was exceptionally dry with most places reporting only a trace or no rain.

Continued on page 20



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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Chester Cross was one of the invitational speakers at the Commissioner's Meeting of the Northeastern Mosquito Control Project held in Bedford, New Hampshire on October 29-31. His subject was "Pesticides and Their Regulation."

Professor Roberto Pagliatta of the University of Turin, Italy visited the Cranberry Station on October 14-15. Professor Pagliatta is a research and extension specialist in small fruit culture. He is interested in determining whether cranberry and blueberry can be grown successfully in his country. He will tour all of the cranberry producing areas in the United States. We were pleased to have an opportunity to show him some of our cranberry industry and compare notes on small fruit culture.

Harvest and Frost

The Massachusetts cranberry harvest was about 97-98 percent complete by the end of October. From the point of bright, sunny, clear days, this was an ideal harvest season; however, there were severe complications in the form of frost nights, many of them. The first warning was not issued until September 23, and there were only two

frost nights in September. As it turned out, this was a fortunate occurrence because considerable acreage was harvested during the month and made it possible for growers to stagger through a difficult October.

We sent out a total of 34 general warnings during the fall, four in September and 30 in October. This compares with 11 in 1973, 25 in 1972, only 7 in 1971 and 20 in 1970. The total of 16 frost nights in October is a record for us. The author would like to express his appreciation to Professor Bill Tomlinson for his consistency and excellent judgment under very difficult conditions in the execution of this service. We are also greatly indebted to the National Weather Service, our cooperative weather observers, telephone distributors, five radio stations and the Cape Cod Cranberry Growers Association.

There were some rather remarkable bog temperatures in October for our conditions. On the night of October 3, bog temperatures ranged between 20 and 23 degrees and on October 8 between 19 and 23 degrees. This is cold for so early in our fall season. However, it was only a preview of future attractions. Starting on October 18 and continuing through October 28 we had warnings for seven consecutive nights and on ten of the eleven nights. Temperatures in the bogs were consistently between 7 and 15 degrees. Anyone finishing harvest before mid-October should consider himself very fortunate.

Crop Estimate

The official crop estimate released by the New England Crop Reporting Service for October in-

dicates that the Massachusetts crop is 890,000 barrels, unchanged from August; later information indicates to us that this is probably a little low. For the other states, New Jersey 230,000 barrels—unchanged; Wisconsin 900,000 barrels—unchanged but possibly too high; Oregon 100,000 barrels—up 5,000; and Washington 135,000 barrels—up 15,000. The national total is 2,255,000 barrels—up 20,000 and a close second to the record 1971 crop.

Weather

October was an extremely cold month, averaging 5.5 degrees a day below normal, breaking our record set in 1940. Maximum temperature was 74 degrees on the 7th and minimum 24 degrees on the 28th. The only warmer than normal days occurred on the 6th, 7th and 15th. Colder than normal periods were 3-4th, 8-9th, 11th, 13th, 16-21st, 24th and 26-28th.

Rainfall totaled only 2.32 inches, which is about 1.1 inches below normal. There was measurable rain on only five days, with 2.02 coming on the 16-17th, leaving very little for the rest of the month. We are nearly seven inches below normal for the ten month period in 1974 and over eight inches below the 1973 period. Water supplies are quite low at this stage of the game.

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The harvest of cranberries is virtually complete. Weather conditions during October were too cold in Wisconsin for good berry development. Berry sizes are small but color and quality are excellent. In Massachusetts the picking of Howes is complete. Although near completion, harvest of the Black variety continues due to slow maturing

Production of cranberries in the U.S. is estimated at 2.21 million barrels, down 2 percent from the October 1 forecast, but 1.0 percent above the 1973 utilized crop. Increases from a year ago are now anticipated in Massachusetts, Wisconsin, and New Jersey. Oregon and Washington are down 4 and 15 percent respectively from last year.

during October. Damage due to frost was light. The harvest of late varieties continues in New Jersey. Some losses occurred from frost in early October where water protection was inadequate. Other bog that were protected are yielding excellent crops. Yields in Oregon and Washington are down from earlier expectations chiefly due to the dry weather in October.

PRODUCTION

State	1972		1973		1974 Indicated
	Total	Utilized	Total	Utilized	
			1,000 barrels		
Mass.	819.0	819.0	901.0	901.0	935.0
N. J.	196.0	196.0	228.0	228.0	240.0
Oregon	104.0	104.0	97.3	97.3	93.0
Wash.	154.0	148.0	118.0	118.0	100.0
Wis.	805.0	709.0	756.0	670.0	840.0
U. S.	2,078.0	1,976.0	2,100.3	2,014.3	2,208.0

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— Our 35th Year of Publication —

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Issue of November 1974 | Volume 39 - No. 7

A PLUG FOR THE AMERICAN FLAG

With the familiar sights and tastes of Thanksgiving still surrounding us, it seems not an inaccurate statement to say that cranberries have become at least as much a part of American tradition as apple pie. This is yet another thing for which we can thank our Pilgrim forebearers.

The minds of most Americans have construed the experience at Plymouth, which began in 1620, as being inevitably linked somehow with the final and glorious consummation of the American Revolution. For here at Plymouth was the spiritual seed of the nation, the men and women who so strongly desired liberty, those who finally knew the inestimable value of being able to worship God without fear of persecution. Surely their courage, which enabled them to seek liberty successfully, is something for which we can also be thankful.

Most of our public schools are careful not to gloss up the Pilgrim experience entirely, yet there is not as much accurate inquiry into the spiritual disposition of these courageous people, as there should be and thus most Americans have an incomplete understanding of exactly what occurred in the hearts and minds of our earliest forefathers.

The Pilgrims were escaping a Church which they believed had become too tainted to be able to be fully purified from within. They set out to build a new arm of the Church, one that in their estimation would more faithfully conform to the will of God. Consequently they had some very definite, rigid, notions of how the Christian religion should be practiced. Though they probably placed high value upon an individual's *unique* relationship with Christ, they were also zealous to be of spiritual habits, as

continued on page 6

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untainted as possible from the 'world' and its familiar ways, and thus requiring some very strict standards of behavior.

Though a strict code of Christian behavior might at first glance seem contradictory to a pursuit of liberty, the apparent discrepancy disappears when the true meaning of freedom is brought to light. Jesus made the claim that He alone could set all men free, and that according to God's plan of redemption through Christ, men would be "free indeed."

Such a freedom was what the Plymouth Pilgrims, and all pilgrims before them and since them, have longed to see firmly established.

It was, then, the search for this sort of freedom that has given rise to our treasured liberty. In the documents of history we can read many statements by the colonists who, chafing at the hold of the English, realized the sweetness of liberty and began to fervently extol its virtue. This desire eventually gave rise to the conviction to secure freedom even at the high price of war.

These years are the Bicentennial years in the United States during which we can gratefully reflect upon the liberty that has been established for us in the remarkable Constitution. It is neither sentimental nor unfruitful to dwell upon the high ideals that this country was founded upon. If our liberty is to remain intact and vital, we must all realize its full value in our contemporary situation. Such a realization will be likely to produce a renewed, and much deeper, commitment to the original aims of the democracy created two hundred years ago.

Further on in this issue we have placed an offer, in conjunction with the Bicentennial Committee, of buying an American Flag. The flag does not stand for any particular individuals who have held high offices in the nation. Neither was it meant to celebrate the mistakes and sins of the country's history. It is a direct result of a struggle that sincerely sought to establish a

Food For The Spirit



by Robert L. Clingan

A shaken and bewildered young man left a doctor's office. He had just learned he had an eye disease that science in his day could not cure. The prognosis had been, "total blindness."

He was a student of the ministry, engaged and planning to marry soon. Not only did he have a secret to share with his fiancée, but he felt honor-bound to offer to break the engagement now that a troubled future had become certain.

As he explained the situation to her, he offered her the chance to terminate the engagement with these words, "You would not want to be the wife of a blind man." Secretly, he had hoped her love for him would be so strong that she would accept even his coming blindness. To his disappointment, she agreed with him: "You are right. I would never want to be the wife of a blind man."

lasting liberty, a viable form of freedom as an earthly government possibly can.

He returned to his study ever more shaken than when he had left the doctor's office. Human love had somehow let him down. The girl of his dreams did not really love him as much as he loved her.

As he sat at his desk in utter dejection, contemplating how this human love had failed him, he thought of another kind of love of which he could depend . . . a divine love, that would never let him down or let him go. His thoughts about that never-failing love took poetic form. His poem, which was later set to music and became a hymn, was, "O Love That Will Not Let Me Go," and the writer was George Mathewson. Here are two stanzas from that poem:

O Love that will not let me go,
I rest my weary soul in Thee.
I give Thee back the life I owe,
That in Thine ocean depths its flow
May richer, fuller be.

O Joy that seekest me through
pain,
I cannot close my heart to Thee;
I trace the rainbow through the
rain,
And feel the promise is not fain
That morn shall tearless be.

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Protection of Inland Wetlands

Inland Wetlands, once among the most widely abused areas of our environment have, in recent years, come to be considered one of our most ecological and aesthetically valuable resources. Generally, any area where the water table is at, near or above the ground surface for all of the year is considered a wetland.

Types of Wetlands

For legal and legislative purposes a more precise definition has developed based on soil type or vegetation type. Identifying a wetland by vegetation is probably the more accurate, and certainly the more practical and less costly of the two methods. The borders of a wetland area may not be readily apparent to the casual observer, particularly during dry seasons and in areas lacking open water. To identify and define the boundaries of such areas, familiarity with plant species characteristic of poorly

drained soil is necessary. In New England some common indicator species for this condition include red maple, black spruce, willows, poison sumac, cottonwood, elder, white cedar and birch.

Areas of standing water, although obviously wetlands, also contain species which to the perceptive observer indicate the status of the particular wetland area. There are five types of inland wetlands represented in New England, each with its own characteristic flora and fauna. These types are marshes, bogs, swamps, flood plains and stream belts.

1. Marshes. Normally covered with shallow water throughout the year, marshes typically contain vegetation rooted on the bottom which may be totally submerged, float on the surface, or emerge above the water. Vegetation includes cattails, pickerelweed, rushes, sedges and wild rice. These wetlands are highly

productive, supporting a diversity of waterfowl and other wildlife.

2. Bogs. With their unique characteristics, bogs have very distinctive vegetation, and in New England cranberries, sphagnum moss, black spruce and bog laurel are common.

3. Swamps. A wide range of species are found in swamps such as red maple, alders, pussy-willows, duckweed and highbush blueberry, and a diverse animal population is supported including turtles, amphibians, raccoon, otter, mink, muskrat, cranes and herons.

4. Flood Plains. Commonly used for agricultural land, flood plains provide food and cover for game species such as deer, pheasant and quail.

5. Stream Belts. These areas provide valuable "edge" habitat for woodland species.

Environmental Functions

Wetlands make many significant contributions to the maintenance of environmental quality. Among these are their role in flood control, recharge of the water table, pollution filtration, maintaining a balanced nitrogen cycle, preserving biological diversity, and providing areas for education and recreation. As natural flood control systems, wetlands provide areas which can quickly and safely absorb large quantities of water without danger or damage to the surrounding community. In this respect, they offer significant protection without substantial financial investment or aesthetic deterioration of the local environment. Figures released by the U. S. Geological Survey indicate a ten acre wetland flooded to a depth of six inches can store over 1.5 million gallons of water with no harm to the surrounding biota. Equally advantageous to the local

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ecosystem is the subsequent recharge of the local water table and slower release of excess water which, in turn, significantly reduces erosion hazards from rapid runoff.

Wetlands are utilized extensively as nesting and breeding sites by local waterfowl, and also as stopovers for migratory species. The amount, size and distribution of such areas is a critical limiting factor on the numbers of these birds. Contrary to a popular notion, it is not hunting pressure, but rather the destruction of habitat caused by drainage, filling and alteration of wetlands that is the most significant limiting factor on our populations of migratory waterfowl.

There is little formal criteria for evaluating the aesthetic and educational value of our wetlands, but under present conditions of suburban sprawl and industrial growth all available open space in its natural condition is becoming increasingly scarce and valuable. It represents a type of recreational resource that, once severely disrupted, is not easily replaced, if indeed it can be replaced at all. Some concerned groups such as the Massachusetts Audubon Society have taken the initiative in developing and protecting certain selected areas, and by constructing nature trails have increased the number of people who can enjoy them. Other forms of recreational development of wetlands include swimming and boating as well as the hunting and fishing potential provided by sound management.

Destruction of Wetlands

In the past, our record of protecting wetlands has been rather poor. These areas have been traditionally regarded as "wastelands" to be filled, drained or otherwise



altered into "useful" land for development. When this was impossible or economically impractical, they became dumping grounds for the disposal of various wastes and effluents. The imprudence of the drain and fill policy is dramatically illustrated by the cracked foundation, sewage problems and annual flooding of certain housing developments and projects—projects which were often financially successful from the builder's perspective at the expense of the homeowner, and ultimately the community at large.

Eutrophication, or premature aging, of many lakes and streams has been accelerated by the unwise location of agricultural fields on flood plains, on areas of high runoff, and in ground water recharge areas. Further, the addition of artificial fertilizers to the natural system can create an imbalance devastating to local fauna.

New England is all too familiar with the consequences of building on flood plains, particularly when this is coupled with drainage or filling of wetland areas upstream. Elimination of these "natural sponges" with their large water holding capacity and tendency for slow gradual release of waters has resulted in floods of major proportions. The U.S. Army Corps of Engineers, after spending more than 4 billion dollars over the last 30 years on flood control projects, has

been unable to control flood damage costing millions of dollars annually. The flood damage for the U.S. as a whole has, in fact, increased from 200 million dollars to over 700 million dollars annually during the last 30 years. The economic as well as environmental benefits of a sound land use policy with respect to wetlands particularly are becoming increasingly evident.

Attempts at Management

The Corps of Engineers proposed flood control plan for the Charles River Watershed in eastern Massachusetts merits consideration; it would involve acquisition of wetland areas for natural water holding sites as an alternative to a more traditional "check dam" water holding system. The benefits inherent in this type of approach include the preservation of open space and wildlife habitat, two increasingly rare commodities in this heavily developed area.

Although the past record of environmental planning with regard to wetlands has been poor, there is reason for optimism. In response to the growing concern, several New England states have enacted legislation, collectively referred to as Inland Wetlands Acts, designed to preserve and protect these rapidly disappearing areas. An example is the Wetland Protection Act, Chapter 818, which supplements Massachusetts wetland statutes included in Chapter 131, Section 40 and 40A, of the General Laws to provide for:

Continued on page 11

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WORLD SUGAR CROP AT NEW HIGH, BUT IS SHORT OF FORECAST

By L. C. HURT

*Sugar and Tropical Products,
Foreign Commodity Analysis
Foreign Agricultural Service*

World production of centrifugal sugar in the 1974-75 crop year (May 1-April 30) is now estimated at 81.1 million metric tons (89.4 million short tons), raw value basis—an all-time record, although about 2 million tons below earlier forecasts.

The new outturn exceeds the previous record crop of 1973-74 of 80.5 million tons by 600,000 tons—an increase of less than 1 percent.

Beet sugar production probably will be down from 1973-74 levels by about 1.4 million tons, but cane sugar output will be up by 2 million tons. Sugar cane is grown primarily in the developing countries, while sugar beets are grown mostly in developed countries.

The world is likely to consume a record amount of sugar during

1974-75. Higher prices, however, will slow the rate of increase. Consumption requirements will amount to 81 million tons—almost 2 percent more than the 79.5 million tons consumed in 1973-74. The slowdown in consumption will be largely in developed countries and in the developing countries that import sugar.

Many of the developing countries that produce sugar set consumer prices, and have allowed only minor price rises. As a result, these consumers have been insulated from the advances in sugar prices this year. There is now some evidence of per capita reductions in sugar consumption in the United States, as well as in some West European countries, and in Japan.

Several of the major sugar producing countries will have larger crops in the 1974-75 production year. In this category are Brazil, South Africa, Australia, and Poland. A somewhat larger crop

also is forecast for Cuba, although there has been some adverse weather.

The West European countries had poor weather early in the growing season. Conditions then improved, but later declined due to bad weather.

The United Kingdom was particularly hard hit by poor weather and virus yellows disease. In the United States, a smaller outturn of beet sugar will be more than offset by a larger cane crop.

Sugar production in the Dominican Republic will be higher in the 1974-75 crop year, due to an increase in acreage. The 1973-74 crop was held down by drought.

Hurricane Fifi, which wreaked havoc on the northern coast of Honduras September 18-20, bypassed cane in the Sula Valley, and flooding caused by torrential rains and overflowing rivers receded from most of the cane lands before doing much damage.

Other Central American countries report that Fifi actually may have helped their sugarcane prospects, as it brought much-needed rain.

The outlook for Brazil's 1974-75 sugar production continues to be good. While outturn may be below the 125 million bags authorized by the Sugar and Alcohol Institute, it is estimated to be up almost 7 percent from the 1973-74 level. Half of the below-target production can be attributed to dry weather in Rio de Janeiro State.

Production is expected to be up slightly in Peru, and there is likely to be an expansion of about 13 percent in Venezuela resulting from increased acreage and, hopefully, better weather.

Virus disease and adverse weather have combined to reduce both beet yields and sugar content in Belgium.

Denmark, however, had an acreage increase of 6 percent, which is

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resulting in an improvement in the crop size.

France's sugar beet acreage was increased by 4 percent this year, but a lack of moisture after plantings resulted in very low yields and an estimated total output at the 1973-74 level. Heavy rains in early September helped to increase the size of the beets but not the sugar content.

In West Germany, the crop was not favored by particularly good weather, and production is estimated at about the same level as 1973-74.

Unfavorable spring weather conditions, virus yellows, and a difficult harvest start were drawbacks in the Netherlands in the 1973-74 year, and the sugar beet area was down about 1.4 percent as a consequence of the sharp increase in areas planted to corn for silage.

A decline in sugar beet acreage of 14 percent from the previous year has resulted in a much smaller crop in Spain.

A rather cool summer in Poland resulted in lower sugar content of beets. Anticipated sugar production is falling below target by about 7 percent, as a result. However, due to larger acreage and better yields, output will be up.

A record sugar beet crop in Yugoslavia was harvested—the result of abundant rainfall during the growing season as well as expanded acreage.

Acreage was up slightly in the USSR, but cold and damp weather early in the growing season and again later in the year prevented attainment of the production goal. The total 1974-75 Soviet sugar crop is expected to be somewhat below that of 1973-74, due principally to harvesting losses resulting from excess rains late in the season. The same rainfall pattern has resulted in lower production in southeastern Europe.

Kenya should have a further production increase in 1974-75, following a dramatic rise in the 1973-74 production year that resulted from the opening of the

Mumias sugar mill and reorganization of the Chemelil plant.

In Uganda, the reverse situation prevails, and production has declined.

Conditions for the 1974-75 crop in South Africa were favorable, and production is close to a record. But dry weather has caused anxiety over the prospective 1975-76 crop, and there also is concern over the disappointing results of the expansion program.

Bangladesh hopes to attain self-sufficiency in centrifugal sugar by limiting personal consumption to 3.75 pounds per capita. Such a ceiling on domestic usage would permit export of 10,000 tons of refined sugar from the 1974-75 crop. The country's need for foreign exchange—largely to finance foodgrain imports—prompted this step.

India's total area in sugarcane in 1974-75 is about the same as in 1973-74, although monsoon rains were below normal this year and cane production is expected to be down.

Despite smaller cane production, efforts will be made to increase Indian mill sugar production by checking large-scale diversion to noncentrifugal sugar processing.

To encourage larger cane crushings by sugar mills, the Government of India has made available excise tax concessions for mills to apply to that part of their 1974-75 output that is in excess of 1973-74 production.

The Government is requiring mills, beginning with the 1974-75 year, to share with sugarcane growers 50 percent of mill profits on free-sale sugar.

Pakistan is trying to stabilize production and supply of sugar for domestic consumption, but due to poor growing conditions in Sind Province, the 1974-75 target will not be reached.

The Republic of China is likely to have a decrease in 1974-75 sugar production, due to the Government's policy of promoting rice production. It is expected, however, that the sugar production target will be reached.

In Thailand, the area planted to sugarcane for the 1974-75 crop is 20 percent larger than a year earlier, and production will likely exceed 1 million tons.

Higher cane prices and the Government's policy of increasing sugar production for export as well as domestic consumption are expected to power the expansion trend.

Australian sugar production in 1974-75 is about 2,950,000 tons, up nearly 15 percent from the previous year's crop. The area being harvested is about 639,000 acres, up 8 percent from that of a year earlier.

The Australian harvest area for the 1975-76 crop has already been designated. Growers will be permitted to harvest up to 100 percent of their gross assigned areas, a step reflecting confidence in a continued strong world market for sugar.

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WETLANDS

Continued from page 8

- a streamlined filing and appeals section
- expanded right of Conservation Commission members to enter wetlands
- an increase in the penalty for violation up to \$1,000 per day
- allowance of advisory opinions
- requirement of the Department of Natural Resources to promulgate rules and regulations within 90 days
- technical definition of a wetland (by vegetation)
- modification of agricultural exemption language

Connecticut's Inland Wetland Act is another particularly good example of this type of legislation. The Act, administered by the Department of Environmental Protection (DEP) in conjunction with local conservation commissions, covers all wetland areas of 3 acres or more and provides a precise definition of a wetland, based on soil type. Clearly, wetlands are not wastelands; they are a natural resource deserving protection and preservation, as addressed by these new legislative mandates.

Literature Cited

"Connecticut Conservation Reporter," Vol. 5, No. 7, March 7, 1972; Vol. 5, No. 8, April-May 1972; Vol. 6, No. 7, May 1973.

"A Guide to Important Characteristics and Values of Freshwater Wetlands in the Northeast," Joseph S. Larson, 1973.

"Inland Wetlands of the United States," Richard H. Goodwin and William Niering, May 1971.

"Preserving Our Fresh Water Wetlands," Connecticut Arboretum Bulletin No. 17, June 1970.

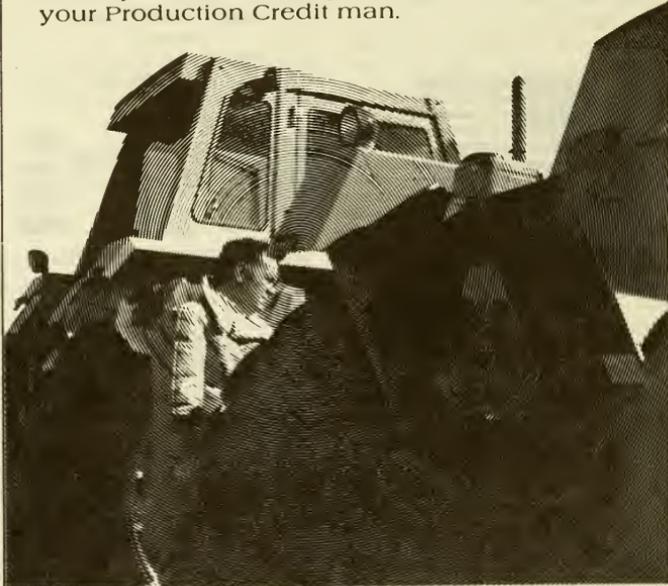
"Report of the Department of Natural Resources Relative to the Inland Wetlands and Flood Plains of the Commonwealth," Massachusetts Department of Natural Resources, 1967.

Information about the Massachusetts Wetlands Protection Act is available from the Massachusetts Department of Natural Resources, Division of Conservation Service, 100 Cambridge Street, Boston, Mass. 02202. For information on Connecticut's Inland Wetlands Act write to the Connecticut Department of Environmental Protection, State Office Building, Hartford, Conn. 06115.

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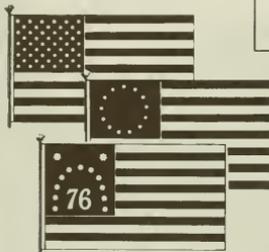
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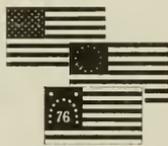
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FUNGICIDES

Protecting your cranberry bog from fungus infestation is cheaper than curing it. Neglecting cultural practices will cause a further decline in productivity. Start a new year on the right track, have a good look at your bog and find out the conditions of the vines:

Are they easy to lift?

Do you have weak areas with defoliated uprights?

Low spots with standing water?

Stripped vines caused by harvest equipment?

If you noticed any of these features then you are assured that

these areas are the first target for unwanted trouble of fungus infestation.

Pruning is the first step to get rid of matted and stringy vines and keep a uniform area.

Sanding is the second step, up to one inch thick or enough sand to cover vines. This will help in initiating new roots and shooting new uprights. In the long run, such areas will be rejuvenated.

Finally, applying a *dormant spray* such as liquid lime sulphur or polysol at the rate of 6 gal/100 gal water (18 gal/acre) during November-December. **DO NOT APPLY ANY DORMANT SPRAY PRIOR TO PREDICTED FROSTY NIGHT.**

Guignardia vaccinii, which causes blossom blight, leaf blight and fruit rot will not have a chance to start if the above practice is performed prior to the regular recommended fungus program.

HERBICIDES

Weeds growing in cranberry bogs consist of many families and species which can be found in a certain period of the year or all year

around. Also these weeds are more difficult to control compared to those growing in orchards and other small fruit forms where cultivation is practiced. The time of control can be divided into two periods:

1) Fall treatment: This applies to perennial weeds (present at all seasons of the year) bentgrass, tussocks, cutgrass, cotton top, and other juncus and sedge species. Their physiological activity is slowing down at this time of the year as they are going into dormancy. At this stage they are weak and can be controlled effectively. Early November is an ideal time for applying Chlorpropham (CIPC) for control of bentgrass and other grasses, at the rate of 100 lbs per acre. A mixture of dalapon and simazine wettable powder at the rate of 10 lb and 2 lb per acre will control the rest of the above mentioned pests.

2) Spring treatment: This applies to perennial weeds whose tops die in winter and shoot again in spring from underground rhizoms, salt grass, rice cutgrass, horsetail, yellow weed, three-starred-rush and triangle. Also to annual weeds such as annual lousegrass, annual blue grass, spanish needle, barnyard grass (water grass), fireweed, smart weed and sand-spury. A mixture of casoron ranging from 50-100 lb, simazine 25-50 lb and 2,4-D 10-20 lb granular per acre according to the severity of infestation. Apply mid of March to 1st of April for control of all annual weeds and horsetail, yellow weed and three-starred-rush.

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Continued on page 20

massachusetts FARM BUREAU FEDERATION

Some town assessors are raising questions about the valuation guidelines, which were set down by the Farmland Valuation Committee. Questions like, "is an acre of pasture land more valuable in certain towns because of increased land values caused by development activity?"

It seems to us this can start a drift away from the central reason why the law was passed in the first place. Agricultural land is agricultural land, whether it is located on the fringe of a sprawling metropolis, or in an idyllic country village. Let's set a fair assessment on such land, and keep it that way until the land use changes. In this manner we hope to motivate people to continue farming the land. It makes good sense.

Another old friend of Farm Bureau members has died. Clifford G. McIntire of Perham, Maine, former AFBF legislative director died from injuries received in a fall at his home. Cliff McIntire served as a congressman from Maine for many years, was well known for his leadership in natural resources.

No more Aldrin or Dieldrin will be manufactured in this country according to the latest EPA ban. Their order cited "imminent hazards" to public health as the overriding consideration. The Shell company will appeal, but our state's cranberry growers are left with no truly effective means to control root grubs. And we are left once again with the question, "Who's making the decisions?"

There's a better way to combat consumer resistance to higher beef prices, says Oklahoma Farm Bureau. Instead of putting on a TV

show with a "calf shoot-out," the Oklahoma FB people are promoting "Give Meat for Christmas." They are cooperating with food stores in arranging for meat gift certificates as Christmas gifts. Reports indicate a big response.

AFBF President Kuhfuss has sent a wire to President Ford, calling USDA regulations which require prior approval for farm exports "gross interference by government with free market." Said Mr. Kuhfuss, "Free market prices are not the cause of inflation. We should not try to hide the fact that deficit federal spending is the root cause of inflation. Neither American consumers, nor the U.S. Government, have a moral right to force farmers to produce for less than the real market is willing to pay. Your action on export controls does just that.

DUMP TRUCK OWNERS—did you know that Massachusetts law now reads, "Every motor vehicle truck with dump bodies shall be equipped with an adequate audible warning system to alert the operator when the dump body is in an upright and elevated position." This new amendment to section 7 of chapter 90 of the General Laws was added this year.

Next re-opening date for Blue Cross membership will be January 1, 1975. That's the date on which new members will commence coverage. Closing date for applications is November 15, 1974.

State Farm Bureau President David B. Mann, who is a cranberry grower from Buzzards Bay, has been named by American Farm Bureau Federation to the committee to study the AFBF program and dues structure.

Pesticides are in the news as well and this is merely the tip of this particular iceberg. Lurking in the background is a massive public misunderstanding of the role of chemicals in production agriculture today. We need to spell it out—WHY we use them, HOW we use them, and perhaps most important of all, WHAT WOULD HAPPEN if we stopped using them.

Cranberry Open House draws more than seven thousand people to the cranberry harvest in Carver, Mass. The huge crowd also enjoyed a tour of the receiving station in Middleborough, thanks to excellent cooperation from the people at Ocean Spray.

Our thanks for this tremendous success, go to the ladies of Cranberryland, USA. They are: Gene Johnson, Martha Stearns, Connie Shaw, Jean Gibbs, Andrea Lawton, Phyllis Harriman, Marge Beaton, Elizabeth Costello, Elaine Hannula, Betty Harju, Jane Harju, Joyce Atwood, Eleanor Hammond, Jan O'Connor, Marjorie Mann, Hillary Gibbs and Joan Simmons. Special recognition also to the young people; Susan Mann, Patricia Garland, Beth and Linda Johnson for their help.

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A GOOD WINTER PROJECT

Light weight bridges for use on cranberry bogs

PART I

by John S. Norton

Introduction

For a century and a half wood has been the material used for cranberry bog bridges. However, with the advent of mechanical sanders, which may weigh 4 tons when loaded, wood has lost its standing as the most desirable bridge material. The longer span bridges often use light gage railroad sections as load carrying members. These 15 ft. sections weigh 200 pounds and require an additional 150-200 pounds of lumber for decking. Two sections with decking are required to construct a bridge wide enough to accommodate a sander, making the total weight of the bridge 700-800 pounds. Moving these bridges is a cumbersome operation that justifies the effort to develop a lighter weight bridge that will carry the heavy loads.

Selecting Basic Design of Bridges

It seemed that aluminum would be the most practical material to use in attempting to develop a light weight bridge of sufficient strength to accommodate loaded sand spreaders. After considering several designs, which included arched, stiffened sheets with cables as the lower chords, rectangular boxes

filled with styrofoam for rigidity, aluminum sheets supported on T-beams or channels, and rectangular boxes with aluminum pipe running their length as stiffeners and supplemental load carrying members, it was decided to assemble a 2-foot wide by 12-foot long bridge of the last design. Of all the designs considered, the box-tube assembly had the best strength-weight ratio. The 2-foot width was selected because bridge users felt that was the minimum width necessary to assure proper entry of the rear wheels of vehicles onto the bridges when approaching them from an angle. The 12-foot length was selected because sheet aluminum was readily available in that length and also because it was the maximum length for which the 4-inch deep bridge could be used.

Design Details of Test Bridges

Figures 2 and 3 give the design details of the test bridges. Two channels were formed from 14 gage (0.063") aluminum sheet. The channels were 24" wide and 4" deep. Four, 4-inch O.D., pieces of irrigation pipe were laid the length of the channel with a distance of 5-11/16" between their centers. Aluminum spacers, 1½" thick were placed at 3-foot intervals between the two outer pipes and

the flanges of the channel. Four-inch lengths of 2" O.D. irrigation pipe were placed at 3-foot intervals in the spaces between the 4" pipe and riveted to the channel. The spacing between the 4" pipes was such that the 2" pipes touched both 4" pipes adjacent to them. Twelve-foot lengths of 2" pipe were then placed above the short lengths of 2" pipe so that they rested on the 4" pipes as well as on the short lengths of 2" pipe. In other words, the 12-foot lengths of 2" pipe were tangent to two adjacent 4" pipes for the entire length as well as being tangent to the short lengths of 2" pipe. With this arrangement, a straight-edge laid across the two flanges of the channel just touched the upper surfaces of all seven 12-foot lengths of pipe. After the pipes were all in place, they were joined together with short tack welds at about two-foot intervals. The second channel was then inverted over the channel-tube assembly and clamped down tightly so that its inside surface was in contact with the pipes. The flanges of the second channel were clamped tightly against those of the first where they were welded for their entire length. The 14 gage upper surface was riveted to the 4" and 2" tubes, using 3/16" blind rivets, spaced on 1-inch centers. High strength, corrosion resistant



Figure 1. Sand spreader crossing a pair of aluminum bridges with $1\frac{1}{2}$ cu. yards of sand.

rivets should be used. The lower surface was riveted at 4-inch intervals.

Testing Bridges

Obviously a truck size vehicle could not cross a ditch on a single bridge, such as the one just described, so a second bridge of the same construction was made. The bridges were subjected to laboratory tests to determine their potential for use in place of the rail-plank assembly described above.

The test consisted of subjecting the bridges to successively heavier loads until the deflection increased without any increase in load. The ultimate load at mid-span, for both bridges, was 4500 pounds.

The test procedure is illustrated in Figure 4. A bridge was placed top side down, on supports directly below the track of a chain hoist. Columns were erected between the ends of the bridge and the track. The columns were set on $4'' \times 1\text{-}5/8'' \times 2'$ steel channels which were placed across the ends of the bridges to prevent local crushing of the bridge under the columns. A short length of $3''$ steel pipe was suspended by a chain across the underside of the bridge at mid-span. A dynamometer scale was suspended from the hook of the chain hoist and attached to the chain which supported the $3''$ pipe. The hoist was then raised, bringing the

$3''$ pipe into contact with the underside of the bridge (actually the top side in field use). An initial load of 1000 pounds was applied to assure firm contact between the columns and the bridge. The height from the floor to a reference point

on the side of the bridge was recorded for the initial load and for each subsequent load. The load was increased in 500 pound increments and deflections from the initial loading position recorded. After reaching the 2500-pound load the tension was relaxed to the initial 1000 pound level and the height to the reference point checked to determine whether permanent bending of the bridge had occurred.

This procedure was followed for each subsequent loading until increased deflection failed to increase the scale reading. When an increase of $1/16''$ deflection did not increase the scale reading the test was terminated. This point was reached at 4500 pounds load for both bridges. However, the reference point returned to its initial position when the load was reduced from 4500 to 1000 pounds, indicating that the load had not caused permanent deflection of the bridge. Local buckling of the 14 gage skin was detected between some rivets but since this had not been allowed to become excessive, the skin retained its original strength.

Figure 1 shows a sand spreader, carrying about $1\frac{1}{2}$ cubic yards of sand, crossing the test bridges. The test bridges have been used seven years during sanding operations in the winter and spring and also during the harvest season. The heaviest loads transported across the bridges have been loaded sanders weighing 9000 pounds. The maximum weight on any one wheel would not have exceeded 3000 pounds. The bridges have withstood this usage rather well. However, two forms of damage have occurred that required repairs. First, some of the rivets have been removed by vehicle tires spinning or slipping on the bridges. The rivet holes were undamaged so new rivets were installed. Second, the bridge surfaces have been punctured and torn by projections under the vehicles when the operator either allowed the vehicle to drop off the side of a bridge or straddled a bridge with one pair of wheels. These damages have been repaired by welding patches over the holes. The problem of extracting rivets with the vehicle tires might be corrected by using stainless steel or other corrosion resistant steel rivets of greater strength than aluminum rivets.

The tests described in the previous section were repeated after the bridges had been in use four years. At this time loading was terminated at 3500 pounds because the scale reading gradually decreased from 3500 pounds without a change in deflection indicating excessive stress at some location in the bridge, probably at the rivets. However, the measured deflection of $11/16''$ was exactly the calculated deflection that should have occurred between the 1000 lb. and 3500 lb. loads.

As stated earlier, twelve feet was the maximum safe length for $4''$ deep by $2'$ wide bridges, of the design and materials used, to support a loaded cranberry bog sand spreader. This was the major factor in deciding on the 12-foot length

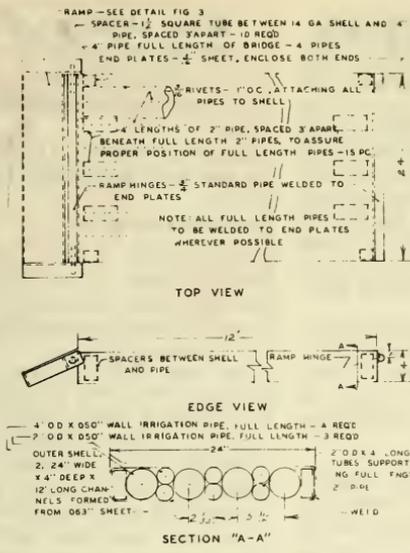


FIGURE 2 - 2'X12' ALUMINUM BRIDGE

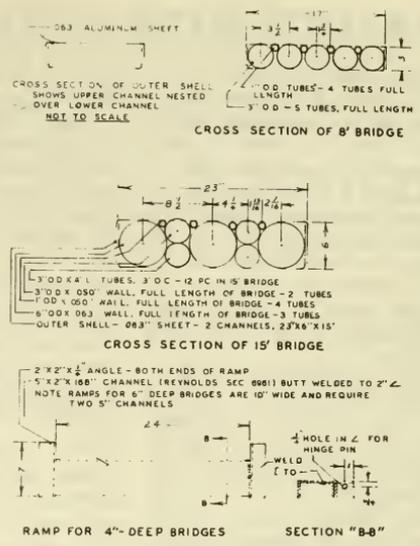


FIGURE 3 - DETAILS OF ALUMINUM BRIDGES

for the test bridges. This length is sufficient for a major portion of the applications. It was also a dimension that kept the weight of individual bridges low enough for one man to handle them. The weight of the completed bridges was 112 pounds each. The dimensions are such that the bridges are bulky and difficult, but not impossible for one man to handle.

At least two other lengths of aluminum bridges might be of interest. A shorter one 8 to 10 feet long for crossing narrow, interior ditches and one 15 to 20 feet long for spans greater than 12 feet between the bog and the shore or dike. The short bridges could be narrower in width than the long ones because they would be used

where they would usually be approached straight-on rather than from an angle. Figure 3 includes an end view of a short bridge showing the width and the arrangement and sizes of internal tubes that would support the 3000-pound, mid-span load. The 3"x17" x 8' bridge would weigh 56 pounds. Figure 3 also includes the end view and other details of a design suitable for bridges up to 20' long capable of supporting the 3000 pound load at mid-span. This bridge is 6 inches deep and 23 inches wide. The core material consists of 6", 3" and 1"-O.D. aluminum pipe. The estimated weight is 12 pounds per foot, so a 15' bridge would weigh 180 pounds and a 20' one, 240 pounds. Because of the

smooth, box-like shape of the bridges they are not easily gripped for moving. Therefore, they should be provided with several handles at strategic locations. A suitcase-type handle that drops out of the way when not in use would be desirable. The heavy bridges might also be equipped with sockets for casters so that they could be moved over relatively smooth ground by one person.

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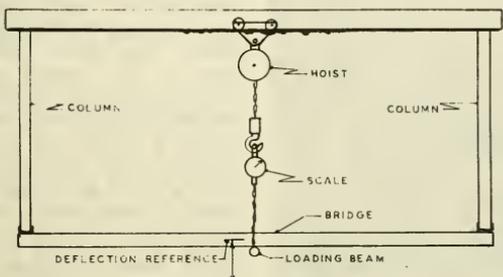


FIGURE 4 - SKETCH OF BRIDGE TEST SET-UP

FAMILY WINE OPERATION

Even though the height of the tourist season is long past, dozens of people still come to the railroad depot in the tiny Oneida County village of Three Lakes each day.

Is there a secret here that the Amtrak people should explore? Not really. The fact is that the old Chicago and North Western depot is now a family-operated winery. It's the only one of its kind in a depot in Wisconsin and one of the few in the nation.

John and Maureen McCain act as hosts to visitors, taking them on a tour of the entire winemaking operation and ending up pouring samples of the eight different wines they produce.

The tasting room generally clinches the sale because the buyer knows what he liked best and, in the short time it took to take the tour, he usually falls in love with the depot wine operation.

From fermenting to sales, the operation begins at one end of the sparkling clean building and ends at the other. It's an efficient winemaking arrangement and it's also ideal for the thousands of tourists who visit the nearby Eagle River-Rhineland areas. Skiing and snowmobiling keep the tourists coming through the winter months.

McCain, a native of Appleton who grew up in Oshkosh, taught eighth grade at the Three Lakes elementary school from 1956 to 1959. Then he and his wife headed for California where he made his living as a carpenter.

"It was while we were in California that we picked up the wine-making tips. There are a lot of family-sized operations out there," he says.

"Actually, we were just fooling with wine-making, not planning ever to get into it commercially. Then in 1970 I came back to Wisconsin for a high school reunion and some of my friends were mentioning that cranberries were taking over from potatoes as the

major crop in this part of northern Wisconsin."

"That's when we began to take the idea seriously. And we thought about the possibilities of cranberry wine. Of course, we always enjoyed living in this part of the country and decided to settle in Three Lakes when we found the depot was available for our winery idea," McCain said.

So they got the necessary licenses from the Wisconsin Dept. of Revenue and the Dept. of Agriculture and they were in business.

They incorporated as "Fruit of the Woods Wine Cellar" and started production of cranberry wine in two children's plastic swimming pools.

"It was a question of economy and availability," says McCain, "but after a year we switched to stainless steel vats with a total capacity of 3,000 gallons. Even at that, in our first year we bottled close to 3,000 gallons of cranberry wine and sold almost all of it from July to Jan. 1."

Ninety percent of the production was sold right on the premises and the remainder went to wholesale accounts in the area. The McCain's production has increased each year but they have no intention of locating other railroad stations to convert to wine-making.

"No, sir," exclaims McCain. "We wouldn't want to become too large. It's about the right size now; it's ideal for a family operation and we're expanding our varieties. From our original cranberry wine we're now into elderberry, apricot, strawberry, plum, peach, and wild plum. That's pretty good for a small town station," he laughed.



— J. W. Koelsch —
Wisconsin State Journal

BERRY BACON GLAZE
(Enough glaze for a 4 to 5 pound duckling)

1 can (8 ounces) jellied cranberry sauce
Juice and grated rind of 1 lemon
1/4 cup firmly packed light brown sugar
1 teaspoon rum extract
6 slices of bacon

Remove giblets from duckling. Stuff then roast duckling at 350° F., sprinkled with salt and pepper, until tender, about 2 to 2-1/2 hours. Thaw duckling if frozen and prick skin with a fork so fat drains from duckling during roasting. 30 minutes before duckling is completely roasted, combine all ingredients except bacon in a saucepan and simmer until smooth. Spoon glaze over entire duckling. Place bacon slices over duckling. Roast another 30 minutes.

BASIC BREAD STUFFING FOR CRANBERRY ORANGE GLAZED DUCKLING

(Makes enough for a 4 to 5 pound duckling)

1/2 cup butter or margarine
1 cup chopped onion
2 cups chopped celery and leaves
1/2 cup chopped parsley
4 cups plain packaged croutons
1 cup chicken broth
1 teaspoon poultry seasoning
Salt and pepper

In a 12" or very large skillet heat butter and saute onion and celery until soft but not brown. Remove from heat. Stir in parsley, croutons, chicken broth and poultry seasoning. Stir to blend well and season to taste with salt and pepper. Just before duckling is ready to be roasted, sprinkle duckling inside and out with salt and pepper. Stuff body and neck cavities, if desired. Sew or skewer openings closed. Prick skin well to allow fat to run out during roasting. Roast on a rack placed in a shallow roasting pan. Duckling roasted at 350° F. should be cooked in 2 to 2-1/2 hours.



VARIATIONS

Stuffing for berry bacon glazed duckling: To the above stuffing add 1 cup chopped pecans.

Stuffing for cranberry onion glazed duckling: To the above stuffing add 1 naval orange, seeded and chopped, skin and all.

CRANAPPLE ALE

(Makes 8 cups)

- 4 cups cran-apple drink
- 4 cups light beer
- 1/3 cup firmly packed light brown sugar

Peel from 1 orange, in 1 piece
Cinnamon stick (optional)

Combine all ingredients in a saucepan and bring to a boil. Remove orange peel and simmer 5 minutes longer. Pour into heatproof glasses and serve hot garnished with a cinnamon stick.

CRANBERRY ONION GLAZE

(Enough glaze for a 4 to 5 pound duckling)

- 1/4 cup butter or margarine
- 2 large onions, finely chopped
- 1/2 teaspoon crumbled thyme
- 1 can (8 ounces) whole berry cranberry sauce
- 1 tablespoon finely slivered orange rind

Roast duckling as for Cranberry Bacon Glaze; 30 minutes before duckling is cooked, heat butter in a skillet and saute onions until soft and golden brown. Stir in thyme and cranberry sauce. Spread mixture evenly over duckling. Sprinkle with orange rind. Roast another 30 minutes.

A GLAZED TRIO OF DUCKLINGS

Ducklings are a gourmet's delight and are really easily prepared. Their small size makes it a snap to tastefully season and stuff them and then cook more than one at a time. For a feast with a flair, consider glazing a trio of ducklings— each with its very own special cranberry glaze recipe. They'll not only suit a variety of tastes, but will make a grand appearance when they are served.

Each of the cranberry glazes can be made beforehand, and when roasting each can be glazed at about the same time. Also to be made conveniently ahead of time is a basic stuffing, which with simple additions of ingredients, make a trio of special dressings for each of your ducklings.

CRANBERRY ORANGE GLAZE

(Enough glaze for a 4 to 5 pound duckling)

- 1 can (8 ounces) jellied cranberry sauce
- 1 can (6 ounces) frozen concentrated orange juice, undiluted
- 1/4 cup sugar

Roast duckling as for Cranberry

Bacon Glaze. About 1 hour before duckling is completely roasted, combine all ingredients in a bowl. Spoon 1/3 of the mixture over the duckling and roast for 15 minutes. Repeat with remaining glaze until all glaze is used and duckling has roasted for another hour. Place duckling on a warm platter and garnish with parsley sprigs and orange slice twists.



Continued from page 13

triangle and other sedge and juncus species. Apply late spring at the rate of 160 lb bulk/A. Evital status with EPA is still the same, allowed for use under the conditions of an experimental permit. Sandoz-Wander Co. is working hard to obtain a full label for its use on cranberries, hopefully by early spring 1975.

SOIL TEST

Similar to everything else, fertilizers are climbing in price. Cranberry growers cannot afford to increase the cost of their crop by buying unnecessary materials. Your expense can be trimmed when you quit guessing the kind and amount of nutrients which your bog may need. Now is the time following harvest to plan next year's fertility program. The results of a soil test taken now will assist you to plan. Soil sample cartons and sampling instructions are available at the Long Beach Unit and the South Bend office.

FERTILIZER

The only major element which can be applied from November until spring, is lime at the rate of 1000 lb/A if soil test showed deficiency. Calcium is considered a supplement to balance required fertilizer and is essential for improving berry quality and higher yield. There are a number of materials that are satisfactory for correcting calcium deficiency.

1) *Ground limestone* is produced by grinding calcium or dolomite limestone. Its effectiveness depends upon its purity and fineness of grinding. Limestone containing more than 85% calcium and magnesium carbonates is suitable, normally stone of more than 90% purity is used. When satisfactorily pulverized, all material will pass a 10-mesh sieve and at least 50% will go through a 60 mesh sieve.

2) *Marl* (or bog lime) is a soft, powdery or shell form of calcium carbonate which is precipitated by

chemical and biological agents in lakes or marshes which receive drainage water containing dissolved calcium carbonate. Magnesium carbonate may also be present in small amounts.

3) *Burned lime* (quick lime) is made by heating limestone in a kiln to such a temperature as to drive off the carbon dioxide and water. The purity of the product is quite variable, ranging from 60-90% of the oxides. The lime comes on the market either in a lump or powdered form. It is highly caustic and strongly alkaline.

4) *Water slaked lime* is made by treating quicklime with water. It is a white powder which is slightly soluble in water and very alkaline. In the soil this compound quickly changes to the carbonate or bicarbonate as a result of reaction with carbon dioxide. It may react directly with the exchangeable hydrogen of the soil. Water slaked lime is sometimes called hydrate of lime, or agricultural hydrate. Its purity ranges from 80-95% and it usually contains enough carbonate to effervesce.

5) *Air slaked lime* is formed from calcium oxide by the action of water and carbon dioxide in air. It consists of calcium carbonate when the reaction is complete, but ordinarily it contains some calcium hydroxide and calcium oxide as well.

REGIONAL NEWS

Continued from page 1

The cranberry harvest is completed in some areas.

Temperatures were quite mild most of the last week of October until cold air moved into the State from the north over the weekend. Temperatures averaged 10 to 15 degrees above normal for the week. Scattered showers occurred from Monday through Thursday with many amounts exceeding 1 inch. The State enjoyed warm sunshine on Friday before light showers and even some snow flurries moved in on Saturday and Sunday.

NOVA SCOTIA

The big item in our weather was a heavy snow storm on October 20. Here at Kentville we had 8.4 inches on that particular day. Needless to say it did a lot of damage to shade trees, many of which still were in leaf. The later varieties of apples were still on the trees and some varieties had to be salvaged for juice. Cranberries were nearly all harvested probably due to water harvesting.

On November 6 to 8, I had the good fortune to attend the North America Blueberry Workers' Conference held at East Lansing, Michigan. The meetings were well organized and all fields of expertise were brought to bear on current problems. Disease control and cleaning of mechanically harvested berries received top priority.







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REGIONAL NEWS NOTES

NEW JERSEY

Weather at New Lisbon during November was about normal with regard to temperature, but very dry. The average temperature was 46.3, about 0.3 degrees above normal. Only 0.97 inches of rain occurred during the month or 2.40 inches below normal.

Extremes in temperature were 81 degrees on Nov. 1 and 17 degrees on Nov. 27.

The accumulated rainfall through the first 11 months of the year now stands at 38.54 inches, or about 1-1/2 inches below normal. A heavy rain storm on December 2nd brought almost two inches of rain so we are now at about the normal level for this time of year.

The New Jersey Crop Reporting Service revised the estimate of the state's cranberry crop on November 14th to 240,000 barrels. This

would make it the largest cranberry crop in New Jersey since 1910 when the acreage was almost four times the present 3,100 acres. The latest statistics also show that the state had a record blueberry crop in 1974, with a total harvest of 2,400,000 12-pint trays, or about 26.4 million pounds.

WASHINGTON

The month of November was rainy and seasonably warm. A total of 10.49 inches of precipitation occurred on 27 days. The accumulated total for the 11 months of the year is now 76.80 inches. The shortage of water in cranberry ponds has come too late for adequate supply for 1974 harvest. Three days topped 1 inch, 1.95 on the 21st, 1.84 on the 20th and 1.09 on the 18th.

Temperatures for the month ranged from a high of 64° on the

14th to 28° on the 28th with the mean high of 54.2 and mean low of 39.7.

Extension Cranberry Agent and Associate Horticulturist Azmi Shawa traveled to Chicago, Illinois for the 66th Annual meeting of the American Society of Agronomy, November 10-15. A paper was presented for a special grouping of Sulfur-coated Urea projects, "Response of Cranberry Bogs to Sulfur-coated Urea." Fertilizer timed to act when it is most needed has been found very effective by Washington growers. Instead of making four applications of nitrogen each growing season, and running the risk of injuring vines and fruit by walking on the bogs in late summer, a single sulfur-coated urea application was tried. Administered in May at various dissolution rates up to 40 lb. of actual nitrogen were applied per acre. A complete reprint will be given at a later date. Conrad B. Kresge, TVA, Pullman campus is cooperating author.

WISCONSIN

Production of cranberries in Wisconsin is estimated at 840,000 barrels for 1974, an increase of 11 percent from 1973. Although the estimated production declined from 900,000 barrels a month ago, it still exceeds the previous record crop of 805,000 barrels in 1972. Cool weather in August and September limited berry size but color and quality was good. Harvesting weather was favorable and the harvest was mostly completed by November.

Temperatures for the first week in November averaged close to normal. It began on a cold note but warmed nicely by Thursday and Friday. Cooler air moved into Wisconsin over the weekend. A few light and widely scattered showers were recorded early in the week but

Continued on page 20

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The 1974 CENSUS of Agriculture

Sunday, December 29, 1974

NATION'S 20TH CENSUS OF AGRICULTURE BEGINS THIS WEEK

The 1974 Census of Agriculture gets underway this week with the mailing of approximately four million report forms to farms and ranches in the 50 States, Vincent P. Barabba, Director of the Bureau of the Census, announced today. The Bureau is part of the Department of Commerce's Social and Economic Statistics Administration.

Farmers and ranchers are being asked to report on their agricultural operations during 1974. This 1974 census, the Nation's 20th farm census in a series that started in 1840, will update data most recently obtained in 1970 for 1969 operations. Primary emphasis will be on obtaining information about farms and ranches with sales of \$2,500 or more annually. Such operations accounted for 98 percent of the total value of all agricultural products sold in 1969.

To avoid undue burden on small farmers and to reduce processing costs, a short version of the census report form is being mailed to the over one million addressees estimated to have had both farm receipts and expenses of less than \$2,000 in 1973. All other addressees are receiving the standard form.

Forms are being mailed to a list of the following: persons who filled out Schedule F of the 1973 individual income tax return, persons listed with other Federal

agencies as associated with agricultural operations, and those reporting large or unusual farm operations in the 1969 census (such as institutional farms, farms on Indian reservations, etc.). This combined list of addressees forms a pool of potential respondents in the census. The final total of farms counted is expected to be well under three million, as it was in 1969.

A new kind of report form is being used in the 1974 farm census in order to reduce costs. The report form, instruction sheet, and return envelope have been printed and addressed in a single operation, thus eliminating separate printing, assembling, stuffing, and the attaching of the printed address labels. It is the first time that this type of operation has been used in a Federal census.

Also, for the first time, the forms are being mailed out at the third class bulk rate to reduce postage cost. The return envelope containing the farm operator's completed report carries first class postage to protect the confidentiality of the information reported.

Completed forms are to be mailed back as soon as possible. Census by mail allows operators to fill out their reports at their convenience and use their farm business records. Estimates are acceptable and should be reported in the absence of records.

Recipients of census report forms are cautioned not to discard them. Follow-up mailings costing additional postage will be required until all forms are received. Even if the recipient is not farming, the form should be returned with that fact noted.

First Agriculture Census in 1840

The United States took its first Census of Agriculture in 1840. Until 1920 they were taken every ten years; since then, there has been one every five years, recently covering years ending in "4" and "9."

The five-year censuses are the only source of statistics on agriculture that are comparable county by county for the entire Nation. They are the sole source of comprehensive agricultural data tabulated for each State and for the U.S. as a whole for farms classified by size, tenure, type of organization, market value of products sold, and type of farm organization.

The selection of questions in the '74 census was based on needs expressed by users of agriculture census data, experience gained in earlier censuses, results of a January 1974 pretest census, and recommendations of the Census Advisory Committee on Agriculture Statistics. This committee is composed of representatives of farm organizations, academic, government, and

research groups concerned with agriculture, as well as organizations representing manufacturers and distributors of farm supplies and equipment, and users of farm products. Also, there is continuous cooperation with agencies in the U.S. Department of Agriculture.

Response to the census is required by law (Title 13, United States Code). By the same law, information furnished on report forms is kept confidential. It may be seen only by sworn Census employees and may be used only for statistical purposes. Even other government agencies cannot obtain or use the report made by any operator. The law also provides that copies retained by the operator are immune from legal process.

The 1974 CENSUS of **Agriculture** in January 1975

Farmers and ranchers will be asked about their agricultural operations this year.

U.S. DEPARTMENT OF COMMERCE
Social and Economic Statistics Administration
BUREAU OF THE CENSUS



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Mass. Cranberry Station & Field Notes

Personals

Dr. Karl Deubert attended a United States Department of Agriculture conference on Food Nutrients and Hazards held in Philadelphia, Pa. on November 6-9. Karl gave a presentation on "Entry of Insecticides Into the Estuarine Food Chain."

Dr. Chester Cross attended the Annual Meeting of the Massachusetts Farm Bureau held in Marlboro, Mass. on November 11-12. Chet participated in a panel discussion on Pesticide Regulation and Use.

Weather

November was slightly on the cool side, averaging 0.5 degrees a day below normal. Maximum tem-

perature was 74° on the 1st, a record for the date, and minimum was 20° on the 27th. This gives a good idea what New England weather is like. We had a record cold month of October and then on the very first day of November tied a record for the warmest temperature of any November day in our statistics. Warm days occurred on the 1st, 2nd, 4th, 13th and 20th. Cooler than average periods were the 16th, 22-23rd and 26-30th.

Precipitation was very light, totalling only 1.55 inches for the month. This is over 3 inches below normal. There were only 9 days with measurable precipitation with 0.82 inch on the 21-22 and as the largest storm, leaving only dribbles for the rest of the month. We are

nearly 10 inches below normal for the year to date and about 9½ inches behind 1973 for the same period. This is our driest November since 1964, but only the 5th driest in our records. Snowfall totalled only 2.3 inches, occurring on 2 days.

Crop Report

The official crop estimate released by the New England Crop Reporting Service for November was printed in last month's magazine. This report indicated the Massachusetts crop had increased by 45,000 barrels and New Jersey by 10,000 barrels while Oregon decreased by 7,000 barrels, Washington by 35,000 and Wisconsin by 60,000. There is a good possibility that the Massachusetts crop will be even larger than this report indicates and will top out at about 950,000 barrels. Two factors account for this increase, the Howes crop was considerably larger than expectations and the overall quality of the crop was excellent which cut down field losses.

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CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

— Our 35th Year of Publication —

I. S. Cobb . . . *publisher*

J. B. Presler . . . *editor*



Issue of December 1974 / Volume 39 - No. 8

It would seem inexcusable that in this particular season we are without our monthly "Food for the Spirit" column by Robert L. Clingan, but such is the case.

We cannot let the month go, however, without some word on the spiritual life in regard to the joyful celebration that Christmas is.

The Church calendar designates 12 days for Christmas, though the majority of Americans actively celebrate only one, that is the 25th day of December. It is interesting to note that the authors of the Church calendar saw fit to designate the day after the Christmas day as the Feast of St. Stephen, the early Christian who was stoned to death because of his bold testimony that Christ was indeed the Son of God. And on the 28th day of December, the Church commemorates the Feast of the Holy Innocents, those male infants living in the territory of Bethlehem of the age of two and younger who were slaughtered by Herod's men in an attempt to rid Herod of the young King that the Wise men were seeking to worship, lest this babe grow up to usurp Herod's throne.

The Church thus intentionally calls Christians to remember the trials of their faith, as well as the joys, in this happy and yet solemn season.

And we at CRANBERRIES wish you the deepest blessings of this season, that they may be partaken of for at least twelve days, and hopefully for much longer.

* * * * *

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THE MYSTERY OF THE BETSY ROSS FLAG

Everyone is familiar with the Betsy Ross Flag. But exactly how it originated is something of a mystery.

Betsy Ross was a seamstress and she did make flags at her home in Philadelphia. Her grandson, William J. Canby, told the Pennsylvania Historical Society in 1870, the following story:

"Colonel (George) Ross (uncle of Betsy's late husband, John) with Robert Morris and General Washington, called upon Mrs. Ross, and told her they were a committee of Congress, and wanted her to make the (new) flag (they intended to present to Congress for adoption) from the drawing, a rough one, which, upon her suggestion, was redrawn by General Washington in pencil in her back parlor. This was prior to the Declaration of Independence.

However, Dr. Whitney Smith, Executive Director of the Flag Research Center, believes this story is a myth. He points out that there is "no contemporary reference in any known letter, newspaper, government document or other source to the existence of a 'flag committee' of the acquaintance of Washington and Mrs. Ross." Dr. Smith says that Francis Hopkinson was probably one of several people who redesigned the Continental Colors into the "Betsy Ross." Hopkinson even submitted a bill for his services to the government—\$1,440 in paper money or \$24 hard cash—but the tight-fisted Congress refused to pay.

Whether Mrs. Ross had a hand in the design or not, it's still the Betsy Ross flag, and probably always will be.

(See "Fly the Flag" advertisement on page 12.)

OBITUARY

CARVER MAN KILLED IN CRANBERRY BOG MISHAP

Harrison Thrasher Nye, Jr.

The First Baptist Church and adjoining Fellowship Hall in Carver were filled at the simple funeral services for Harrison Thrasher Nye Jr., 31, 236 Cedar Drive, Crystal Lake, on Dec. 1 at 2 P.M. The Rev. Robert H. Merritt, pastor of the United Protestant Church of Carver conducted the services assisted by the Rev. Danford Carr of Parkersburg, West Va., husband of Mr. Nye's sister, the former Janet Nye. Burial followed in Central Cemetery.

The former Vietnam veteran died on Nov. 27 following a freak accident at the Harju Cranberry Bog at Cross St., Carver. Harrison had been operating a power shovel for Weston Bros., Inc., loading sand in a truck to be brought to the bogs owned by Donald Pentti.

Medical Examiner Dr. Samuel V. Orlov of Middleboro said Mr. Nye died instantly of crushing head injuries. The doctor said the machinery was on and apparently Mr. Nye had hit the lever which engaged the gears with his left hand and then caught his head in the rotating machinery. The cranberry bogs are owned by Mrs. Vieno V. Harju of Meadow St.

Harrison was born in Acushnet on Aug. 11, 1943, the son of Harrison T. and Shirley (Roberts) Nye. He came to Carver at the age of 10 and attended the Gov. Carver School and Silver Lake High School in Kingston. While in Vietnam for two years, he had served as a heavy duty equipment operator. He enlisted at the age of 18 and was discharged in 1965.

He is survived by his widow, the former Charlotte A. Prusman of Plymouth; a daughter, Lauren Marie, 20 months; his parents, the Rev. and Mrs. Harrison T. Nye, Sr. of Shapleigh, Maine; five brothers, Lindsey H. Nye of Sanford, Maine, David C. Nye and Richard G. Nye, both of Shapleigh, Maine, Sgt. Frank Thomas Nye with the Air Force in Thailand, and Cpl. Marvin R. Nye with the American Embassy in Indonesia; four sisters, Mrs. Janet Carr of Parkersburg, W. Va., Miss Roberta Nye of Greenlakes, Wisc., and Miss Elizabeth and Miss Joanne Nye, both of Shapleigh, Maine.

Donations in Harrison's memory may be made to the Harrison T. Nye Jr. Memorial Fund, care of the Wareham Savings Bank at Carver, Rte. 58, Carver, Mass.

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HARVEST in DECEMBER

by J. B. Presler

If anyone in the area of Plymouth County, Massachusetts, ever needs a fast boost into the festive spirit of Christmastime, they need only pay a visit to cranberry grower Francis Phillips' tree farm on route 80 in Kingston, Mass.

There one can bask amidst enthusiastic Christmas tree seekers, happily wandering through a large, sunny field toward the back of Phillips' land which has been given over entirely to evergreen trees. A great variety of young and old families patiently stalk the "perfect" tree which assuredly awaits them somewhere in Mr. Phillips' vast acreage.

This particular day, Sunday the 15th of December was a busy day.

"I've never had such a good day," said Fran. "The traffic is pretty heavy."

Phillips is a member of the American Tree Farm System and the benefits he receives as a result of his membership include free advertising. He is listed in all the

published lists of tree growers that the organization issues, and he has found this to be more than sufficient advertising.

With roughly a dozen men signed on to help during the busiest days, Fran could barely keep up with the hordes of customers who

came from as far away as Framingham and Stoughton, Mass.

Phillips cannot understand why more growers haven't invested in trees. It is well worth the effort financially, and he has found dealing with the public to be very pleasant for the most part.



Perino Feci and Barry Mathias, cranberry growers themselves, cheerfully work for their fellow grower, Fran Phillips, on a busy day.



The field is heavily dotted with trees and wandering customers in the late afternoon on a December day.

Phillips' trees are arranged with the cream of the crop out front, in full view of the road. The nursery is in this area also, and it is this section that draws the customers in and makes the initial impression. These trees are impressive in their variety and perfect shape. They are also more expensive than those out in the back field. Most people are happy when they discover that there are cheaper trees out back and they begin the enchanting walk along the pine-edged path out to the open fields where an abundance of high quality trees cover the ground.

But the trees in front of the lot sell at a moderate rate, which suits Fran fine because the display is maintained from year to year. This year matched last year in numbers of trees sold; roughly 1500. Phillips had to close down on the 19th of December because he had sold all that were able to be harvested while still leaving a crop available for next year.

Admittedly trees are higher priced on the average than at the typical roadside stand. But the customers feel the trees are worth the price, and they enjoy seeing the

tree as it is growing, fine and bushy, in the field.

"It's a little different and you don't have to pick one out of many stacked up against a wall," said the Knowles from Stoughton, Mass. "The price is higher, but it's a better quality tree. We'd rather wander around here than in the back of some shopping plaza."

People were taking their time, drinking in the fresh air, and letting the children run freely as they surveyed the crop. "Oh, honey, that looks a little squished." and "Mummy, this tree is crying!" were random comments heard around the field.

A couple from Middleboro said they had bought their trees at a tree farm originally, but when the children grew up they began to buy them at a stand. Now they have come back to the tree fields to get fresh ones. "It just wasn't the same. The best part of the tree is being



Maura, Tara and Meagan McIntyre have come from Framingham (approx. 75 miles) to fetch their tree.



Even the infants have an opinion.

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Customers wait for their trees to be trucked down to the parking area from the field.



able to come out and pick your own."

The customers have a relaxing, pleasantly invigorating afternoon. The workers, though basically cheerful amidst the activity, find the work to be very tiring, however.

Dave Morey, a young worker and nephew of cranberry grower Alden Alberghini from Carver, remarked, "It's extremely hectic and tiresome. But," he continued with obvious pride, "there are lots of happy, satisfied customers. Many come back year after year."

We can see why.

For more information on growing trees, see CRANBERRIES Vol. 36, No. 2, June 1971, "Christmas Trees—A Cash Crop."



Perino begins to unload freshly cut and tagged trees that have been brought down from the field.



The car is loaded up with bushy trees.

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IDEAS FOR WINTER MEETINGS

NEW FILM

An Environmental film has been produced to motivate the public to initiate environmental projects. "Environmental Education: A Beginning" presents six examples of citizens who have initiated successful environmental projects at the local level. The film is available for free loan from Dept. EE, Office of Public Affairs, U.S. Office of Education, Washington, D.C. 20202.

NEED A SPEAKER?

The Regional Office of the EPA does have a speakers bureau that makes every effort to fulfill requests by outside groups. If you would like to request an EPA speaker write to: Public Affairs Director, EPA, Room 2203, J.F.K. Federal Building, Boston, MA. At least a three week notice is required and all requests must be in writing. If you are not from Massachusetts, see if the EPA branch in your state has a speakers bureau.

NEW TAXPAYER RIGHTS FILM AVAILABLE FOR SHOWING

A new documentary film explaining to taxpayers their rights in dealing with the Internal Revenue Service is available without charge to local groups and organizations, John E. Foristall, District Director of Internal Revenue for Massachusetts, said recently.

Appearing in the film, together with nine IRS employees and professional talent, is the veteran actor James Whitmore, whose most recent credits include his one-man Will Rogers show on nationwide television.

The 27-1/2 minute IRS color film, entitled "Why Me, Tom Krolk?", deals with taxpayer rights concerning audits and appeals, delinquent taxes, taxpayer service and

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New information on two remarkable crop improvement products is now available to fruit, nut and vegetable farmers, who are currently hurting from the high cost and growing scarcity of traditional chemical fertilizers.

These products are Heritage Natural Humus and Heritage Natural Fertilizer 4-2-1.

Test fact sheets and user application data is available from Heritage Fertilizer Products Corp., 2375 Woodward Street, Philadelphia, Pa.

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Continued on page 20

If you don't have enough worries, try fretting about BEEES



Joseph M. Winski
Staff Reporter of
THE WALL STREET JOURNAL

Remember the old saying about how a horse and rider were lost because somebody neglected to tend to a small matter like a missing horseshoe nail?

Some scientists and agriculturists are worried that the same sort of ballooning consequences may stem from what many people probably consider to be a minor irrelevancy: The nation's honeybees slowly but steadily are being exterminated.

Not on purpose, of course. But as the honeybees forage for pollen and nectar they increasingly are gathering poison also—pesticides that farmers apply to protect their crops from destructive insects.

So there are 20% fewer honeebee colonies in the U.S. today than there were 10 years ago—about four million versus five million. (A colony contains between 25,000 and 60,000 bees.) In California, the leading bee state, as much as 20% of the state's honeybees have been killed in some recent years—a mortality rate double that of the early 1960s.

"All the indications are that it's going to get a lot worse," says Ward Stanger, an apiculturist at the

University of California at Davis. "It's a serious situation," Mr. Stanger says—so serious that he's seeking to have the honeybee declared an endangered species.

Bee Benefits

It is even more serious in another respect: Nearly 100 crops with a farm value of \$1 billion annually depend on honeybees for pollination; another \$3 billion worth benefit from bee pollination in terms of higher and better-quality yields. Among these crops are apples, cherries, plums, broccoli, cucumbers, cabbage, melons—indeed, virtually all fruits and berries, as well as many vegetables and even some livestock-forage crops such as alfalfa.

Thus, at a time when boosting food production is becoming a global priority, the fate of honeybees takes on some of the significance of the proverbial horseshoe nail.

Floyd Moeller, research leader at the North Central States Bee Laboratory at the University of Wisconsin, says that the economic value of honeybees as pollinators is twenty times their value as honey makers. Far from being an esoteric ecological concern, the dwindling number

of honeybees bodes ill for the nation's food supply. "You just can't pollinate as efficiently with fewer bees," Mr. Moeller says.

(Bees pollinate inadvertently by dropping bits of pollen, which they gather for food, as they fly from plant to plant. This cross-pollination, which is also performed by other insects, the wind and hummingbirds, produces crops genetically superior to those produced by self-pollination. Nectar, the bees' other main food, is the one they make honey from.)

Some crops already are threatened by a lack of bees. Most notable is the California almond. Each of the state's 200,000 acres requires two colonies of bees for pollination, but there are now only 300,000 colonies in the entire state. Last year, almond growers had to import more than 100,000 colonies of bees, some of them hauled from as far away as Montana in big tandem-trailer trucks to pollinate their fields. "This obviously isn't a very practical way to do things," says the University of California's Mr. Stanger. "I just don't know how long we can keep it up."

Researchers almost routinely are uncovering more evidence attesting

Continued on page 14

CRANBERRIES

invites you to Fly the Flag for the Bicentennial.

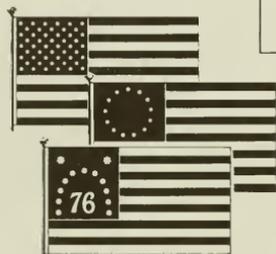
We invite our readers to take part in the greatest show of colors this country has ever seen. We are proud to take part in this national campaign sponsored by the U.S. Bicentennial Society to restore the flag to a place of respect and honor it deserves.

To encourage you to fly the flag, we have arranged for you to purchase a complete Bicentennial Flag Kit for only \$8.95, including handling and shipping. The large quantities of flags involved makes this possible. Order the 50-Star Bicentennial Flag with the special Fly the Flag coupon. Also available: 13-Star Betsy Ross Flag and the Bennington '76 Flag. Your flag will be sent directly to your home at no additional charge.

Each flag is crowned with the golden Double Eagle top

ornament, symbol of the Bicentennial. Matching goldenized 6ft., two-piece, steel pole. Heavy-duty flag - 3 x 5 ft. - with double-stitched stripes, canvas heading and brass grommets. Complete with sturdy metal wall-mount bracket, 3 mounting screws, rope halyard, mounting instructions, and self-storage corrugated box.

With each flag kit you also receive your own full color parchment certificate, verifying your participation in the Fly the Flag for the Bicentennial campaign. Each certificate bears the 50-Star Flag, the golden Double Eagle, the names of the trustees and your own registry number. The ideal keepsake of the Bicentennial, suitable for framing and display in home or office.



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FRUIT FARM BLUES



James B. Hale
"Wisconsin Conservation Bulletin"

White-tailed deer in Wisconsin mean different things to different people. To the wandering tourist, the wide-eyed Bambi lover, and the eager buck hunter, deer are creatures to be conserved and treasured. But to the motorist who totals his car hitting a deer on the highway, and most especially to the farmer who must suffer the ravages of hungry deer on his crops or orchard, deer are just a big pain in the pocketbook. It's for the latter group that the Department of Natural Resources has a special concern, because of a state law that makes payments available for damage by deer to agricultural crops.

Crop damage by deer is both extensive and expensive. Since

1931, when payments for damage were first made, and running through 1972, the Department paid 9,730 damage claims at a total cost (no overhead included) of \$1,050,000.

During this 40-year span, deer numbers increased substantially in the central and southern areas of the state where farms are more numerous than in the forested north. Competition between deer and farmers likewise increased.

In the five-year period from 1968 through 1972, 1,003 claims totalling \$273,000 were paid. A wide variety of crops were involved. Twenty-five percent were on vegetables (mostly in truck farms), 15 percent on small grains, 14 percent on tame hay, 13 percent on corn, 13 percent on soybeans, 9 percent

on fruit orchards, 8 percent on trees (mostly Christmas trees and landscape nurseries), and 3 percent on berries (mostly strawberries). It's obvious that deer have wide-ranging tastes.

There is no reason to believe that the preference of deer for many farm crops is going to change, so what can an individual farmer do about it? We offer six possibilities which can be used separately or in concert.

First, plan ahead and don't let deer damage get started. It's much easier to prevent damage than to stop it once it begins. If you're opening up a new field, or planting a new apple orchard, try to anticipate and eliminate deer problems.

Continued on page 17

to the honeybee's contribution. For example, Mr. Moeller and his colleagues at the University of Wisconsin discovered a few years ago that cranberry production could be tripled with efficient bee pollination—whereupon Wisconsin cranberry growers rushed out and rented 2,000 bee colonies and increased the cash value of their crop by \$4 million. (Rental fees since have doubled to \$30 per colony currently.)

An even more dramatic and significant breakthrough may lie in the potential effect of bee pollination of soybeans, the country's second most important feed crop and a critical source of protein. Some observers expect a new hybrid soybean that would double present yields to be in common use in several years. Unlike present varieties, however, the new hybrid will require honeybees for pollination. With all-out production, about two million colonies of bees—half of the country's present total—would be required for just this one crop.

In a way, it's surprising that honeybees are declining in numbers because they in effect have been a protected species for years. Their protectors have been the dedicated practitioners of the art of beekeeping, a form of animal husbandry whose beginnings are lost in antiquity.

But the economics of beekeeping have taken a turn for the worse in the last 10 years or so, largely because of the sharply increased possibility that a beekeeper's bees could be wiped out by pesticides. Changed farming practices (such as using chemicals for fertilizers instead of plowed-under legumes, which while in blossom are excellent sources of nectar and the continuing spread of suburbia into what used to be open fields also have contributed. "The bee just doesn't have enough flowers she can visit," says John Root, whose family has been in the beekeeping supplies business in Medina, Ohio, since 1869. Another factor, until

the last couple of years, has been a depressed honey market.

"There's just been no incentive for a guy to stay in the business," says Robert Banker, secretary-treasurer of the American Beekeeping Federation in Cannon Falls, Minn. The result, he says, has been "a steady decline" of full-time beekeepers to about 3,000 and of all beekeepers, including those with one or two colonies, to about 150,000. A rise in honey prices in the last two years appears to be attracting more people into beekeeping, though so far apparently not in substantial enough numbers to reverse the decline of either bees or beekeepers.

Researchers have suggested various protective measures to beekeepers, such as keeping bees in hives and feeding them pollen supplements when nearby sprayed crops are flowering, installing pollen traps that knock the poison-tainted pollen off the bee when she returns to the hive and even draping colonies with wet burlap when pesticides are being applied.

But there isn't a simple solution to the poisoning problem. "It's a complicated situation," Mr. Banker says. "We want to protect our bees but we fully recognize that a grower has a right to protect his crops" from legitimate threats. "Something's got to be done, but we're not sure what," says a spokesman for the National Wildlife Federation in Washington, D.C. He recalls that "last summer bees were dropping off like flies in Virginia."

All this doesn't mean that the honeybee faces extinction, however. They no doubt will be around as long as there are people who are intrigued by them. "I have several observation hives mounted in windows," says Mr. Root, the Ohio supplier of beekeeping equipment. "I can sit and watch them for hours."

Bee-ing Communicative

Some people spend lifetimes watching bees. Foremost among them is Karl von Frisch, a professor at the University of Munich who

has devoted virtually all of his working years to studying bees and other insects. Last year, Mr. von Frisch received a Nobel Prize for his work; it was the first time the prize was given to an animal behaviorist.

The bees' rigid social order (the females do all the work while the males do nothing but mate with the queen and die soon afterwards) and industry (a bee will make 30,000 trips, averaging up to 800 an hour, to gather enough nectar for a pound of honey) are well documented. But Mr. von Frisch found that bees also have a language facility for communication "which, as far as we know, has no parallel in any other animal."

Specifically, Mr. von Frisch found that a foraging bee can tell others in the hive when she has found food, how much, whether it's near or distant, and if distant how far away and in which direction her fellow workers should fly to find it. She does this by dancing—around in circles if the food is close, or with vigorous tail-wagging and varying rhythms if it's far away. (Bees frequently gather food a mile or more away from the hive.)

Later, a student of Mr. von Frisch's, Martin Lindauer, found that bees—again by dancing to communicate—are able to arrive at a community decision on a new home after they swarm from their existing one (usually because of overcrowding). Those bees who have inspected the best potential sites dance more vigorously than

Continued on page 20

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CONCLUSION

by John S. Norton

Cost of Bridges

The cost of the bridges can be divided into two categories: materials and labor. Material costs can be estimated on the basis of weight, except for the cost of rivets. The 3" x 17" bridges weigh 7 pounds per foot, the 4" x 24" bridges weigh 9 pounds per foot and the 6" x 24" bridges weigh 12 pounds per foot. Aluminum costs may vary from \$.75 to \$1.50 per pound depending on the alloy and quantity purchased. However, only a few hundred pounds of each type of material is necessary to bring the cost below \$1.00 per pound, which would make it economical if a small job shop accumulated orders for a dozen or more of the 12 foot or longer bridges. Rivets cost about \$20.00 per 1000 in small quantities and all three size bridges described herein require approximately 100 per foot or \$2.00 worth per foot. Thus, the cost of materials (1974 price) could be expected to be \$8.00-\$12.00 per foot for the 3-in.-thick and 4-in.-thick bridges and about 50% higher for the 6-in.-thick bridge.

The labor cost for building the bridges may vary greatly. It would seem that the lowest cost should be attained in a well-equipped sheet

metal shop making several bridges at one time. Costs in job-shops making only one or a few pairs of bridges would probably be higher because of lack of experience. A grower might find that a lower net labor cost could be attained by using his own men during slack work times to do a substantial amount of the fabrication in his own shop. This would be the most time consuming technique but could easily be the least expensive. The procedure followed in the construction of the test bridges could be used by a grower doing a portion of the fabrication himself.

In this case, the aluminum sheet was sheared and bent by the supplier at a cost of \$5.00/bridge. Pipes were cut and anchored in place in the bottom half of the shell at the Experiment Station shop. The assembled bottoms and the top covers were then taken to a welding shop where the pipes were tacked together and the tops clamped in place and welded securely. The assemblies were then returned to the Experiment Station, where the rivets anchoring the shells to the pipes were installed.

The riveting operation was the most time consuming because no jig was used to locate the rivet holes. However, much time could be saved by making and using a jig as follows: Layout locations one inch

apart along the centerline of a narrow metal strip the length of the bridge, or any shorter desirable length, and drill 3/16" holes at the established locations. Mark lines on the bridge surfaces where the rows of rivets will lie. Then center the line of holes in the jig over the rivet line and drill the rivet holes using the strip as a pattern. Using this technique, two industrious workers should be able to layout, drill and rivet at a rate of nearly 1000 rivets per hour. It should also be possible for two men to cut the pipes to length and anchor them into position in the bottom half of the shell at the rate of 30 minutes per bridge. All welding on the bridges, by manual-inert-gas technique, should not exceed 4 hours per bridge. These labor rates include only productive time, for diligent workers doing the assembly. Therefore, they represent the highest rate that could be expected for purely manual production of the aluminum bridges.

From the foregoing estimated labor requirements, a fabrication cost of \$55.00 for a 12-foot bridge might be attainable. This would be broken down as follows: shearing and bending, \$5.00; welding @ \$10.00/hr., \$40.00; assembly and riveting at \$3.33/hr., \$10.00. It is probable that this cost would actually approach \$100.00 per

bridge because of lower labor-efficiency than is projected here and because of the addition of such accessories as handles and end ramps to the bridges. This labor cost estimate is also based on the assembly and riveting being done in the users own shop by his own man, being paid at the rate of \$3.33 per hour. Moving this operation into a job-shop would increase the cost from \$55.00 to \$75.00 for the 7-hour production time.

The materials for a 12-foot bridge include \$46.00 for irrigation pipe, \$54.00 for aluminum sheet @ \$1.00/lb. and \$20.00 for rivets, making a total of \$120.00. This is approximately \$1.00/lb. for materials. Therefore, the cost of a 4" x 24" x 12' bridge could reasonably be expected to cost from \$175.00 to \$200.00. If savings realized by bulk production in a fairly well equipped aluminum fabrication shop were passed on to the customer, the cost might be slightly less than \$150.00. The difference in cost between a 12-foot bridge and a 15-foot bridge should be primarily for materials. So, the weight difference times the cost per pound of aluminum should very nearly cover the difference in cost. Thus, a 15-foot bridge, weighing 180 pounds, should cost about \$80.00 more than a 12-foot bridge, based on a material cost of \$1.00 per pound.

NEW PRODUCTS

N L INDUSTRIES DEVELOPS NEW LINE OF MULTI-FUNCTIONAL CHEMICALS

N L Industries, Inc., announced that it has developed a new line of multifunctional chemicals specifically designed to meet the needs of agribusiness.

The new line of specialty chemicals has been designated as the GEOPON™ series, and includes rheological agents, mineral extenders and surfactants for the pesticide, fertilizer and livestock sectors of the industry. Although the series is compatible with existing technology, it has been primarily designed to meet contemporary industrial trends and environmental demands.

The first in the new series to be marketed by N L's Industrial Chemicals Division is GEOPON GA-1, a beneficial clay, developed by the Division for the pesticide industry. GEOPON GA-1, although designed for the production of solventless flowables, also has formulation

capabilities in wetttable powders, seed protectants, pelletizing binders and animal salves. GEOPON GA-1 also offers further benefits including, among others: reduced formulation costs, improved reproductibility and application properties.

In addition to the GEOPON GA-1, N L's Industrial Chemicals Division, will also market nine other products which form the nucleus of the growing GEOPON series.

N L Industries is an international producer of chemicals, metals and fabricated products with annual sales of over \$1.5 billion. The Industrial Chemicals Division is located in Hightstown, New Jersey.

A free brochure entitled: "GEOPON GA-1 Gelling Agent for Agricultural Chemicals" may be obtained by writing: N L Industries, Inc., GEOPON, P. O. Box 700, Hightstown, N. J. 08520.

CRANBERRIES Magazine welcomes comments, criticisms, guest editorials, photographs, interesting articles, helpful suggestions, and any other item that would enable us to better serve you.

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Continued from page 13

If at all possible, stay away from known deer travel lanes or winter concentration areas. We've seen many situations where field crops or Christmas trees were ideally located for feeding deer and where the deer had fed with enthusiasm. The owners, unfortunately, had not considered this possibility and lost most of their crop.

If you can't keep your fields away from the deer, then consider deer fencing as part of your establishment costs and include fencing in your cost capitalizations. In these situations, an ounce of prevention is really worth a pound of cure.

A second possibility, once damage starts, is to try chemical repellents. These are commercial compounds which are sprayed on or near crops to be protected. Their effects, however, are quite unpredictable under Wisconsin conditions. Sometimes they work and sometimes not. Most of them have the drawback of needing replacement after rainy spells. Trial and error in your individual location is the only way to find out if repellents will work for you. Commercial brands commonly used in Wisconsin include LION SCENT, MAGIC CIRCLE, and Z.I.P. There are others, of course.

Sometimes one of a wide variety of home remedies will work. Such smellers as mothballs, cow manure, tankage, blood meal, or old socks placed around fields have worked in a few places. Aluminum plates dangling from strings tied on fence wires may do the job, too. Your ingenuity may come up with an even better scheme.

A third possibility is a scaring device. It may be a carbide or electric exploder, scarecrows, a couple of large dogs tied out in the middle of a field, or a commercially built electronic screecher. Scaring devices are like repellents in that any of them may work, but none are infallible. Since they work for only short time periods, their greatest potential lies in interrupted use and strategic placement. Try one and see. An additional problem

is that noisemakers are apt to irritate your neighbors more than they do the deer.

A fourth possibility is fencing. The only sure way to keep out deer is with an 8-foot-high woven-wire fence built tight to the ground and topped by two strands of barbed wire. Costs of deer-proof fences are high, but sometimes they can be justified economically in high-risk, permanent crop situations, such as apple orchards or tree and shrub nurseries.

Other forms of fences are useful. They will not completely keep deer out, but may minimize deer activity to an acceptable level.

One fence system seems too simple to work, but it does. We've had success with it, especially in apple orchards. All that's needed is to electrify an ordinary 3-strand, barbed-wire fence. Metal or wood posts are usable, as is regular barbed wire. This is the same type of fence used to contain livestock or mark property lines.

Be sure the bottom strand averages 18 to 24 inches from the ground, the top strand is 3½ to 4 feet from the ground, and the middle strand is centered between the other two. Put the top and bottom strands on ordinary electric fence insulators and electrify both of them. Don't electrify the middle strand. Any deer which tries to go under, through, or touches a wire going over will be jolted. Use a line-voltage controller if at all possible in preference to a battery-operated controller. Be sure you keep vegetation or snow from touching the hot wires if you want good service.

Get the fence in operation before damage begins, because deer are more easily discouraged by electric fences before they have established feeding patterns in an orchard or field. Also, snip off any barbs of the electrified wires whose points are within four inches of a metal post to prevent an electric disturbance which can ruin television reception in the whole neighborhood.

Still another type of fence can work well around cranberry bogs or

muck farms or any situation where the field to be protected is bounded by a drainage ditch. This is a simple, single-wire electrified fence built on the ditchbank right at the top of the slope leading up from the ditch. Build the same type of electric fence that you would use in a cattle pasture, with the wire 18 to 24 inches above ground. A deer that is wet from his ditch crossing really gets a jolt from this fence. Use the heaviest gauge wire available to prevent breakage by lunging deer. Used telephone wire is ideal for this purpose and often can be obtained free from your local phone company. As with any electric fence, it is necessary to keep weeds and snow from touching the hot wire for it to work properly.

A fifth possibility should be only the last resort. It is possible in some cases to obtain a special permit through your local Conservation Warden to shoot deer found doing damage on your property. Such permits are issued only for extreme situations and are very carefully controlled. Keep in mind that not everyone in your neighborhood may want to see deer shot. Shooting is not a complete solution, either. You may temporarily remove a few deer doing damage, but odds are that they will very soon be replaced by others who are just as hungry.

Finally, we urge you to work through your local sportsmen's clubs and the Conservation Congress toward setting the best hunting regulations for your area. The hunting season is the main means we have to reduce deer numbers. If deer in your county are so numerous that crop damage is intolerable or public safety is endangered, then your help is needed to establish that fact and to work for regulations permitting higher harvests and consequent reductions in deer numbers.

In the meantime, if deer on your farm or in your orchard or nursery are giving trouble, contact the nearest Conservation Warden or Game Manager for advice. They'll do the best they can to help.

With winter upon us we like to think of hearty foods which bring wholesome goodness and a sense of warmth to our tables. The native American cranberry is a versatile flavor source for a variety of recipes, from flavoring a roast to creating an elegant dessert.

All the recipes presented here have their origins in northern Europe where the lingonberry—a distant berry cousin of our cranberry—is used to season similar cooking creations.

“Cranberry Sauerbraten” is a sumptuous roast flavored with onions, beef broth, cranberry juice and fresh or frozen-fresh cranberries. Along with it serve “Berry Red Cabbage” which is aromatically enhanced by apples, fresh cranberries, vinegar and wine vinegar. “Dandy Berry Dumplings” have a delicate flavor all their own—and round out the taste-coordinated pleasures of the sauerbraten and red cabbage. For dessert, consider “Cranberry Bavarian with Chocolate Sauce.” It can be prepared a day or two ahead of time.

A last treat, to serve with your main course or with dessert, is “Hot Mulled Cranberry Wine.” This drink is a mixture of fresh cranberries, cranberry juice, port wine, sliced orange, cinnamon and cloves.

Since many of these recipes call for fresh or frozen-fresh cranberries, it's noteworthy to mention that fresh cranberries are bountiful right now and are easily frozen for later use through the winter. So it's a good idea to buy a good quantity at their flavor peak and to freeze them. Simply put bags or boxes of unopened fresh cranberries into your freezer. When ready to use your frozen berries, rinse and follow recipe directions.

recipes courtesy of Ocean Spray Cranberries, Inc.

DANDY BERRY DUMPLINGS

(Serves 6 to 8)

- 6 eggs
- 1 cup cranberry juice
- 1/2 cup chopped parsley
- 2 teaspoons salt
- 2 teaspoons baking powder
- 4 - 5 cups unsifted all-purpose flour
(depending on the size of the eggs)
- 4 quarts boiling salted water

In a large bowl beat eggs until fluffy. Stir in cranberry juice, parsley, salt and baking powder. Gradually stir in enough flour until the dough is the consistency of muffin batter. Drop mixture by heaping tablespoonfuls into boiling salted water. When water reboils, lower heat and simmer for 20 minutes or until dumplings are firm. Remove with a slotted spoon and place around Sauerbraten.

CRANBERRY BAVARIAN WITH CHOCOLATE SAUCE

(Serves 6 to 8)

- 2 envelopes unflavored gelatin
- 1/2 cup water
- 3 eggs
- 1/2 cup sugar
- 2 tablespoons cornstarch
- 1 quart (4 cups) milk
- 3 cups fresh cranberries
- 1 cup sugar
- 1/2 cup water
- 1 cup (1/2 pint) heavy cream, whipped
- 4 squares (4 ounces) semi-sweet chocolate

In a small bowl mix gelatin and water. In a 2-quart saucepan beat eggs until foamy. Beat in 1/2 cup sugar and cornstarch until smooth. Gradually stir in milk. Stir over very low heat until sauce thickens slightly and coats a metal spoon.



Stir in gelatin and stir until gelatin is completely dissolved. Cool and then chill until syrupy. While pudding is chilling, combine cranberries, 1 cup sugar and water in a saucepan and simmer for 5 minutes or until cranberries are tender. Drain cranberries, reserving syrup. Chill cranberries. Fold cranberries and heavy cream into pudding. Pour pudding mixture into a 2-quart mold and chill until firm. Pour reserved cranberry syrup into a small saucepan and add chocolate. Stir constantly over low heat until chocolate melts and sauce is smooth. Cool to room temperature. Dip mold into lukewarm water for a few seconds and tap to loosen. Invert onto a serving platter. Spoon pudding into serving dishes and serve topped with some chocolate sauce.

HOT MULLED CRANBERRY WINE

(Serves 6 to 8)

- 2 cups fresh or frozen-fresh cranberries
- 1 cup sugar
- 1 cup cranberry juice
- 1 quart bottle port wine
- 1 orange cut into slices
- 2 cinnamon sticks
- 6 whole cloves

In a large saucepan combine cranberries, sugar and cranberry juice. Bring to a boil and boil for 5 minutes. Stir in remaining ingredients. Simmer at a slow bubble for 5 minutes. Strain into glasses and serve piping hot, or make ahead of time, refrigerate, and reheat.

CRANBERRY SAUERBRATEN

(Serves 6 to 8)

- 4 pound beef rump roast or other type pot roast
- Salt, pepper, flour
- 1/4 cup butter, margarine, vegetable shortening, or oil
- 3 onions, sliced
- 1 cup cranberry juice
- 2 cups fresh or frozen-fresh cranberries, rinsed and drained
- 1 can (10-1/2 ounces) condensed beef broth, undiluted
- 6 to 8 gingersnaps

Sprinkle pot roast with salt and pepper. Sprinkle with and rub flour all over meat. Heat butter in a Dutch oven and brown beef on all sides. Add onions, cranberry juice, cranberries and beef broth. Cover

tightly and simmer gently for 2 to 2-1/2 hours or until beef is tender. Remove pot roast to a platter and keep warm. Press pan juices through a sieve into a 2-quart saucepan. Crumble gingersnaps and add to sauce. Simmer for 5 minutes or until sauce thickens stirring constantly. It may be necessary to add more gingersnaps depending on the amount of liquid. Add until sauce is the desired consistency. Serve sauce over pot roast with Cranberry Dumplings.

BERRY RED CABBAGE

(Serves 6 to 8)

- 1/2 pound bacon, diced
- 1 large head red cabbage (about 3 pounds)
- 2 apples, peeled, cored and diced

2 cups fresh cranberries, rinsed and drained

1 cup cranberry juice

1/4 cup sugar

2 tablespoons red wine vinegar

Salt

In a very large Dutch oven fry bacon until crisp. Remove crisp pieces and set aside. Meanwhile, cut cabbage in halves and remove core. Shred cabbage finely. To fat in Dutch oven add apples and cranberries and saute for 2 minutes. Stir in cranberry juice, sugar and vinegar. Add cabbage. Cover and simmer gently for 1 hour. Season to taste with salt. Stir occasionally during cooking to prevent sticking, adding cranberry juice from time to time, if necessary. Serve sprinkled with pieces of crisp bacon.



sunshine prevailed later in the week.

The week of the 10th began mild but cold air moved in on Tuesday and remained until the weekend when warmer weather returned. Precipitation for the week was light in the south and east, mostly in the form of snow flurries. The extreme north received several periods of snow. Unofficial reports were received of 30 inches of snow near Hurley but only one inch at Wausau.

Rapidly changing weather conditions occurred across Wisconsin during the week of the 17th. Cloudy and mild with widespread fog and drizzle Monday and Tuesday. Wednesday was cloudy and colder with rain diminishing to light snow. Northern areas had one to three inches of snow Wednesday. Clearing took place Thursday and temperatures warmed up under sunny skies Friday. Clouds moved in again on Saturday, bringing rain to southern and central areas and a mixture of rain and snow in the north. Skies cleared once more on Sunday but temperatures were colder.

The winter meeting for cranberry growers and those interested in cranberry growing will be held Thursday, January 9, 1975 at the Y.M.C.A. in Port Edwards. The meeting will begin at 10:00 A.M.

A full program is planned with highlights concerning the proposed state wetlands legislation and the Wisconsin cranberry promotion. Committee reports will be discussed.

The Growers Association will elect officers for 1975 at this meeting.

Lunch consisting of roast beef will be served at 12:30 at \$3.50 per person.

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The weather at 39.1° in November was slightly warmer than the 50-year average of 38.2. We had a rainy month with 4.63 inches.

Due to the light crop in 1974 most of the berries now being sold locally are those from Cape Cod.

BEES*Continued from page 14*

those who have examined mediocre spots; this causes more bees to inspect the site of the excited dancers, and if they agree they will return and dance in an equally vigorous manner. Eventually, a consensus is reached wherein the whole swarm is throbbing with ecstasy and they fly off to their new home. One swarm studied by Mr. Lindauer considered 21 possibilities and took two weeks to decide.

Though the research that led to these discoveries was conducted primarily for its scientific interest, the findings may have significant practical benefits. "When some day in the future food grows scarce," Mr. von Frisch writes, "people . . . should recall that in their own language bees can be aroused to greater industry and can be dispatched . . . in accord with the wishes of the beekeeper and the farmer."

Some scientists have poo-pooed such findings of what might be called intelligence in these "lower animals," as bees are categorized. But Donald R. Griffin, a biologist at Rockefeller University in New York and an early skeptic himself, duplicated the von Frisch experiments and came up with the same conclusions. Mr. Griffin says: "I am willing to entertain the thought that perhaps the bees know what they are doing."

the processing and confidentiality of tax returns.

The film traces the fortunes of a fictional taxpayer, named Tom Krolik, from the moment he receives a tax audit notice from the IRS to the final resolution of his case.

In addition to narrating the film, Mr. Whitmore interviews on camera IRS personnel who examine returns, conduct appeals hearings, collect delinquent taxes, provide taxpayer assistance, and supervise the processing of tax returns.

Foristall said the IRS film, which contains an original musical score, includes a segment of a simulated office audit as well as a district conference.

"We are especially anxious to gain a widespread audience for this film," Foristall said, "because we believe it may help dispel the fear many citizens have when called in for a tax audit. The fact that every taxpayer has certain basic rights is underscored in this film," he added.

Foristall noted that "Why Me, Tom Krolik?" is especially suited for showings before community or neighborhood groups, civic and service organizations, and church and fraternal clubs and lodges.

Program chairmen who wish to book "Why Me, Tom Krolik?" should contact Edward V. Callanan, district public affairs officer, by telephone at 223-6020/6023 or by mail at John F. Kennedy P.O. Box 9112, Boston, Mass. 02203.

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REGIONAL NEWS NOTES

WASHINGTON WISCONSIN

Azmi Shawa attended a seminar conducted by Sandoz-Wander Co., Homestead, Florida from December 11 to 15th. Research personnel from the various cranberry areas were invited by the Company to participate in the discussion of the experimental work with Evital on weeds in cranberry bogs. The herbicide has been available for the 1974 growing season on an experimental label.

The North Beach and Grayland cranberry growers will meet January 21, at 7:00 p.m. at the Community Hall, Grayland for a talk by Azmi Shawa "Weed Identification, Herbicide Control."

December was a warmer than normal period with below average precipitation. Maximum temperature was 57 degrees on the 8th and minimum 26 degrees on the 23rd with only 6 days registering freezing or below temperatures on the bog.

Rainfall totaled 13.62 inches which is 3-1/3 inches below the December 10-year average for Long Beach area. There were only two days with no measurable precipitation. The largest storm came on the 21st with 2.05 inches and 1.70 inches on the 27th. The year-end total of 90.42 inches is 2-3/4 inches over the 10-year average of 87.64.

Winter weather in Wisconsin continued mild in early January, a time of the season when temperatures are usually the coldest. Very few below zero readings have been recorded in Wisconsin to date this winter. The mild weather has limited frost penetration. As of January 3rd, the average frost depth in the State was 4 1/2 inches. This was one inch less than a year earlier. The deepest frost penetration has been in the west and northwest. Snow depths averaged five inches as of January 3rd, also an inch less than a year ago. The heaviest cover of snow was along the northern border of the State where over a foot of snow was on the ground. Snow depths tapered off to around three inches in the south. Above normal temperatures and some rain in recent days have reduced the snow cover. Sub-soil moisture reserves are low in certain areas and more moisture will be needed in the spring.

NEW JERSEY

December was rather mild and wet. The average temperature was 39.1 degrees, about 3.7 degrees above normal. Rainfall totaled 5.68 inches, about 2.60 inches above normal.

No really severe wintery weather was experienced in the cranberry region of New Jersey. The coldest spell recorded at the official Weather Bureau Station at New Lisbon was a string of six days from the 17th through December 22nd, when the temperature stayed below 50 degrees. It was above 50 degrees on eight days and went below 20 degrees on only one night. The extremes were 62 degrees on the 7th and 18 degrees on the 4th. No snow has fallen yet; the grass has remained green, and floodwater on cranberry bogs has remained unfrozen.

A review of the weather during 1974 shows that it was slightly colder and slightly wetter than normal. The annual temperature was 53.3 degrees, 0.6 less than normal. Precipitation totaled 43.62 inches, 0.43 above normal.

The months of January, May, April and December were appreciably above normal in temperature while only June, July and October were more than one degree below normal and February, May, August, September, October and November were close to normal. Greatest departures from normal were January and December which were both 3.7 degrees warmer than normal. October deviated most from the normal on the minus side, with an average temperature of 52.4 degrees, which is 4 degrees colder than the norm. Extremes in temperatures were 95 degrees on June 10th, July 4th and July 9th and 2 below zero on February 10th. There were 18 days with temperatures in the nineties, which is nine days less than average. Only six sub-freezing days occurred during which the maximum temperature remained below 32 degrees, which is seven less than the normal number of such days per year.

In regard to precipitation March, August, September and December had more than one inch of rainfall in excess of normal while only July and November had more than one inch of deficiency. The greatest deviations from normal were the 2.60 inches of excessive rainfall in December which was balanced out by the 2.40 inches deficiency in November. A near-drought occurred in the period from October 18 through November 30, during which period only 0.97 inches of rain fell. Only three snowfalls, totaling 16.5 inches, occurred during the year. The total days of ground cover of snow was 16 days.

Continued on page 20

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preserving trapping in Massachusetts. This organization is specifically for you. So, please do not leave the fight up to someone else. Join today and help us help each other. We are planning our first meeting in the month of January.

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FARM CENSUS TIME AGAIN—Farmers and ranchers throughout the United States are being asked to report on their agricultural operations during 1974. The 1974 Census of Agriculture is the 20th nationwide farm census since the first one in 1840. Report forms are mailed out in January and the Bureau of the Census would like to have them filled out and mailed back promptly. All information is confidential by law. The results, published only in statistical form, provide the yardstick by which American agricultural advancement is measured every five years. No information can be released which might reveal the operation of an individual farmer or rancher.



CORRECTION CONCERNING MR. PHILLIPS' CHRISTMAS TREE SALES

Another typographical error has managed to sneak out under our noses and we have unwittingly credited Francis Phillips with an unbelievable sales record of 1500 Christmas trees for the 1974 season. The error appeared in the December issue of *Cranberries*, and was immediately brought to our attention by an apprehensive Mr. Phillips.

But we have promised to vouch for him if he should be pursued by the IRS. We also promised to print the actual number of trees sold in order that other bog owners may not have stars in their eyes as they contemplate tree farms of their own. In fact, the number of trees sold in the pre-Christmas season of 1974 was roughly 500. Still not a bad number by any means!



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Cranberry Seminars

The Cranberry Experimental Station in Wareham, Massachusetts is offering a series of cranberry seminars which began on January 10th of this year and will run through March 5, 1975.

A similar program was offered by the staff at the Station as recently as 1969, but the information to be presented in this year's program is inevitably updated as a result of ongoing research which has taken place since 1969. All of the lectures listed in the program of topics will be reprinted and available upon request from the Experimental Station by late summer. This is a valuable service, but a reading of the lectures cannot replace the live presentation completely, partly because the audience of cranberry growers present inevitably contribute valuable information by prompting discussion with the speakers during question and answer sessions.

If distance prevents your attendance, note the schedule below and the address of the Experimental Station. When requesting copies of lectures it would probably be

helpful to include the date on which the topic was presented and by whom it was given as well as the title of the lecture.

Wednesday, January 22

Resanding of Cranberry Bogs & Cranberry Varieties—Prof. I. E. Demoranville.

Flood Management—Dr. C. E. Cross

Wednesday, January 29

Effects of Herbicides on Plant Systems—Dr. R. M. Devlin

Harvest, Handling and Storage—Prof. J. S. Norton

Tuesday, February 4

Cranberry Insects—Prof. W. E. Tomlinson, Jr.

Frost Protection and Forecasting—Prof. I. E. Demoranville

Wednesday, February 12

Cranberry Production and Water Quality—Dr. K. H. Deubert

Weather and Quality—Dr. C. E. Cross

Wednesday, February 19

Weeds of Cranberry Bogs—Prof. I. E. Demoranville

Growth Regulators—Dr. R. M. Devlin

Wednesday, February 26

Low Gallonage Sprinkler Systems—Prof. J. S. Norton

Cranberry Diseases—Dr. B. M. Zuckerman

Wednesday, March 5

Fertilizer for Cranberries—Prof. I. E. Demoranville

Cranberry Pollination—Prof. W. E. Tomlinson, Jr.

The first meeting of these seminars was well attended. In fact, if one was so unfortunate as to arrive a bit late, he would have had difficulty in finding an empty seat in the large library.

Grower participation during the question and answer periods was relatively lively and included contributions such as Gilbert T. Beaton's comment on the Crowley, a variety of cranberry finally developed in Oregon, though the work was begun in California. He claimed that this berry has been developed to the point where it presently yields up to 600 barrels per acre. Nearly everyone present reacted to

Continued on page 16

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Weather

December was warm, averaging 3.1 degrees a day above normal. Maximum temperature was 60 degrees on the 8th and minimum 12 degrees on the 6th. Warmer than average periods occurred on the 2nd, 7-9th, 12th and 17th. Cooler than average days were the 4th, 5th, 10th, 25th and 26th.

Precipitation for the month was 3.44 inches, which is 3/4 of an inch below normal. There were 12 days with measurable precipitation, with the largest storm of 1.36 inches on the 2nd. Snowfall was only 2-1/4

inches, well below our average.

For the year 1974, temperature was exactly normal at East Wareham. Warmer than normal months were January, March, April, July, August and December. February, May and October were considerably below normal. October was a record cold month for us, averaging 5.5 degrees a day below normal. Maximum temperature for the year was 92 degrees on July 9th and the minimum minus 1 degree on February 10th.

Precipitation for 1974 totalled 36.24 inches, which is 10-5/8

inches below normal and more than 15 inches less than 1973. This was the driest year since 1965 and the 5th driest in our records. Largest single storm was 2.02 inches on October 16-17. Snowfall was 35.2 inches for the year or about 30 percent above our average. The largest snowfall was 6.5 inches on January 4th.

Grower Meetings

Cranberry grower meetings will be held in the Marcus L. Urann Library at the Cranberry Station this year. Notices will be mailed at the appropriate time.

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Issue of January 1975 / Volume 39 - No. 9

We mark the new year, 1975, with this issue of *Cranberries*, and we have appropriately implemented a new monthly column entitled "Agriculture Notes" (Page 14).

We say 'appropriately' not only because we are doing something new, but because agriculture—*food*—promises to be properly recognized as a very important issue this year.

Cranberry growers are farmers. And farmers comprise that class of people whose performance of their livelihood is absolutely essential for everyone's survival on earth. (This notion is well expressed in a prize-winning essay by a young future farmer from Minnesota which is reprinted in this issue on page 16.)

The farmer is swiftly receiving recognition as an individual of great importance engaged in one of the noblest forms of work. It is a good ambition to remain informed of the status of the overall state of affairs in your field, and so we hope the feature will be of use to you in accomplishing that end.

The purpose of "Agriculture Notes" is to enable cranberry growers to gain a wider perspective of the world-wide status of their profession—agriculture—by perusing the distillation of international developments at a glance.

We welcome suggestions and written and photographic contributions for this new feature, as well as for all the pages of *Cranberries* magazine.

CRANBERRIES

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— Our 35th Year of Publication —

I. S. Cobb . . . publisher

J. B. Presler . . . editor

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Food For The Spirit



by Robert L. Clingan

Sometimes, when those of us who share the Christian faith attend the church of our choice and see how few are there, we are afraid. We feel as though we are a hopeless minority of a lost cause. How can the church make its full contribution to the world, we ask, when there is so little evidence of how many we are and how strong we can be? This visible evidence is greatly needed.

In the Bible story about Elijah, this prophet also felt himself to be in a hopeless minority as he fled for his life after the threats of Queen Jezebel. Leaving his servant at Beersheba, he went into the desert and headed for Mt. Horeb, the mount of God... earlier called Sinai, where Moses had received the Ten Commandments.

There on Mt. Horeb, Elijah experienced a great wind, but did not find God in the wind. There was an earthquake, but he did not find God in the earthquake. Then there was a fire, and neither did he find God in the fire. Finally, there came a still small voice, or has sometimes been translated, "the sound of gentle stillness." Then Elijah heard God speak, and learned of his new assignments.

Earlier, when Elijah had taken shelter in a cave on the desert, God had asked, "What are you doing here, Elijah?" And Elijah had described all the destruction the forces of the Lord had experienced.

"Only I am left," he had said, "and they seek my life to take it away."

On Mt. Horeb, God told Elijah there were still 7,000 who had not bent their knees to the worship of Baal. If Elijah had only known how many people there were who worshipped his God, how much more courage he would have had!

One day, an older man in my community confided to me that he

OBITUARY

JOHN C. HARJU

John Christian Harju, 71, of Meadow St., Carver, Mass. died unexpectedly on January 14 at his home. He was the husband of Vieno V. (Kaski) Harju.

Mr. Harju was born in Wareham on July 17, 1903, the son of the late John Fiilus and Ida J. (Ojala) Harju. He was a former member of the Christian Endeavor Society and a trumpet player at the Zion Congregational Church in West Wareham.

He had raised cranberries extensively and prior to his retirement he was employed as a carpenter at the Otis AFB.

Mr. Harju is survived by his widow, Mrs. Vieno V. Harju of the home address; a daughter, Mrs. Florence Hunter of Wareham; two brothers, Eino William Harju of Marion and Vaino Harju of South Wareham; four grandchildren; two great-grandchildren; nieces nephews and cousins.

HARRY PHELPS

Harry Phelps, long time resident of Long Beach, Washington, passed away November 14 following an extended illness. He was born

never heard a sermon, although he went to church every Sunday. He had a hearing problem and his church had no public address system.

"Why do you go to church Sunday after Sunday even though you cannot hear a sermon?" I asked.

"Attending church is a part of my Christian witness," he answered. "It shows what I believe by just walking through the door, adding one more person to the number of worshippers."

How much stronger the would-be Elijahs of our day would feel if they had more of the visible evidence of the strength of their worshipping community!

October 14, 1889, in Cleveland Ohio and came to Long Beach in January, 1911.

He originally worked for J. M. Arthur at the Breaker's Hotel and followed that by working as a logger for several years. During World War I, Mr. Phelps, who was unable to enter the service, worked on the tug, Oneonta out of Astoria. After the war he turned to cranberry growing and was foreman of the Western Cranberry Association for many years. He continued working in cranberries until he retired in 1960.

Harry Phelps married Pauline Gronette July 30, 1910, in Cleveland. Mrs. Phelps passed away three years ago.

They lost one son, George, in World War II.

Survivors include two sisters, Mrs. Myrtle Shannon of LaMesa, California, and Mrs. Ethel Shaw of Lakewood, Ohio; one son, Robert, and two daughters, Helen McKnight and Lucille Kozowski, all of Long Beach; four grandsons and five great-grandchildren.

Memorial services were held in Seaview at the Peninsula Church Center with the Rev. Thomas W. Heald of the Ocean Beach United Presbyterian church officiating. Penttila's Chapel by the Sea was in charge of arrangements.

REID WHITEHAWK

Reid Whitehawk, 77, Black River Falls, Wisconsin, died December 22 at Pine View Nursing Home.

He was born September 15, 1897 in Jackson County to Jacob and Eliza Whitehawk. He was a lifelong resident of the Black River Falls region and had been employed by various cranberry marshes.

His only survivors are a nephew Noah White, Red Wing, Minn., and four nieces, Jessie Stewart, Kansas City, Mo., Phoebe Delotz, Omaha, Neb., Lavina Walter, Decatur, Neb., and Ruth Funmaker, Black River Falls.

Services were held December 24 from the James Funmaker resi-

Continued on page 20

A Collector of Many Things

by J. B. Presler

The jovial-looking fellow in the photograph on the right is not merely the keeper of an extremely atmospheric, old hardware store in Carver, Massachusetts. He is also an ex-cranberry grower, a house painter, and an avid collector of all things old and of interest.

His name is Harold T. Braddock, and he has been involved in museum work "... all my life." After examining a mere fraction of Mr. Braddock's collection, a part of which is housed at the hardware store in Carver, it was plain that such a life-long interest in artifacts was essential in order to have accrued such a large number of old, and often very valuable things.

Though there are many items to distract the visitor to Harold's store on Plymouth Street, in North Carver, we went primarily to inspect his collection of old cranberry tools. This is stored on the second floor of the building, in a small room. Some of it has inevitably spilled over into the downstairs area, such as the brass labeling stencils, of which he claims to hold 102, which were used as far back as the late 17th century to label cranberry barrels before they were transported away from the home bog.

Braddock maintains an enthusiasm for his whole collection which compels him to point out many of its interesting features as the path is slowly beat up to the cranberry room. Among these things are the remains of the original post office which was housed in the building when North Carver was first being settled. The



Harold T. Braddock amid the old and the new at his hardware store in Carver, Massachusetts



A boat screen.

The same building housed a millinery shop at one time, and in one of the back rooms, a glass case contains hat molds used to make caps for uniforms of the Civil War.

Also in that room, tucked up among the ceiling beams, is a section of a wooden, water main pipe, dated at 1769, from Summer Street, in Plymouth, Mass.

Out in the main part of the store old mixes with new as cast iron tools, tin pitchers, and old cranberry buckets hang from the ceilings along with brand new paint brushes, stainless steel tools, and modern household articles.

"We sell plants, too. We grow 'em and sell 'em right here."

Braddock is very proud of the unheralded rural area that North Carver has peacefully remained. "I was born in Carver, and I intend to stay here," said Harold during the course of our interview. And, indeed, it would be a nearly impossible task to move Mr. Brad-



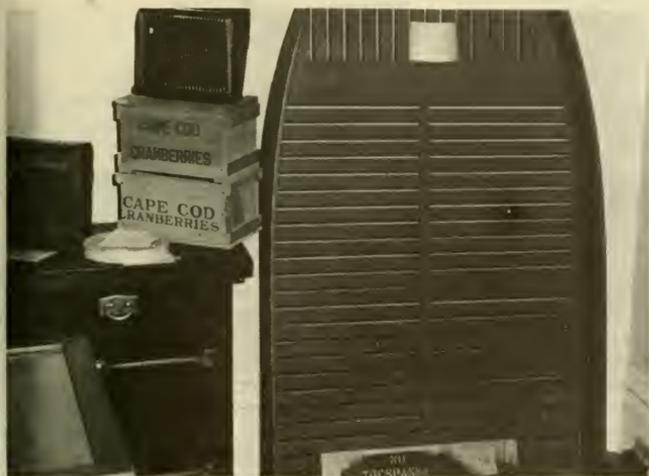
Old utensils, including a hand-picker's pail, hang among the goods on sale at the store.

block of wooden 'pigeon holes' is set on the same counter with the ancient-looking cash register, and each cubicle in the block is occupied by a yellowed, parched document, many dating back before the year 1800.

dock and all his possessions. A member of the Society of Mayflower Descendants (he claims the Warren family as his link to the first arrivals on the Mayflower), Harold obviously has taken advantage of his location in one of the richest



A long-handled scoop with wooden teeth, a hand-picker's 6-quart pail, and a snap or trap machine, also for hand picking, rest on top of a cranberry banjo screen, circa 1800.



Another, larger, boat-type screen on the right, and small wooden packing boxes, a roll of picker's tickets, and two snap boxes for hand picking.

historical districts in the country.

Braddock mans a small museum up the road from the store, and he began to devote himself exclusively to the labor of collecting along with his painting business in 1952 when he sold his bogs at Ned's Brook on Center Street in Carver. Having been associated with the cranberry business since early childhood, Harold inevitably stored up an excellent collection of cranberry paraphernalia.

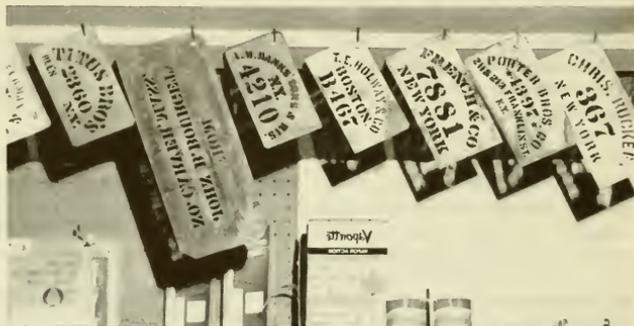
In that upper room are old pruning rakes which were used to cut the runners when there were no machines to do the pruning as they picked. The vines were carefully gathered with a circular motion of the rake and pushed to the edge of the bogs where they were collected and used to pack around the foundations of houses as insulation against cold winter temperatures.

Two long-handled cranberry scoops are part of the collection. The older of the two has wooden teeth that were painstakingly carved from the same piece of

glued to the boxes which were shipped to market, and the not-so-potentful wooden labels which were wired onto smaller boxes and used at an earlier date than the paper labels.

Harold held up a 6-quart hand-picker's pail, and reflected on the days when he picked cranberries as a child.

"Every picker would get a ticket for every bushel of cranberries that he had picked. They could be cashed in for money at any time. Those tickets were like gold." Now they sit in a big roll, gathering dust, and with not much value except to remind us of more primitive days, when growing and harvesting the bright red berries was a much longer and more tiresome task than it is today.



7 of the 102 brass stencils in Braddock's collection.

wood that forms the bottom of the scoop. Thus, if one of the teeth broke, it would have been more difficult to replace than in the more modern scoop of the two. This latter scoop has iron teeth, driven into the wood. They are stronger, and more easily repaired.

There is an abundance of box labels, both the familiar paper labels which were used primarily by growers to identify brands and



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Ocean Spray begins an ongoing program

The less fortunate and needy of Hanson, Massachusetts were remembered this past Christmas day with gifts through the joint effort of Ocean Spray Cranberries, Inc. and its employees, in the first of what is hoped will become an annual Christmas Dolls and Toys Program for the underprivileged. Together they donated over \$180 in toys plus some 50 attractively costumed dolls for the young and old alike.

The Hanson-based firm encouraged employees, in lieu of exchanging Christmas cards with fellow workers, to contribute instead to the toy fund or participate in a doll costuming contest. Entrants to the contest created outfits for dolls donated by Ocean Spray, with winners selected in three categories based on exceptional workmanship. Ocean Spray awarded cash prizes to first and second place winners in each category.

The many toys and dolls were then used to help service more than 16 needy families with over 48 children in Hanson, distribution being handled by the Visiting Nurses Association of Hanson and the Hanson School Department in addition, 23 dolls were given to elderly patients at the Plymouth County Hospital. They in turn were able to present the dolls to young relatives as gifts, something they otherwise could not afford to do.

Ocean Spray President Harold Thorkilsen announced the doll contest winners on Dec. 20th, presenting first place finishers with \$25 and awarding second place finishers \$15. The categories and winners were: Best Workmanship—Hand or Machine Sewn; first place Carol

Seward of Hanson, second place Iris Battle of Whitman. Honorable mention went to Al Bellefontaine and family of Marshfield and Marilyn Shaw of Middleborough.

Best Workmanship—Crochet or Knit; first place Edith Wallan of Kingston, second place Agnes Fader of Bridgewater. Honorable mention went to Edith Carter of Monponsett and Mary Rich of Hanson.

Most Original Costume; first place Nancy Holmes of Pembroke, second place Bill Leahy and family of Tiverton, R. I. Honorable mention went to Judy Bruce and Nancy Hayes, both of Hanson.

Acting as judges for the doll contest were Mrs. Gerald S. Buck-

ley, Chairman of the Home Economics Department at Whitman-Hanson Regional H. S., Mrs. Barbara Buckley, knitting and crocheting teacher for Whitman-Hanson Adult Education classes and Mrs. Marion Landfors, clothing teacher at Whitman-Hanson Regional High School.

The enthusiasm of those competing in the doll costuming contest was evidenced by the high quality workmanship submitted. The fact that in the end charity was to be the big winner made it seem that much more satisfying to everyone who participated.

—South Shore News

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CONTROL OF FAIRY RING....a progress report

by Bert M. Zuckerman, Ph.D.

U. Mass., College of Food and Natural Resources
Cranberry Experimental Station, Wareham, Mass.

Parasitism of the cultivated cranberry (*Vaccinium macrocarpon*) by the fungus *Psilocybe agrariella* var. *vaccinii* results in a disease called fairy ring. The fungus is a root parasite, but the manner in which it attacks the root system has not been studied. A brief reference to the symptoms of the disease, as described by Shear, Stevens, and Bain,¹ is necessary to an understanding of the control measure reported here. They write as follows: "The first sign of the disease is a small area of dead or weak vines in a bog . . . the area of dead vines advances outward in all directions at a rate of 1 to 1½ feet per year. When the dead area reaches a diameter of from 4 to 6 feet, the middle usually becomes vined over with healthy cranberry plants, thus forming the ring. . . As the mycelium of the fungus advances outward, the ring increases in size, and the dying out of the fungus growth of previous years permits the cranberry vines to grow back inside the ring." It should also be noted that during the period of vine regrowth, the area within the ring frequently becomes heavily infested with weeds, with the result that the productivity of the bog is significantly decreased.

A more recent observation concerning this disease and related to changing cultural practices must be cited. Prior to the advent of mechanical harvesting machines, fairy ring was a disease of fairly minor importance, since very few bogs were affected and those affected generally had only a small number of rings. When picking machines came into general use in the 1950's, however, the fairy ring disease quickly assumed a more serious aspect on many bogs. The reason for this change was that the picking machine frequently uproots vines and carries them, and the adhering soil, for long distances. Thus, after a machine passes through a diseased area, the fungus is often transferred to areas of

healthy vines, where it soon initiates a new fairy ring. In extreme cases an acre of bog may, within a period of 2 to 3 years, exhibit 10 or more newly-started rings.

Previous to 1968, recommended control for this disease included ditching, a practice which is both expensive and impractical in view of the existing labor situation. Copper sulfate at the rate of 1 gallon of 5% solution per square foot was also recommended, but generally cranberry vines did not regrow in the treated area for periods in excess of 10 years. A newer method was treatment with 6.84 lbs. (actual) ferbam in 100 gallons of water, and applied at 1 gallon per square foot². The ferbam treatment had two disadvantages, however: 1) the cost of application and 2) in some cases the growth of the fungus was simply retarded, and after several years the ring began to grow anew.

The current series of experiments were initiated to develop less expensive means of treatment and/or a treatment which would effectively eradicate the disease.

Results

The test conditions and the time of application are shown on the accompanying table. Treatment was always a minimum of 3 feet outside the ring and 2 feet inside the ring. The chemical was thoroughly

watered in immediately after application. Of the 11 rings treated thus far, sufficient time has passed so that a preliminary evaluation could be made on 2 rings. In Experiments Nos. 1 and 4, where 1/2 of each ring was treated, observations taken on August 15, 1974, showed that treated areas had completely vined in and appeared vigorous and healthy, whereas on untreated sections of the rings the disease was progressing normally. Where the Bravo had been applied, the vines had no berries, but in other respects in both treated areas the disease appeared to have been completely eradicated.

It is too early to know if complete control has been obtained in either of the two tests described above, but the results to date are most promising. Next year it should be possible to compare the efficiency of the different concentration levels of Bravo; Difolatan and Sul Po Mag, as well as to obtain a good idea of the best time of application. Further trials are planned for the Spring, 1975.

References

- 1 Shear, C. L., N. E., Stevens, and H. F. Bain. 1931. Fungus diseases of the cultivated cranberry. U. S. Dept. of Agr. Tech. Bull. 258.
- 2 Zuckerman, B. M., K. J. Rochefort, and G. B. Rounseville. 1968. Control of fairy ring disease of the cultivated cranberry. Plant Dis. Rptr. 52: 87-88.

EXPERIMENTS ON FAIRY RING CONTROL IN MASSACHUSETTS

Exp. No.	Treatment		Application
1	Difolatan	1 pt/4 sq. ft.	October 15, 1973
2	Difolatan	1 pt/50 sq. ft.	October 15, 1974
3	Difolatan	1 pt/100 sq. ft.	October 15, 1974
4	Bravo 75% WP	1 lb/4 sq. ft.	April 23, 1974
5	Bravo 75% WP	1 lb/50 sq. ft.	November 11, 1974
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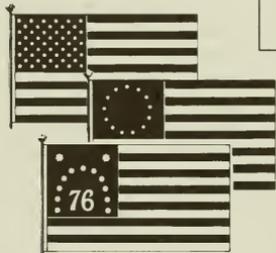
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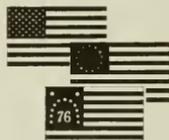
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The Federal Intermediate Credit Bank of St. Paul, Minnesota recently sponsored an essay contest bearing the title above. In their own words,

We developed the "Farming is everybody's bread and butter" Vocational Agriculture essay contest to give senior students in vocational agriculture across the St. Paul Farm Credit District

opportunity both to express their convictions about their industry and to compete for worthwhile rewards. In a day when agriculture's role is so important—and so often misunderstood—we believe that the ability to communicate that importance is a valuable trait to develop.

The award winning essays com-

municate something important indeed, and we have reprinted the first in a selection of six essays below. The other five will appear in succeeding issues of *Cranberries*.

We applaud the encouragement for such an effort made by the St. Paul area bank, and we are impressed by the high quality of the response as demonstrated in the essays.

FARMING IS EVERYBODY'S BREAD AND BUTTER

by Robert Bushman
Minnesota

"Oh those darn farmers, they're trying to steal us blind! Meat went up 7¢ a pound today. Boy, if I had all the money those farmers are making . . ."

How many times have we heard people talking like this when we go to the store and find that food costs have risen again? But does the American consumer truthfully realize where he would be without

farming? The answer is simple. Without farming the consumer could not exist nor the butcher, the banker or the truck driver.

Farming is the basis of every civilization or country. History proves that even before settlements could be built there had to be some means of providing food for the people. Without food it would be impossible for any person or animal

to exist. Providing this food is the farmers' living. Yet consumers don't consider this. All they're ever worried about is that they may have to spend a little more money; although on the average, United States consumers spend a smaller percentage of their income on food than do consumers in any other country. And too, some American people boycott these farm products and some truckers go on strike and quit hauling farm products. But what would happen if every American farmer went on strike and quit raising food for the people? Not only the American people would suffer, but people in practically every country of the world would feel the pinch because our American farmers raise enough food to feed people in every corner of the earth! Maybe then the people would see just how important farming is.

Farming is also the basis of many businesses, factories and even some towns. For example, the farmer often needs financial help which brings about the need for a bank. The farmer also needs a place to buy and sell feed, so this helps to bring about elevators and feed stores which in turn also take advantage of using the bank for their financial matters. Repair parts

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AGRICULTURE NOTES

A down-to-earth approach to improving farmer-consumer communication

Strong support for their recent three-state farmer-to-consumer program, a commitment to expand the effort nationwide, and a challenge to work closely with national consumer leaders keyed the annual meeting of the Agriculture Council of America in Chicago on December 4, 1974.

Farmers who participated in various aspects of ACA's recent "Direct Touch" program in Iowa, Illinois and Minnesota gave first-hand accounts of its success during the general membership meeting.

George and Dee Van De Walle, grain and livestock producers from Chelsea, Iowa, told of hosting a Chicago family during the "City-Farm Swamp." Over 60 city families spent an entire weekend on the farm, guests of rural families around Boone, Iowa, in mid-October.

"This was one of the most meaningful things I've ever done in terms of building support for agriculture," Van De Walle told the group. "Both of us, city people and farm people, really had our eyes opened as to how the others live."

Van De Walle said two thoughts he heard expressed most often were, "I had no idea farmers had to have such a huge investment in land and equipment to grow our food," and "prices keep going up, but I can see now the farmer isn't the cause of it."

Reports from participants on both sides indicated enthusiastic support, and a desire to repeat the Swap next year.

Dale Hendricks, dairyman from Bloomfield, Iowa, related his exper-



ience with another recent ACA program, the "Farm Line." One night a week during October and November consumers in the three-state area were invited to dial a toll-free number and talk to a farmer.

"I talked to a lot of people from the city," Hendricks said, "and what really surprised me is that every one of them was friendly, interested in my viewpoint, and just as anxious as I am to see farmers get fair prices for what they grow."

Hendricks and several others took turns manning the lines, which on some nights accommodated over 50 calls.

World's Supplies of Sugar to Remain Tight During 1975

The world's sugar situation—characterized by shortages and spiraling prices during 1974—is likely to stabilize during 1975, although the supply-demand balance will remain tight and prices are expected to be relatively high.

Market factors that caused sugar prices to snowball during 1974 are likely to abate this year. Some uncertainties caused by the expira-

Jeff Strack, general farmer from Sycamore, Illinois, told of his participation on ACA's "Consumer Action Panel." A number of farmers sat down with representatives from national consumer groups November 18 and discussed areas of mutual concern.

"This was probably the first time ever that farmers and consumers agreed to work jointly on common problems," Strack said. "None of us knew what to expect going in, but after we talked awhile it was clear we were all there to get down to cases and start building bridges between consumer and producer."

tion of the U.S. Sugar Act and the Commonwealth Sugar Agreement have been resolved. Importing

countries that felt a need to buy aggressively in 1974 are not expected to enter the market as

prominently. And expanded acreage, resulting largely from higher prices, could boost production—mainly of beet sugar.

Council Reviews Farm Price Proposals

The European Community Commission proposals for raising farm prices in the European Community during the 1975-76 marketing year were reviewed by the Council of Ministers on December 9-10 in Brussels.

The proposals included raising the guide or target prices for sugar by 16 percent, soybeans by 12 percent, table wine by 8 percent, dairy products by 10 percent, pork by 11 percent, beef by 7 percent, and hard wheat by 8 percent. The Council was to meet again on the proposals in January.

About 96 percent of EC agricultural production is subject to the common agricultural policy's price mechanisms.

European Community-Jan-Feb 1975

triple to 1.875 cents per pound. The level of the quota will not restrict imports, however, since U.S. import requirements will be considerably less than 6 million tons for 1975.

U.S. growers of sugarcane and sugar beets will not be restricted as to the amount they plant or market in 1975. With the expiration of the Act, however, there will be no more producer subsidy payments.

Despite recent high prices there is no evidence of an explosive rush to build sugar mills. This stems from the present very high cost of constructing mills and the memory of depressed world prices following the shortage of a decade ago. Planned construction and expansion of sugar mills throughout the world will add only about 2 million tons of capacity. Additional mills will be planned to keep pace with demand.

Foreign Agriculture-Jan. 27, 1975

President Signs U.S. Trade Bill, Opens Door for Negotiations

At the same time, high sugar prices will dampen the usual consumption increases in some areas, notably the United States. But since many countries, especially developing countries, control prices and have not allowed consumer prices to rise to high world levels, world consumption will not be slowed to a great extent.

The U.S. Sugar Act, which established country import quotas, expired on December 31, 1974. On November 18, 1974, however, a Presidential proclamation set a global first-come, first-served quota of 7 million short tons, raw value, for sugar imports into the United States for the calendar year beginning January 1, 1975.

The 7-million-ton quota can be imported either as raw or refined sugar. By establishing a quota, the import duty can remain at 0.625 cents per pound (raw sugar). If no quota were set, the duty would

President Ford on Friday, January 3, signed into effect the long-awaited Trade Act of 1974, thus permitting U.S. participation in the new round of multilateral trade negotiations being mounted under the General Agreement on Tariffs and Trade (GATT). Substantive negotiations are scheduled to begin in February.

The trade negotiations—which aim at reducing, reciprocally, tariffs and nontariff barriers to trade and reforming the international trading system—were formerly opened in Tokyo in September 1973. Heretofore full U.S. participation has been stalled by a lack of Presidential negotiating authority since expira-

tion, on June 30, 1967, of that provided in the Trade Expansion Act of 1962.

Since the Tokyo meeting, countries participating in the multilateral trade negotiations (MTN's) have been engaged in preparatory work designed to define the framework within which the negotiations will take place (See *Foreign Agriculture*, September 16, 1974).

The Act also provides more relief from serious injury or threat of injury caused by growing import competition and it broadens the range of actions the United States can take in response to unfair international trade practices. In addition, it permits the United States to extend nondiscriminatory (most-favored-nation) tariff treatment to countries not now receiving it and to participate with other developed countries in granting generalized tariff preferences to products of developing nations.

Foreign Agriculture-Jan. 20, 1975



SEMINAR

Continued from page 3

the statement with gasps or groans of disbelief, comparing that number with the average yield in Massachusetts of approximately 100 barrels per acre.

Prof. I. E. Demoranville presented a thorough description of the varieties of berries developed in this country since the earliest selections from the wild by Nathaniel Robbins and Eli Howe, who discovered the varieties known as Early Blacks and Howes, respectively.

Demoranville emphasized that the development of hybrids is still very active today and slides were shown representing some of the hybrids that have been recently developed.

Dr. C. E. Cross imparted his thoughts on flood control to the growers and warned them about the hazards of the winter flood particularly. He advised putting it on later than has previously been considered an appropriate time, and pulling it earlier, around March 15th.

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Cross paid tribute to the cranberry profession and its practice of flooding by noting that, "Cranberry growers have not generally been recognized for the great work they have done in water conservation. They have raised up the level of the water table and, with increased population especially, this has been a real service."

Growers seem to come away from these lectures with information of value to them. Such programs contribute to the progressive state of mind that all farmers should foster in regard to their vocation.

• • •

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• • •

FARMING

Continued from page 13

are essential for farm equipment so there are hardware stores and implement dealers. Gasoline, oil and grease is provided by the local gas station and chemical dealers provide the farmer with sprays and fertilizer to keep his crops growing well. Just about everyone's living is connected directly or indirectly to farming.

What about the future of farming? Although farming practices become more and more advanced as the years go by, there will always be some form of farming. As long as man will exist he will need nourishment which can come only from the food he will eat. Farming is the only way to produce this food on a large scale, because most people do not or could not raise enough food on their own to support themselves and their families.

Now if some people would read and ponder many of the points mentioned here, they would begin to realize that even if farming doesn't involve them directly they must admit that *Farming is Everybody's Bread and Butter!*

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Berry over production

Depressed Cranberry Sales

Food is fast becoming a number one priority in the United States and in the world of today. With starvation in many parts of the world, the waste of food is a moral sin. There is no over-production of food anywhere in the world, but there might well be a problem of distribution. When a small industry like the cranberry business is unable to solve the problem of distribution, we should seek help from the Agriculture Department or from our governing body.

The Department of Agriculture has purchased 299,200 cases of canned sauce for \$2,573,186 as shown in a recent issue of Cranberry News. Actual cranberries used would be less than 45,000 bbls. (about two per cent of the crop) and not enough to have much effect on the surplus. Furthermore, this is substantially less than what was purchased last year. Recorded in Cranberry News at that time.

Help For Others

Following are excerpts from letters sent out by Congressman William A. Steiger: November 13, 1974, Washington, D.C.—Congressman William A. Steiger has called on the Defense Department to buy more veal as a means of helping America's farmers.

In a letter to Deputy Assistant Secretary of Defense Paul Riley, Steiger suggested the Defense Supply Agency (DSA) carefully look into the possibility of increasing its veal purchases. "A positive action by DSA to make substantially stepped-up procurements would not only give your mess halls a tremendous product, but it could go a long way in helping to revitalize a demoralized sector of America's agricultural economy," Steiger said.

Between January 1 and October 1, 1974, DSA bought some 3.5 million pounds of veal, a slight increase over the same period in 1973. Because of increasing farm costs and the present low market price for veal, Steiger said, stepped-up military purchases would be especially beneficial at this time."

November 27, 1974, Washington, D.C.—Sixth District Congressman William A. Steiger has urged President Ford to raise the support of Class I milk prices to \$7.50 per hundred-weight. Steiger obtained the signatures of a number of other dairy state Congressmen in telegraphing his request to the President.

The Oshkosh lawmaker took the action following an Agriculture

Department announcement that it would not seek an increase in the milk support level. "The Department's decision was a drastic mistake," the Congressman told the President. "We ask that you intervene to raise the support level so America can rely on a dependable domestic supply of fresh dairy produce."

The dairy state representatives were particularly angry and concerned because of earlier USDA indications that it would call for a stepped-up support floor. Recent hearings called by USDA had underscored the necessity of a higher support level.

"The USDA made a serious error when it chose not to raise the support level," Steiger said. "I only hope President Ford will intervene and reverse this decision so that nation's dairy farmers are not dealt yet another crippling economic blow"

"We cannot expect support unless we let our representatives know what is needed. A letter from growers explaining the situation might provide the necessary incentive to propel some action.

In Wisconsin your Senators are: The Honorable William Proxmire and The Honorable Gaylord A. Nelson. Address is U.S. Senate, Washington, D.C. 20510.

If you live in Monroe, Jackson, Eau Claire, Barron or Polk County your new Congressman is Al Baldus (Third District).

If you live in Juneau or Adams County—William A. Steiger (Sixth).

If you live in Wood, Portage, Marathon, Clark, Rusk, Price, Oneida, Sawyer or Washburn County—David R. Obey (Seventh).

If you live in Vilas, Forest, Langlade or Shawno County your new congressman is Father Cornell. Address is U.S. House of Representatives, Washington, D.C. 20515.

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You'll want to try all of these soup stews over the winter—each has a unique flavor all its own, and you'll find that they're as good the second time around, so you may want to double the recipes. Cooking in quantity saves money—and if you're budget minded you're bound to agree this is a sound approach to planning your menus. Use some now, and freeze the rest. When March winds are whistling outside your kitchen window, you'll have these hearty soup stews right at hand!

"Cranberry Pork Soup Stew" combines cubes of pork with bacon, whole berry cranberry sauce, apples, cabbage, cranberry-apple drink, and red wine vinegar into a zestful meal. Serve along with a loaf of bread spread with bits of garlic and butter, and warmed in the oven. A light red wine would be a pleasant addition.

For a poultry dish with a delectable difference consider "Cranberry Chicken Soup Stew" combining budget-wise chicken parts with chopped onions, whole berry cranberry sauce, chicken broth, tomato juice, celery, rice, carrots and white wine. This would make an especially nice dinner for entertaining. Serve with a salad of crisp greens with a cheese dressing, thick slices of dark bread (pumpernickel or rye) and a bottle of white wine or pitcher of cranberry-apple drink mixed with ginger ale.

And, last but not least, a dinner for now or Lenten days to come, "Cranberry Fish Soup Stew." This recipe is a mix of chopped onion, chicken broth, cranberry-orange relish, orange juice, vegetables, and cod fillets. You might consider using other favorite fish fillets as well. Serve a basket full of crisp crackers (warmed in your oven) or small rolls and perhaps a dry white wine.

Recipes courtesy of Ocean Spray Cranberries, Inc.



CRANBERRY CHICKEN SOUP STEW (Serves 6)

- 1 chicken, about 3 pounds, cut up
- Salt and pepper
- 1/4 cup butter or margarine
- 1 large onion, chopped
- 1 can (8 ounces) whole berry cranberry sauce
- 2 cans (10-3/4 ounces) condensed chicken broth, undiluted
- 1 cup dry white wine
- 1 cup tomato juice
- 1/2 cup raw white rice
- 2 cups 1-inch pieces celery
- 3 carrots, cut into 1-inch pieces

Sprinkle chicken pieces on all sides with salt and pepper. Heat butter in a large Dutch oven. Brown chicken pieces on all sides. Push chicken pieces to one side of Dutch oven. Add onion and cranberry sauce and stir over high heat for 2 minutes. Add remaining ingredients, cover tightly and simmer for 35 to 40 minutes or until chicken pieces are tender. Season to taste with more salt and pepper. Serve in large bowls with slices of dark bread.

CRANBERRY PORK SOUP STEW

(Serves 6)

- 2 pounds boneless pork, cut into 1-inch cubes
- Salt and pepper
- 6 slices bacon, diced
- 1 can (8 ounces) whole berry cranberry sauce
- 2 tart apples, peeled, cored and diced
- 4 cups chopped green cabbage

- 2 cups cran-apple juice
- 2 tablespoons red wine vinegar

Sprinkle pork on all sides with salt and pepper. In a Dutch oven, fry bacon until crisp. Add pork and stir until brown on all sides. Add remaining ingredients. Cover tightly and simmer for 1 hour or until pork is tender. Season to taste with more salt and pepper if desired.

CRANBERRY FISH SOUP STEW (Serves 6)

- 1/3 cup butter or margarine
- 1 large onion, chopped
- 1/3 cup all-purpose flour
- 1/2 cup cranberry-orange relish
- 2 cans (13-3/4 ounces each) chicken broth
- 1 cup orange juice
- 1 package (1-1/2 pounds) frozen vegetables for stew

1 package (1 pound) frozen cod fillets or 1 pound fresh cod fillets, cut into 1-inch cubes

Salt and pepper

In a Dutch oven melt butter and

saute onion until tender, about 5 minutes. Stir in flour. Stir in relish and gradually stir in chicken broth and orange juice. Stir constantly over low heat until sauce bubbles and thickens. Add vegetables and

simmer, stirring occasionally for 20 minutes or until vegetables are tender. Add cod and simmer for 5 minutes. Season to taste with salt and pepper. Serve with crackers, in large bowls.



OBITUARY

Continued from page 6

dence at the Winnebago Indian Mission. Burial was in Decorah Cemetery. The Charles Buswell Funeral Home was in charge of the arrangements.

BRUCE WILLIAMS

A funeral service for Bruce Delano Williams, 21, of Wareham St., South Carver, Mass., was conducted January 14 at the South Carver Methodist Church.

Bruce died suddenly Sunday about 7:30 a.m. at the Massachusetts General Hospital where he had been a patient for just one week. He had submitted to throat surgery a week ago Monday. He was ill but a short time.

Bruce was born in Wareham on Oct. 24, 1953, the son of Robert Delano and Ingrid W. (Carlson) Williams. He attended the Carver elementary schools and graduated from Plymouth-Carver High School with the Class of 1971. He was associated in the cranberry business with his father.

He is survived by his parents, Mr. and Mrs. Robert D. Williams of the Wareham St. address; two sisters, Mrs. Marcia W. Griffin of Plymouth and Mrs. Jane W. Ingalls of South Carver; six brothers, Carver Fire Chief Robert C. (Pete) Williams, George B. Williams of Rocky Hill, Conn., Theodore Williams of South Carver, John C. Williams of Guilford, Conn., Timothy B. Williams of South Carver, and Henry S. Williams of Plymouth; and many uncles, aunts, cousins and nieces and nephews.

For those who wish to do so, memorial donations may be made in the name of Bruce Delano Williams to the Joslin Diabetes Clinic in Boston.

NEW JERSEY

Continued from page 1

The lack of severe weather, the adequate well-spaced rains during the growing season and especially the mild weather conditions during the flowering period which promoted good pollinating activity by bees were the main factors which enabled blueberry growers to produce a record crop in New Jersey in 1974. According to the New Jersey Crop Reporting Service the state's production was 2,400,000 twelve-pint trays which exceeds the previous record of 2,324,000 trays in 1966.

Unusually severe early frosts in October probably prevented a record crop of cranberries in the state. The Crop Reporting Service's latest report estimates a production of 240,000 barrels. This is only 1,000 barrels short of the record production of 1910 when the state had 8,453 acres as compared to the present 3,100 acres. Unfortunately, small cranberry growers did not have enough water for frost protection flooding during the October "mini drought" period when cranberry bog temperatures frequently plunged into the low 20's. On a representative bog at Whitesbog a low of 14 was recorded on two nights and potentially damaging temperatures of 17 degrees, 18 degrees, 19 degrees (2 nights) and 21 degrees also occurred. For larger growers with ample water the frosty October weather stimulated good coloration of cranberries and helped to improve quality but severe losses were suffered by some small growers. The estimated loss of 9,000 barrels of cranberries in the frosts exceeds the difference between this year's harvest and that of the record year of 1910.

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MARRY SEPT. 21



Debra Nemitz and Paul Aschenbrenner were united in marriage at a 5 p.m. ceremony Saturday, Sept. 21. Father James Murphy performed the double ring ceremony at St. Joseph's Catholic Church at Black River Falls, Wisconsin.

The couple are the daughter and son of Mr. and Mrs. Carl Nemitz, Route 1, Warrens and Mr. and Mrs. Harold Aschenbrenner of Black River Falls.

The bride wore a floor length gown of white moire with lace sleeves and bodice with a sweetheart neckline. The detachable chapel train was of matching lace. She wore a finger length veil of misty illusion held by a pearl and crystal tiara. She carried a cluster of pink roses, baby's breath and stephanotis.

Lu Ann Maeg, Black River Falls, was maid of honor with Kathy Nemitz, Route 1, Warrens, a bridesmaid and the groom's sister, Debra, was a junior bridesmaid.

Ray Aschenbrenner served his brother as best man with Steven Hart, Black River Falls, as groomsman. Michael Doud and John Aschenbrenner, Black River Falls, seated the guests. Larry Hansen and Mrs. Albert Perner provided the music.

The couple will reside at the Carl Nemitz cranberry marsh in rural Warrens where the bridegroom is associated in the management of the marsh with his father-in-law.

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REGIONAL NEWS NOTES

WISCONSIN

Winter weather in Wisconsin continued mild in early January, a continuation of the season when temperatures are usually the coldest. Very few below zero readings have been recorded to date this winter. The mild weather has limited frost penetration. As of January 3rd, the average frost depth in the State was 4-1/2 inches. This was 1 inch less than a year earlier. The deepest frost penetration has been in the west and northwest. Snow depths averaged 5 inches as of January 3rd, also an inch less than a year ago. The heaviest cover of snow was along the northern border of the State where over a foot of snow was on the ground. Snow depths tapered off to around 3 inches in the south. Above normal temperatures and some rain in recent days have reduced the snow cover. Sub-soil moisture reserves are low in certain areas and more moisture will be needed in the spring.

The economic situation in agriculture continues to be of much concern to farmers. Prices for feed, fertilizer, seed, and other farm supplies remain high while the returns for farm products are not sufficient to cover fixed expenses. The livestock economy is particularly distressing as demand is very

low for calves, cull cows, feeder cattle, and replacement milk cows. In some cases farmers are unable to find a market for their livestock or have to sell at prices which do not recover feed costs or even trucking expenses and marketing commissions. Farmers have been inclined to maintain their livestock inventory at levels higher than feed supplies would justify because of the low market prices for livestock. Feed rations are being adjusted in accordance with feed supplies and costs.

WASHINGTON

The Western Washington Horticultural Association held the winter meeting at the Sherwood Inn, Tacoma. Dr. J. Harold Clarke, Dr. C. C. Doughty and Azmi Shawa were among those participating January 8 through 10. Mr. Shawa attended the Western Orchard Pest and Disease Management Conference in Portland, January 15 and 16.

The Northwest Agricultural Show was held January 28-30th at the Portland Memorial Coliseum, sponsored by the Oregon Horticultural Society. A cranberry growers' section was included on the 29th with papers presented by Azmi Shawa, "Response and Increase Bog Yield to Sulphur-Coated Urea," "Freeze Injury" by Dr. C. C. Doughty and a panel on Disease and Pest Control by Ralph Garren, Jr., Lynn Cannon, Iain MacSwan and Bernie Moore.

January precipitation totaled 14.30 inches, the greatest storm came on the 5th with 1.73 inches. Six days measured better than one inch with only two days showing no precipitation. Traces of snow were recorded on the 10th and 29th. Two evenings had damaging wind conditions recorded on the 4th and 8th. This weather station

records the daily reading at 8 A.M. each morning for that date and the previous 24 hours. The evening of the 7th about 10:00 P.M., strong gale force winds caused many downed trees, with building damage in the area at a minimum.

The high temperature of 54 degrees came on the 22nd and a low of 24 degrees on the 27th and 29th. Only six days registered freezing or below.

The Cranberry Vine Newsletter was mailed February 1, also the 1975 Insect and Disease Control Program for Washington, EM 2463.

NEW JERSEY

The weather in the cranberry region of New Jersey has continued to be lacking in severity. Continuing the mild trend this winter, the temperature in January averaged 37.3, about 4.4 degrees above normal. There were 10 days above 50 degrees and four in the balmy sixties. The extremes in temperature were 65 degrees on the 11th and 30th and 11 degrees on the 21st. There were only two days in which the temperature remained below freezing all day.

Rainfall for the month totaled 4.95 inches which is 1.23 inches above normal. There were only two very light snows totaling only five inches. Snow coverage lasted a total of only five days.

The flood water on the bogs has remained unfrozen for much of the time with ice thickness reaching a maximum of only 1-1/2 inches. The dissolved oxygen content in the flood water at the Rutgers Research Bogs at Oswego has not gone below 4 c.c. per liter this winter.

The latest revised report on the New Jersey cranberry crop by the Crop Reporting Service puts production at 250,000 barrels. This

Continued on page 20

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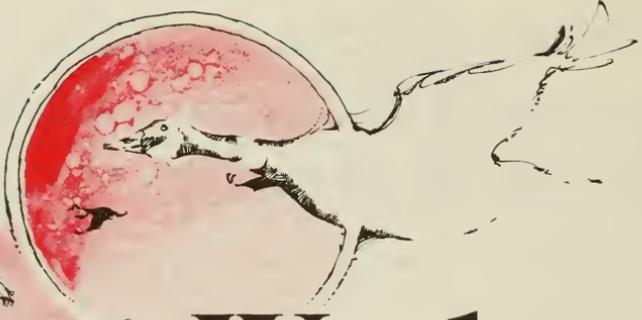
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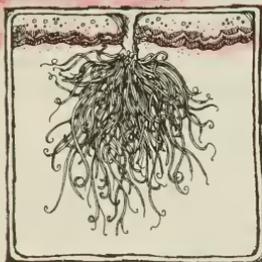
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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Robert Devlin attended the Technical Committee Meeting of NE-55, a regional project on aquatic weeds, held in New York City on January 6-7.

Dr. Devlin attended the Annual Meeting of the Northeastern Weed Science Society in New York City on January 8-9. Bob was chairman of the Growth Regulator Section and also presented a paper on the mode of action of Evtal.

Prof. Stan Norton attended the Annual Meeting of the Technical Committee of NE-44, a regional project on mechanical harvesting of fruits and vegetables, at Penn. State University at State College, Pa., on January 6-10. Stan is a member of the Executive Committee for this group.

Weather

January was a warm, wet month. The temperature averaged 4.7 degrees a day above normal. This was our warmest January since 1950, but the sixth warmest in our records. Maximum temperature was 56 degrees on the 12th and minimum 9 degrees on the 18th. Warm periods occurred on the 11-12th, 19th, 24-26th and 29-30th. Cool days were the 14th, 15th, 17th, 20th, 21st, 23rd and 31st.

Precipitation totalled 6.31 inches, which is 2 inches above normal. There was measurable precipitation on 14 days with 1.54 inches on the 7th as the largest storm. This was the wettest January since 1958 and 6th wettest in our records. Snowfall was only 3.3

inches in one storm which was less than 1/2 our usual average.

Charts

The cranberry pesticide charts have been revised and are at the printers. We hope to have them mailed by the first week in March. The assistance and observations of the growers who helped with the chart revisions are greatly appreciated as always. The fertilizer chart was not revised this year, so growers should not discard their copy. We have a supply of these charts at the Cranberry Station and anyone needing a copy can request it.

Green Scum

Growers are reminded that February and March are the times of the year to begin checking bogs for the presence of green scum around shore ditches. If present it should be treated with copper sulfate as recommended in the 1974 weed chart.

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WINTER TRAIL MAPS AVAILABLE OF NATIONAL FOREST

Snowmobilers riding on the White Mountain National Forest in New Hampshire and Maine may obtain free maps showing those trails and areas of National Forest open to the use of over-snow vehicles. A large number of trails are open to snowmobilers but they should check before riding on the National Forest to insure they are not going into a restricted area. Maps are available at all ranger stations. National Forest Rangers will patrol open and closed areas to assist snowmobilers and skiers and enforce regulations.

Paul Weingart, Supervisor of the White Mountain National Forest, commented on this year's snow-

mobile regulations. "There are some minor changes in this year's regulations based on the review of last year's trail restrictions and to conform to the *Forest Plan* issued this past fall. We received excellent cooperation last winter from the organized ski clubs, hiking groups, and snowmobile clubs. They have all been instrumental in making up these maps, and it will be in large part up to them to disperse this information to the people involved in their respective sports."

Obtain maps by calling, writing, or visiting Forest Service offices or ranger stations in the following locations: White Mountain National Forest, Laconia, N.H.; Plymouth, N.H.; Conway, N.H.; Gorham,

N.H.; Littleton, N.H.; and Bethel Me.

Forty-five percent of the National Forest is open to snowmobiling but riders should be aware that private land within the forest boundary and on the edges of the Forest may be closed to snowmobiles. Permission should be asked before riding on private lands. Some areas of the National Forest will be used by both riders and hikers. Zealand Road is a favorite riding area near Twin Mountain, N.H.—it is also the access area for ski touring into Zealand Valley. All recreationists have the right to use this road, so please respect the rights of the other person.

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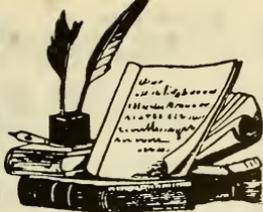
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Issue of February 1975 / Vol. 39 - No. 10

presidential document

By the President of the United States of America

A Proclamation

1974 Census of Agriculture

A periodic census of all the American people is required by the Constitution as the basis for apportioning representation in Congress. In addition, Congress has since 1840 provided for a special census of agriculture to periodically meet the Nation's requirements for reliable and timely statistics on this indispensable segment of our economy.

The 1974 Census of Agriculture has just begun. Statistics for more than 2.5 million farms will be collected to provide measures of the farm industry and agricultural economy for the Nation, each State, and every county. These data will be aggregated for use by virtually every segment of American society—farmers and their representative groups, the Congress, Federal agencies, State and local governments, educational institutions, private businesses, and consumer organizations.

Under the statute authorizing this Census, recipients of census questionnaires are required to answer the questions in those questionnaires that apply to them, their families, and their farms to insure the accurate compilation of these statistics. The sole purpose of the Census is to secure general statistical information regarding agriculture and related resources of the country. No person can be harmed in any way by furnishing the information required. The Census has nothing to do with taxation or the enforcement of any National, State, or local law or ordinance. The Census Act expressly provides that there will be no public or private disclosure regarding any person or his affairs. To assure the due protection of the rights and interests of the persons furnishing information, every employee of the Census Bureau is prohibited, under heavy penalty, from disclosing any information that may thus come to his knowledge.

NOW, THEREFORE, I, GERALD R. FORD, President of the United States of America, do hereby declare and make known that under the law it is the duty of every person from whom information is sought in connection with the 1974 Census of Agriculture to reply to the questions in the questionnaire.

Prompt, complete, and accurate responses to all official inquiries made by Census officials are of great importance to our country. Therefore, I ask affected Americans for their full cooperation in the 1974 Census of Agriculture.

IN WITNESS WHEREOF, I have hereunto set my hand this sixth day of February, in the year of our Lord nineteen hundred seventy-five, and of the Independence of the United States of America the one hundred and ninety-ninth.

Gerald R. Ford

Office: R-55 Summer Street, Kingston, Massachusetts 02364, Post Office Box J. Telephone (617) 585-6561. All correspondence and advertising should be sent to Box J, Kingston.

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OBITUARY

CHARLES N. GRINSTEAD

Charles N. Grinstead, 80, of Long Beach, Washington, died January 26 in the Ocean Beach Hospital. He was born April 2, 1894 in Wilbur, Washington.

He was married to Margaret Kelly, September 1947 in Nevada and the couple established their home in Dayton. They later moved to Walla Walla where Mr. Grinstead worked as a contractor and a carpenter until he came to the peninsula in 1951. Here he worked as a cranberry grower until 1974.

Grinstead was a member of the Cranberry Grower's Association and BPOE No. 1937 of Long Beach.

Survivors include his wife, Margaret at home in Long Beach; three daughters, Barbara McCawley of Dayton, Pauline Bickston of Redwood, California, and Bonnie Hayes of Spokane; one son, Gene Anger of Walla Walla, 13 grandchildren, 10 great-grandchildren and numerous nieces and nephews.

USDA PRODUCE OFFICIAL DIES

John J. Dimond, 62, chief of the Regulatory Branch, Fruit and Vegetable Division, of the U. S. Department of Agriculture's Agricultural Marketing Service (AMS), died of a heart attack on January 8 in Washington, D. C.

His office is responsible for administering the Perishable Agricultural Commodities Act (PACA), a law suppressing unfair and fraudulent practices in marketing fresh and frozen fruits and vegetables.

Born in Lima, Ohio, Mr. Dimond first joined USDA in 1934 and then served with various other government agencies in the Washington area, including the Railway Retirement Board and the Social Security Board, before returning to USDA.

He attended Washington College of Law and received his LLB degree in 1942. He was admitted to the Bars of the U.S. District Court and U.S. Court of Appeals in the District of Columbia the same year.

From 1943 to 1948, Mr. Dimond served as an assistant officer-in-charge at the regional office of the Regulatory Branch, Fruit and Vegetable Division, in Chicago. He was then promoted to officer-in-charge of the Regulatory Branch in Fort Worth, Tex., a position he held until his appointment to USDA headquarters in 1955.

Mr. Dimond was a member of Sigma Delta Kappa intercollegiate law fraternity. He resided at 4028 - 20th St., N.E., Washington, D.C.

He is survived by his wife, Martha, a son, John J. Jr., and two granddaughters.

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Psalm 19 vs. 7-10

The law of the Lord is perfect,
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the testimony of the Lord is sure,
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the precepts of the Lord are right,
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the commandment of the Lord is pure,

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the fear of the Lord is clean,
enduring for ever;
the ordinances of the Lord are true,
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Analyses of Cranberry Marsh Discharge Waters

(Progress Report)

John G. Konrad
Supervisor of Special Studies
Bureau of Water Quality

Marc. A. Bryans
Bureau of Water Quality

August, 1974

Department of Natural Resources
Madison, Wisconsin

Abstract

Public concern has raised questions to the possible influence of cranberry production on water quality of lakes and streams. Ad-

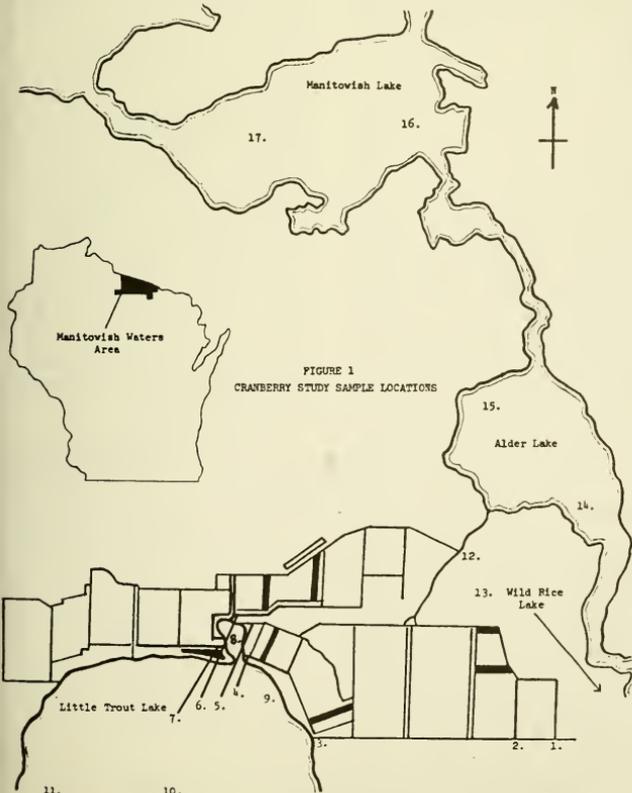
vances in management practices and the development of new acreages contribute to the public awareness of the cranberry culture and its place in the environment. An investigation was initiated in the spring of 1971 in several north central Wisconsin marshes to assess

the impact of cranberry operations on the water quality of lakes and streams. Techniques were developed to obtain water samples which could then be analyzed for NH_4 , NO_2 , NO_3 and organic forms of nitrogen and total and soluble phosphorus. A total of 1.14 Kg/a of total-N and 0.73 Kg/ha of total-P were lost in the harvest flood in 1971 and the winter flood of 1972. Although phosphorus losses in the harvest floods of 1971 and 1972 were similar, nitrogen loss in the 1972 harvest flood amounted to only 10% of the 1971 loss. The effects of these nutrient losses on the quality of the receiving waters and the role of the drainage ditches as possible nutrient sinks were evaluated. It appears that in several situations, ditches act as retention ponds and can be used to effectively control the loss of nutrients to lakes and streams.

Introduction:

This report is an update to the interim report of February, 1973, and provides additional data concerning the effect of cranberry marsh discharge on the quality of receiving waters.

Recent public concern has raised questions as to the possible influence of cranberry production on the water quality of associated lakes and streams. The Department of Natural Resources has investigated various property owner complaints and conducted several short-term studies in the past. The



data collected from these studies and investigations has been inconclusive because of inadequate sampling procedures relative to the normal marsh operations and because the investigations were not conducted for a sufficient length of time to obtain reliable data. Similar criticism can be made of a recent study conducted on Massachusetts cranberry marsh drainage areas in which it was concluded that surface water quality was not altered by cranberry operations (Gray, 1972).

Currently there are more than 7,000 acres of productive cranberry marshes in Wisconsin. Thus, a comprehensive study of the effects of these operations on water quality is needed in order to answer the questions that have been raised.

Objectives:

The general objectives of the study contained in this report were to determine the nutrient content of cranberry marsh discharge waters in relation to the winter, spring and harvest floods and ultimately to assess the effect of these discharges on the quality of the waters receiving the discharge.

The ultimate objective is to determine the nutrient content of these marsh discharges in relation to various management practices, i.e., crop fertilization, pest control practices, flooding vs. sprinkler irrigation for frost control, along with soil texture and age of planting.

Study Area:

The area selected for this study was in the Manitowish Waters area (Vilas County) of north central Wisconsin and consisted of 120 hectares (300 acres) of producing cranberry beds (Figure 1). The geology of the area, important because of its role in overall water quality, consists of a thick bedrock layer if igneous and metamorphic rocks overlain by glacial outwash and moraine deposits of sand and gravel. Developing soils include sands, sandy-loams and peats. Flood waters in the study area are pumped from and discharged to Little Trout Lake via the large ditch

on the right (sample locations 1, 2, 3) or the Inkspot on the north side of the lake (sample location 8). Natural drainage of the area is to Alder Lake via a channelized ditch (sample location 12).

Sampling stations were selected to reflect the water quality at various locations in the ditches and the receiving lakes. Samples were analyzed for total and soluble phosphorus, nitrate, nitrite, ammonium and organic nitrogen. Seven individual beds which differed in soil type and age of crop were selected for determination of nutrient balances. The quantity of water used on each bed during flooding operations was determined by using staff gauges and assuming that 15% of the volume is occupied by vegetative growth.

Results and Discussion:

Nutrients Discharged in Flood Waters

Nutrient losses from five individual beds were measured in the fall of 1971 and from seven beds in the spring and fall of 1972 (Table 1). The major portion of the annual phosphorus loss is associated with the spring release of the winter flood waters. The loss of total and soluble phosphorus in the spring was approximately twice the fall discharge of total-P and three times the soluble-P discharge. This could be due in part to the greater residence time of these waters in the spring. Comparison of the 1971 and 1972 fall floods shows the phosphorus discharge for both years to be in the same range.

Loss of nitrogen forms was significantly higher in the fall of 1971 than that observed in the fall of 1972. The fall of 1972 and the spring of 1972 discharges of nitrogen were similar. An obvious concern is the difference observed between the fall floods. The 1972 harvest was delayed for 4-5 days by a sudden cold wave. During this period water was continuously circulated across four of the beds studied and the release of flood waters was delayed on several others. The unseasonably low temperatures and the increased volume of water associated with each bed could possibly account for lower nitrogen values due to decreased microbial activity and dilution effects.

A somewhat different way of looking at the same data is illustrated in Table 2. It should be noted that the analytical procedure used was a measure of dissolved orthophosphorus, thus the difference between total-P and soluble-P is a measure of particular and/or dissolved organic forms. The proportion of the total-P discharged which is made up of dissolved orthophosphorus was constant for spring and fall 1972 floods. Soluble phosphorus concentrations of both fall discharges were approximately the same although the total-P discharged in 1971 was somewhat higher. Amount of soluble-P present in the discharged water is probably controlled by phosphorus mineralization or by solubilization of nonoccluded forms of phosphorus.

	Fall Harvest Floods		Winter Flood
	1971*	1972**	Spring 1972**
	Kg/ha		
Soluble-P	0.075	0.082	0.21
Total-P	0.27	0.18	0.46
Organic-N	0.92	0.008	0.059
NH ₄ -N	0.09	0.017	0.011
NO ₃ -N	0.05	0.025	0.012
NO ₂ -N	0.01	0.021	0.004
Total-N	1.06	0.071	0.086

*5 Beds

**7 Beds

Table 1. Nutrients Discharged in Flood Waters from Individual Beds.

phorus which are in close association with soil solution phosphorus and can be readily brought into solution because of the low phosphorus retention capacity of the peat soils.

period of late fall 1971 through spring 1974. In general, the concentrations of inorganic nitrogen in most of the ditches studied showed more of a response to the release of flood waters in 1971 and 1972 than

would promote substantial weed and algae growths, (Lueschow, et al., 1970).

Effect of Nutrient Discharges on Quality of Receiving Waters

Since all cranberry flood waters are discharged back to Little Trout Lake, four sampling stations were established to assess the water quality of the lake and Inkspot (Table 3). The effect of the marsh discharge on the Inkspot can be seen from the high average levels of nitrogen and phosphorus. Figures 4, 5 and 6 represent the levels of inorganic and organic nitrogen and soluble phosphorus encountered in the Inkspot (site #8) and Little Trout Lake (site #9) over the course of the study period. The fluctuations of nutrient levels in these waters, as opposed to ditches, appear to be more cyclic in nature and are much more pronounced in the Inkspot. According to the individual bed studies, soluble phosphorus appears to be discharged to a greater extent in the spring, however, peak concentrations in the Inkspot were observed in the fall of 1971 and '72. No explanation for this is available at this time.

Table 4 summarizes the distribution of nutrients in surface and subsurface waters for those lakes which were surveyed in July, 1972. The most significant variation occurred in the Inkspot where con- and phosphorus were much higher in the bottom waters. This could be partially explained in terms of higher rates of organic matter decomposition and lower rates of assimilation, however, since the nitrogen to phosphorus ratio of most organic constituents in fresh water systems is in the order of 10:1, this alone could not account for such high levels of phosphorus. It may be that as the bottom waters become devoid of oxygen during the summer months, phosphorus is being released by the sediments concurrent with the reduction and dissolution of sediment bound iron. As these two components diffuse toward the surface, iron would undergo oxidation with subsequent

	Fall Harvest Flood		Winter Flood	
	1971*	1972**	Spring 1972**	
	% of total-N or total-P			
Soluble-P	28	45	46	
Organic-N	87	11	69	
NH ₄ -N	8	24	13	
NO ₃ -N	5	35	14	
NO ₂ -N	1	30	4	

Table 2. Forms of Nutrients Present in Water Discharged from Individual Beds

Organic forms were the predominant nitrogen forms in the fall 1971 and spring 1972 discharges, however, inorganic nitrogen accounted for 89% of the total-N present in the fall 1972 discharge. Intermediate amounts of inorganic-N were also observed in the spring of 1972. The concentrations of inorganic nitrogen are small compared to the organic-N concentration in fall 1971, however, it does indicate that ammonification and nitrification do occur in these flood waters which precludes the development of extensive anaerobic areas and probably minimizes the phosphorus released due to reduction of iron oxide coatings.

Nutrient Concentrations in Ditch Waters

Sampling stations were established on the main ditches used to carry waters to and from areas of the marsh associated with the individual beds involved in the study (Figure 1). Sample locations 1, 2, and 3 are in the main east-west ditch used to flood about 50 hectares of the marsh. Locations 4 and 5 were used to monitor flood waters from approximately 20 hectares, while locations 6 and 7 represented approximately 30 and 20 hectares, respectively.

Figures 2 and 3 illustrate the observed levels of inorganic nitrogen and soluble phosphorus in east-west ditch (site #3) and Indermuehle ditch (site #6) for the

in 1973 and 1974, however, since individual bed studies were not conducted during the latter period it is not possible to relate this discrepancy to the bed discharges.

The fluctuations of soluble phosphorus are generally more responsive to the release of fall and spring flood waters and for the '71 and '72 seasons, the observed levels were consistent with the individual bed discharges. Sample location 3, at the mouth of the East-West ditch, is unique in that it showed very little variation with flooding patterns. The peak phosphorus concentrations in the ditches are well in excess of the levels which are considered necessary for the extensive growth of aquatic plants and in fact, fairly dense populations of weeds and algae have been observed in the ditch network. This heavy growth would, in part, account for the periodic decline of phosphorus to background levels, however, the effectiveness of removal by assimilation would be limited to the sediments which have fairly high concentrations of iron.

The levels of organic nitrogen observed in all ditches were significant and were also subject to inconsistent variations. The mean concentrations in the East-West (site #3) and Indermuehle (site #6) ditches were found to be 0.44 and 0.50 mg/l, respectively. These levels are considered to be sufficient for maintaining inorganic nitrogen concentrations at a level which

precipitation and recycling of phosphorus back to the surficial sediments. Related to this is the fact that the juncture of Little Trout and the Inkspot is marked by the presence of a shallow sandbar which precludes extensive mixing of these waters and thereby maximizes the opportunity for removal of nutrients prior to discharge into Little Trout Lake.

Comparison of the data in Table 3 indicates that the nutrient concentrations in Little Trout Lake have not been affected to any appreciable extent by the cranberry operations in the Manitowish Waters area. Natural marsh drainage via the ditch to Alder Lake is high in nitrogen and phosphorus (Table 3). This water enters Alder Lake between sample locations 14 and 15. Initially it was felt that the effect of this discharge would be expressed by increased nutrient concentrations at site 15. However, nutrient concentrations are sometimes higher in the Alder east

samples (site 14). Either the ditch does not have a direct effect on the lakes, or a counter-clockwise current is present in Alder Lake which causes the effect of the ditch to be reflected in the upstream sample location. An additional sampling site has been established at the center of Alder Lake in order to provide supplementary data as an aid to the interpretation of conditions in these waters. Only a few samples have been taken thus far and therefore the results are not included in this report.

Nutrient Balances for Individual Beds

Table 5 shows the total nitrogen and phosphorus removed from the individual beds by the 1971 crop. Independent of the age of the bed, the major portion of the nutrient is removed by the crop and other vegetative growth. The greatest amount removed by this means is in the older more established beds — 95% compared to 81% for nitrogen

and 78% compared to 68% for phosphorus. These differences are explained in part by the relative density of vines and weeds which make up the vegetative growth on the beds. The younger beds lost 6 times as much nitrogen and twice as much phosphorus due to the less extensive vine growth and the greater exposure of bare peat to flood waters. This compares to commonly reported cropland losses of about 1 Kg/ha for nitrogen and from 0.1 to 0.4 Kg/ha for phosphorus. The cranberry discharges are in the same range as those reported for nitrogen, while total phosphorus losses from cranberry operations generally exceed the value reported for cropland losses. The amount of nutrient removed in all cases was much less than what was added. The vegetative growth (cranberries plus vines and weeds) removed only 31% and 28% of added nitrogen respectively, in the older and young beds, while only 14% and 12% of the added phosphorus was removed by the crop. This is consistent with the results of previous studies (Fellers and Es-seler, 1955; Keir, 1972), indicating a general trend to over fertilize some beds.

Table 3. Nutrient Concentrations in Receiving Waters

Sample Location Number (Fig. 1)	Soluble-P	Total-P	Organic-N	NH ₄ -N	NO ₃ -N	NO ₂ -N	Nutrient Removed From			
							Older Beds		Young Beds	
							Kg/ha			
Waters Receiving Cranberry Flood Waters							N	P	N	P
Inkspot	8	0.057	0.16	0.55	0.06	0.11				
Little Trout Lake	9	0.003	0.02	0.36	0.05	0.09				
Little Trout Lake	10	0.003	0.02	0.36	0.05	0.09				
*Little Trout Lake	11	0.004	0.02	0.39	0.05	0.07				
Waters Associated with Alder Lake Drainage Ditch										
Alder Ditch	12	0.04	0.10	0.41	0.09	0.06				
Wild Rice	13	0.004	0.02	0.30	0.05	0.07				
Alder East	14	0.005	0.05	0.44	0.08	0.08				
Alder West	15	0.004	0.02	0.28	0.07	0.08				
Manitowish East	16	0.004	0.02	0.31	0.07	0.08				
Manitowish West	17	0.003	0.02	0.34	0.05	0.08				

Means of 11 samples unless otherwise indicated

*mean of 10 samples

**mean of 9 samples

Table 4. Nutrient Distributions in Surface and Subsurface Waters

Depth (Meters)	Sample Location Number (Fig. 1)	Soluble-P	Total-P	Organic-N	NH ₄ -N	NO ₃ -N	Nutrient Removed From			
							Older Beds		Young Beds	
							Kg/ha			
Waters Receiving Cranberry Flood Waters							N	P	N	P
Little Trout Lake	1	0.003	0.01	0.38	0.05	0.10				
Little Trout Lake	15	0.004	0.01	0.07	0.13	0.20				
Little Trout Lake	1	0.003	0.01	0.35	0.06	0.06				
Little Trout Lake	18	0.004	0.01	0.25	0.05	0.20				
Inkspot	1	0.006	0.07	1.06	0.02	0.07				
Inkspot	9	0.92	1.4	1.20	0.90	0.06				
Wild Rice	1	0.003	0.01	0.26	0.04	0.07				
Wild Rice	7	0.003	0.02	0.43	0.16	0.10				
Alder East	1	0.003	0.02	0.28	0.09	0.06				
Alder West	1	0.006	0.02	0.28	0.03	0.06				
Alder West	5	0.003	0.02	0.27	0.03	0.06				
Manitowish East	1	0.003	0.01	0.25	0.07	0.06				
Manitowish East	9	0.003	0.01	0.23	0.15	0.18				
Manitowish West	1	0.003	0.01	0.22	0.09	0.06				
Manitowish West	11	0.003	0.01	0.20	0.14	0.10				

	Nutrient Removed From			
	Older Beds		Young Beds	
	N	P	N	P
Kg/ha				
Cranberries	10	2	4	1
Vines and Weeds	2.2	0.3	7	1.1
Discharged Water	0.7	0.65	2.5	1.0
Total Removed	12.9	2.95	13.5	3.1
Nutrient Added	40	16	39	17

Table 5. Nutrient Balances for Individual Beds

Summary and Conclusions:

This study has shown that losses of nutrients from cranberry operations do occur. The effect of these losses on receiving waters, however, will have to be determined on an individual operation basis. The Manitowish Waters operation does not appear to have had a degradational affect on Little Trout Lake, with the possible exception of the Inkspot, and it seems apparent that at least two factors may be responsible. First, the extensive ditch network provides the means for

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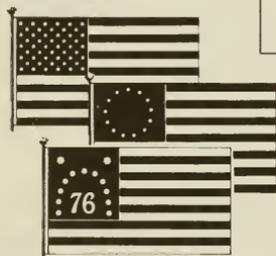
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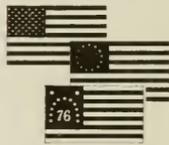
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"The Spirit of '76"



Who would have dreamed that an unknown wagon painter from Ohio could create a scene that would typify the spirit of America more than any other? In 1876, Archibald Willard was commissioned by an enterprising printmaker to paint a patriotic scene for the American Centennial celebration.

Reasoning that the recent Civil War and the mismanagement of the Grant Administration had soured Americans on patriotism, Willard at first sketched out a humorous scene. But the printmaker convinced Willard to scrap it and try a serious theme instead.

"The Spirit of '76" was finished only a few months before the great Centennial Exposition in Philadelphia. Willard's father was the model for the tall, gaunt central figure, a farmer was the fifer, and a Cleveland military school student posed for the drummer boy. The scene was successful as a photographic print, and when the painting was shown at the Centennial Exposition, and subsequently around the country, it came to be treated with the reverence accorded a religious icon. So many hands touched it that the original canvas fell into shreds. Willard spent his last years painting copies of "The Spirit of '76" for an adoring public.

The painting remains today one of the most popular of all. It is not surprising that a company, (E. E. Fairchild), who produces fine art jigsaw puzzles, has included "The Spirit of '76" in a series of Revolutionary scenes being offered as part of the Bicentennial celebration.

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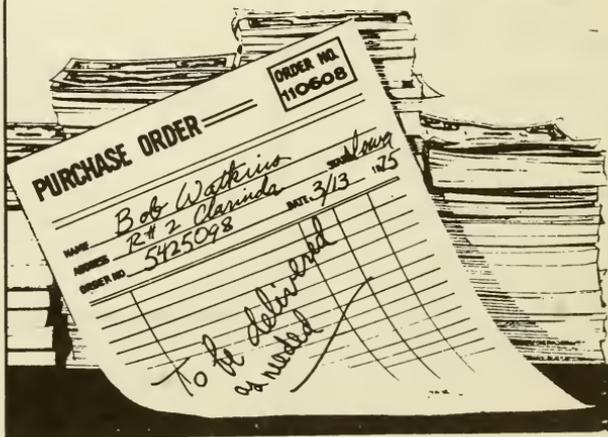
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AGRICULTURE NOTES

Cranberry Growers are not alone; a glutted Michigan apple market may face dumping of excess apples.

Lansing, Mich. (FNS)—Unlike Eve, Michigan consumers aren't finding apples quite so tempting, with the prospect that more than 1 million bushels may be dumped because of a poor market.

According to Tom Butler, manager of the Michigan Processing Apple Growers Association, the industry is in trouble. He emphasized that the possibility of destroying the apples "is not a threat but a statement of fact."

Said Butler, "Because of the low fresh-market prices, slow sales of applesauce, drastically reduced demand for frozen apple slices and a surplus apple-juice situation, there is generally no interest on the part

of processors to pack any substantial amount of apples."

He explained that most of the apples were at the end of their

storage life, having been in refrigeration since harvest. While their use as fresh produce is limited, they are still suitable for processing into juice or applesauce.

As an alternative to dumping the fruit, the growers association is urging the USDA to purchase applesauce for the school lunch program, on both state and federal levels.

To underline the drop in market conditions, Butler said the price of processing apples had fallen from 14¢ a pound last year to 3¢ a pound now. The plunge is even sharper in juice apples, where the price per

100 plummeted from \$5.50-\$6 last year to \$1.75 today.

Michigan, which ranks No. 2 nationally in apple processing and No. 3 in total production, has more than 525 member growers, owning 55,000 acres. Inventories are up 55 per cent over last year.

One of the main factors in the apple predicament is sugar, said Butler. "When the price (of sugar) went over 60¢ a pound, processors who were buying apples in great quantities just stopped. As the price of sugar went up 5¢, the price of a case of applesauce went up 14¢.

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New Jersey, prompted by its Department of Higher Education, has proposed a \$750,000 budget cut for agricultural research and a matching cut for extension. The reason: it's more "important" to use available monies for undergraduate education than to fund

ag research. Yet you can't turn research programs on and off; nor eliminate supportive equipment, supplies, and personnel without jeopardizing agriculture and consequently the state's economy. County boards of agriculture, com-

modity associations, processors, grower groups, ag-related industries, and private citizens are writing legislators requesting a reordering of budget priorities; representatives will also appear at hearings before the State's Joint Appropriations Committee.

AFBF SLAMS UFW 'SCARE TACTIC'

Jack Angell, American Farm Bureau Federation communications director, accused United Farm Workers of creating a national pesticide scare. He alleged use of

fictitious death and injury figures in charging growers with pesticide misuse. Calling this a new approach to labor organization, Angell said, "This is organization by mass

public pressures. The arena is the media. Its weaponry is the word... full of the rhetoric of a new society—however empty of document and truth."

WORLD WEATHER

Weather trouble spots throughout the world diminished somewhat in December and early January. Although it remained wet, most of Europe experienced exceptionally mild weather. Coupled with occasional dry periods, farmers made good progress toward completing harvests and seeding of winter crops. Rains finally spread into Bulgaria and southern Romania, relieving the prolonged drought and greatly improving winter grain prospects.

In contrast, weather has been much colder and drier in much of Siberia and Kazakhstan than is usually expected in these areas.

The Mediterranean Basin remained dry in December at the expense of crop growth and development, except in the extreme east portion. General rains fell over western areas in mid-January.

Northern India and Pakistan picked up much-needed rain in December to improve the outlook for winter crops in both of these countries, but very little rain fell during the first two weeks of January.

The rainy season began in earnest in Brazil, giving a boost to summer crops and some minor problems to the small-grain harvest.

GRAIN. Well-above-normal temperatures in much of Europe delayed crop dormancy and enhanced germination and development of late-seeded small grains. Although

precipitation often exceeded twice the normal, there were periods of dry weather, allowing growers to make progress in completing planting of winter grains. Lack of dormancy in many areas leaves small grains vulnerable to winter injury if extremely cold weather should occur. Cold weather is also needed to improve soil conditions and kill hibernating pests.

The prospects for winter wheat improved considerably in Romania and Bulgaria as early winter precipitation relieved many months of drought. Early January snows brought much-needed moisture and cover to northern U.S. winter wheat.

There were widespread rains over large portions of northern India around the beginning of the new year, although rainfall has been sparse since then. These were considered to be very beneficial to the wheat crop and other rabi (spring harvested) crops which had been planted under dry conditions. Weather conditions during the next 8-10 weeks will be very important.

Stress increased on grains throughout much of the Mediterranean Basin until relieved by rains in mid-January. The western portions were affected the most. Spain, Tunisia, Algeria, and Morocco normally expect and depend on rain at this time of year—and it was very late in coming. Turkey and other extreme eastern Mediterranean countries have fared better.

In the Southern Hemisphere, harvesting of small grains nears completion. Rains interfered somewhat in Brazil and a bit in Argentina, but the moisture was needed for corn, sorghum, and other summer grains. Harvesting in Australia benefited from quite dry weather.

HORTICULTURE. Weather has been excellent for fruit in Argentina, and the second largest apple and pear crop is expected. Hail did considerable damage to apples in the important Nelson area of New Zealand. Citrus fruit prospects in Texas and Nuevo Leon, Mexico, were reduced by freeze on January 13-14. Less hardy vegetables also suffered. Late-December cold caused some damage to citrus, avocados, and vegetables in parts of California.

OTHER CROPS. Sugar beet digging poked along in Europe, with much of the salvaged crop going to livestock feed. In Denmark, beet deliveries continued at a normal level, despite the wettest fall weather of this century.

Rains in Brazil, though tardy, were beneficial to soybeans, cotton, and other summer crops.

Range and pastures in much of the Northern Hemisphere remained open to grazing later than usual this winter, reducing supplementary feed needs. Forage crops improved in Brazil and Argentina from December rains.

**Land Cover Maps and
Statistical Tabulations**

The Department of Forestry and Wildlife Management, University of Massachusetts, has been engaged in mapping vegetative cover and land use in the Commonwealth for the past 20 years and is making the results of this research available, both on maps and comparative statistical tabulation.

The cover type maps herein described coincide with the U.S. Geological Survey Topographic maps for a given area. These cover maps may be ordered by utilizing the name of the U.S.G.E. sheet(s).

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Single copies of maps are provided free. For further information, contact Prof. William P. MacConnell at the above address.

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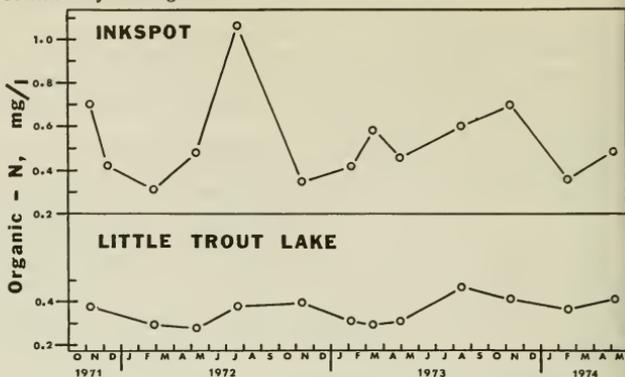


Figure 5. Organic Nitrogen Concentrations in the Inkspot and Little Trout Lake.

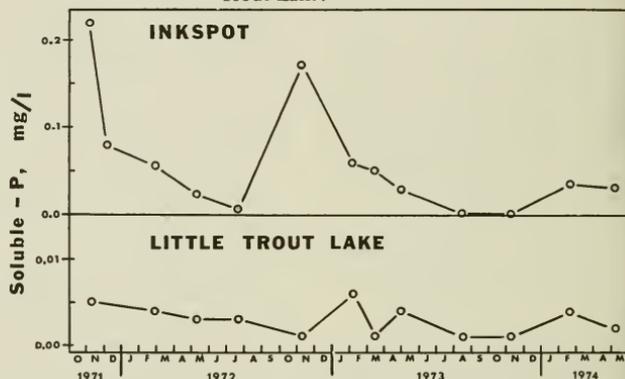


Figure 6. Soluble Phosphorus Concentrations in the Inkspot and Little Trout Lake

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FARMING IS EVERYBODY'S BREAD AND BUTTER

by Andy Benseid

(This is the second in a series of prize-winning essays by a senior vocational school student in the Wisconsin area.)

Farming, better defined as production agriculture, is not an occupation which is assumed by those who do not have the brains or ambition to go into a more "professional" field. Instead, it is an occupation which is the very life and breath of each individual, either directly or indirectly. It requires excellent management, high investments, and hard work, as well as long hours, before the rewards of those agricultural efforts become evident. "Farming" is a big business enterprise, and those who farm in today's world successfully are top notch managers and economists.

Production agriculture, namely the production of food and fiber,

feeds many of the world's population, clothes many others, and supplies jobs for 60% of America's work force.

Many times, the people of our nation look upon agriculture just in the production, or farming aspect. Realization has not yet come of the many other industries and occupations which bring the food to their table or clothes to their back. These other industries take the raw products, farm produce, and either refine it, separate it, or alter it to make it into a more usable form for the consumer.

Take one farm, for example, just to see how many different occupations it directly provides. The farm is a Wisconsin dairy farm producing milk, meat, and cash crops. The farm first of all provides work for the banker and banktellers because of the money he is required to

borrow for the large investment in the event of purchasing the farm.

Secondly, he employs a bulk milk hauler to carry his milk to the creamery, where he provides work for many more individuals. These individuals work in making cheese, butter, dried milk, ice cream, condensed milk and many other milk by-products for manufacturing products.

For those cull cows and veal calves which the farmer sells, he employs a trucker, a livestock marketing commission and the entire line up of slaughter and meat packing occupations.

The necessity for quality machinery and services on the farm engages countless machinery dealers, service technicians and numerous miscellaneous manufacturers. Among these are feed mills, AI services, vacuum and refrigeration specialists, mechanics, veterinarians and medical research laboratories.

Supplies used on the farm engage numerous other people for the production of twine, wire, tires, chemicals and seed. These, plus many more, aid the farmer and provide work for thousands of people before the food actually gets from the farmer to the consumer's table. All mankind needs food. Where would mankind be, were it not for those who produce the very sustenance of himself.

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CRANBERRIES LIVEN LENTEN SEAFOOD

Fish cooked with a gourmet touch is a very special and delightful change from menus burdened with meat and poultry—and for Lenten observers it's always a treat to find new recipes to add spark to those meatless days.

For the waistline-concerned, as well as those who simply enjoy the lightness a satisfying seafare meal provides, there's no doubt that the following recipes will be very welcome.

As an entree "Fish Steaks with Sweet 'N Sour Cranberry Sauce" can be made either with salmon or halibut. It is served with a sauce quickly prepared from a mixture of jellied cranberry sauce, sweet pickles, catsup and lemonade. To round out this course you might add a bowl of tiny boiled potatoes sprinkled with parsley, and a salad of crisp greens. Of course, a dry white wine is always a pleasant addition with fish.

If you plan a full and hearty seafood menu, consider starting with "Boston Berry Bisque" or serve it as a meal in itself on another occasion. This creamy soup combines onions, celery, cranberry juice cocktail, fish fillets, seasonings and milk. It is a subtly delectable mix, and is easily cooked ahead of time if you're planning to feed a crowd.

A wholesome addition to your menu is "Landlubber's Cranberry Bread." It will tastefully enhance the bisque, as well as your salmon or halibut steaks. More people are wisely baking their own bread now, and this is an easy one made with nourishing whole wheat flour, raisins and jellied cranberry sauce.

Whether the barometer forecasts calm or storm, your family will enjoy this meal of hearty seafood.

BOSTON BERRY BISQUE (Serves 6)

1/4 cup butter or margarine
2 large onions, chopped
2 cups sliced celery and leaves
1/2 cup all-purpose flour
2 cups cranberry juice cocktail
1 pound fresh or frozen cod fillets
3 cups milk
Salt and pepper
Chopped parsley

In a large saucepan melt butter and saute onions, celery and leaves for 5 minutes. Stir in flour. Gradually stir in cranberry juice and cod. Stir over low heat until thickened. Cover tightly and simmer gently for 20 minutes, stirring occasionally to keep from sticking. Gradually stir in milk. Whirl half of mixture in a blender until smooth, repeat with other half. Replace blended mixture in large saucepan and season to taste with salt and pepper. Heat until bubbly. Serve garnished with chopped parsley.

FISH STEAKS WITH SWEET 'N SOUR CRANBERRY SAUCE (Serves 6)

6 salmon or halibut steaks (fresh or frozen)
Salt and paprika

1/2 cup butter or margarine
1 can (8 ounces) jellied cranberry sauce
1/3 cup finely chopped sweet mixed pickles
1/3 cup catsup
1 can (6 ounces) frozen concentrated lemonade, thawed and undiluted

Sprinkle steaks with salt and paprika and place on a broiler pan. Melt butter in a saucepan and brush half of the butter over the steaks. Broil steaks 5 minutes on each side or until fish flakes easily when tested with a fork. Add cranberry



sauce to remaining butter in saucepan. Stir in sweet pickles, catsup and lemonade. Bring mixture to a boil and beat sauce until well mixed. Place steaks on heated serving platter. Spoon sauce over steaks. Garnish with lemon wedges and parsley, if desired.

CRANBERRY LANDLUBBERS BREAD

(Makes 1 9x5x3-inch loaf)

2 cups unsifted whole-wheat flour
1 cup unsifted white all-purpose flour
3/4 cup firmly packed brown sugar
1 tablespoon baking powder
1 teaspoon baking soda
1 cup raisins
1-3/4 cups milk
1/4 cup vinegar
1 can (1 pound) jellied cranberry sauce, cut into 1/2-inch cubes
In a large bowl mix flours, sugar,

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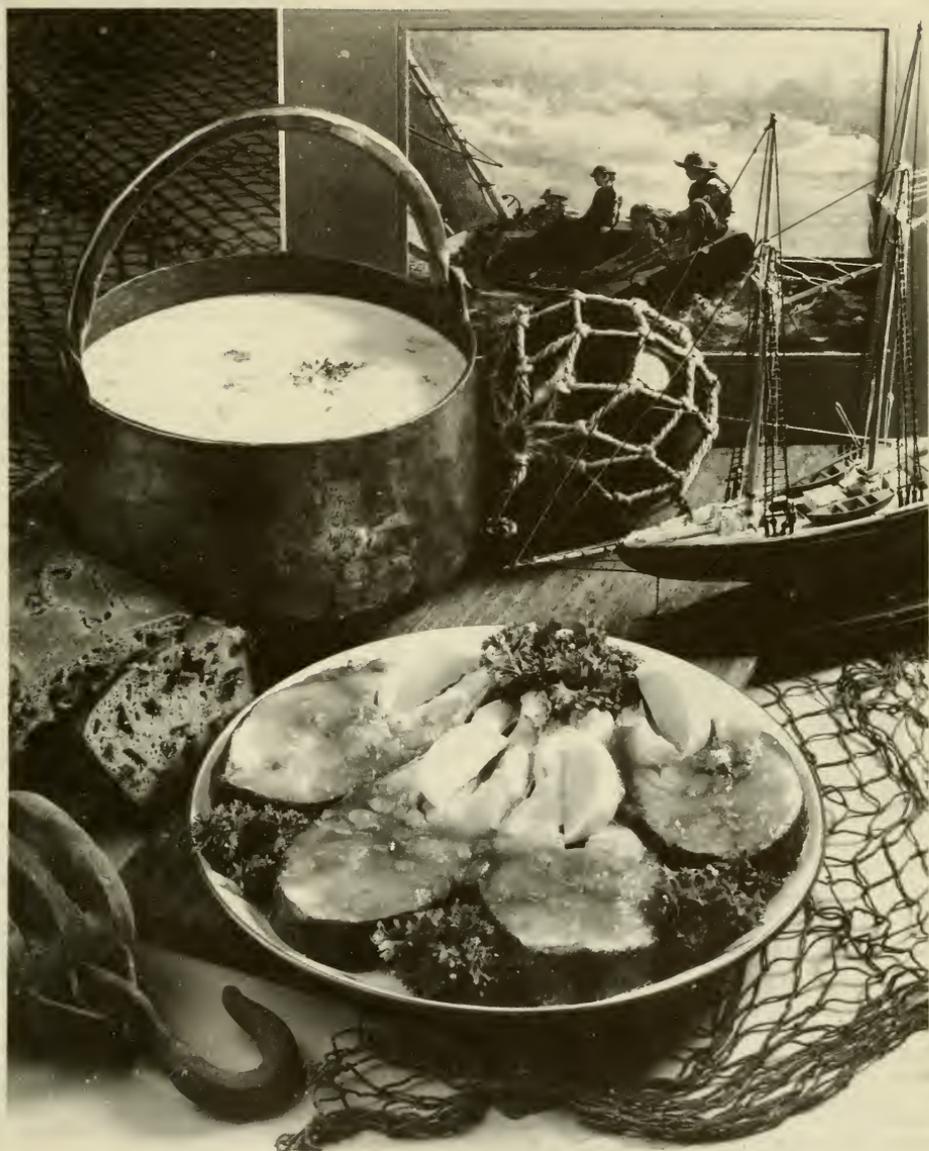
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baking powder, baking soda and raisins. Stir in milk and vinegar. Beat until well mixed. Gently fold in cranberry cubes. Pour batter into

a greased 9x5x3-inch loaf pan. Let stand 20 minutes at room temperature. Bake in a preheated moderate oven (350° F.) for 1 hour or until

bread is firm in the center. Unmold and cool thoroughly on a wire rack before cutting into slices. Serve spread with butter, if desired.

Recipes courtesy of Ocean Spray Cranberries, Inc.



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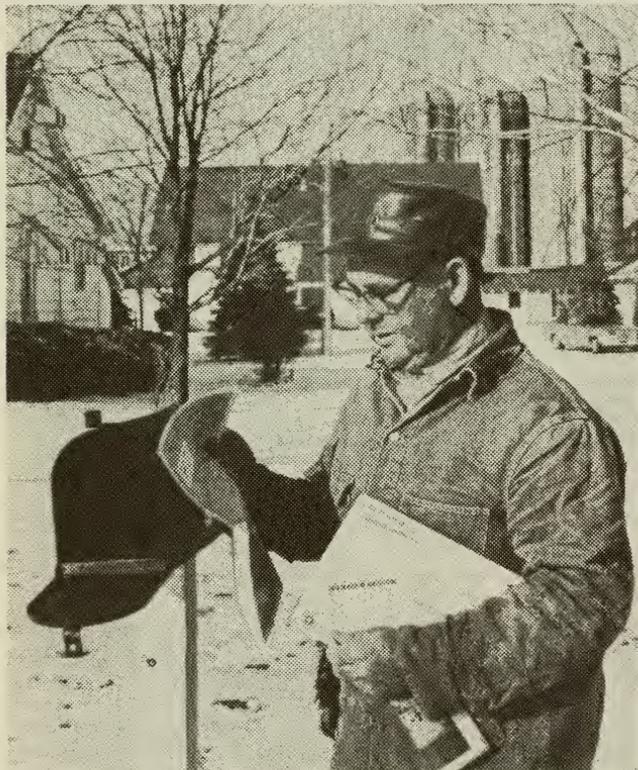
ELEANOR SWAN

Eleanor Swan, 67, died December 29 near her Long Beach home while she went on her regular walk. She was born March 20, 1907 in Oklahoma.

She married F. Don Swan July 14, 1932 in Davis, California. Mrs. Swan taught school in Sweet, Idaho and Roswell, Idaho. She finally finished her teaching career in Homsdale, Idaho.

Both she and her husband came to the peninsula in March 1966 where they owned and operated a cranberry bog on Cranberry Road. Mrs. Swan is a charter member of the Christian Church of Homsdale, Idaho.

Survivors include F. Don Swan in Long Beach; two daughters, Mrs. Joan Eleanor Henry of Beaverton, Ore., and Mrs. Donilyn Jane Thompson of Washington, D.C.; one brother, W. J. McCoy of Boise, Idaho; one sister, Mrs. Faye Sperry Notus, Idaho and four grandchildren.



FARM CENSUS TIME AGAIN—Farmers and ranchers throughout the United States are being asked to report on their agricultural operations during 1974. The 1974 Census of Agriculture is the 20th nationwide farm census since the first one in 1840. Report forms are mailed out in January and the Bureau of the Census would like to have them filled out and mailed back promptly. All information is confidential by law. The results, published only in statistical form, provide the yardstick by which American agricultural advancement is measured every five years. No information can be released which might reveal the operation of an individual farmer or rancher.

NEW JERSEY

Continued from Page 1

establishes a new record in both volume and yield per acre in the more than 125 year history of cranberry growing in the state. The previous high was in 1910 when 241,000 barrels were produced on 8,453 acres. The 1974 record crop was from an estimated 3,100 acres.

Phil Marucci of the Cranberry-Blueberry Lab reported on insect control in blueberries to the 75 blueberry growers attending the 30th annual blueberry open house which was held in the Extension Service auditorium. Senior County Agent Dan Kensler presided as chairman of the meeting.

Dr. Paul Eck of the New Jersey Experimental Station reported to the blueberry growers on the use of Alar and other fruit regulations to hasten the ripening of blueberries and to increase the size. Alar develops a much firmer blueberry, but causes a decrease in size.

Dr. Goyko Jelenkovic, Cook College, reported on the development of a new seedless variety of blueberry. This variety produces well and has a good flavor. This could be a real boon to blueberry lovers who have plates.

Dr. John Springer of the N.J. Experiment Station, reported to the blueberry growers that the new fungicide, Difolitan, is very effective in control of anthracnose disease in blueberries. This is the first breakthrough on the control of this serious disease. None of the other fungicides in use give satisfactory control for this disease.

Marucci reports that cyanimid is no longer available for the control of mummy berry disease. However, experimental work conducted last year shows that urea is just as effective in control of mummy berry. An application of urea applied when the new growth starts in the spring will kill the mummy berry cups as they form and thus prevent infection.

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THE NATIONAL CRANBERRY MAGAZINE

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REGIONAL NEWS NOTES

NOVA SCOTIA

The 18th annual conference of the Canadian Institute of Food Science and Technology will be held at the Hotel Nova Scotian, Halifax, Nova Scotia, June 2-4, 1975. Conference theme is "Today's Food Challenge." Ralph Davis, Registration Chairman, P. O. Box 550, Halifax, Nova Scotia.

NEW JERSEY

WEATHER REPORT

February weather was slightly warmer and drier than normal. The average temperature was 35.3 degrees F which is 1.50 degrees above normal. Precipitation totaled 2.63 inches, which is 0.27 inches below normal.

Extremes in temperature were 32 degrees F on the 23rd and 11 degrees F on the 10th. There were eight days in which the maximum

temperature reached above 50 degrees and only two days during which the temperatures remained below freezing all day.

The floodwater on cranberry bogs has remained open for much of the time this winter. The thickest layer of ice at the Oswego bogs all winter was 2-1/2 inches. The dissolved oxygen content of the water has remained above 4 c.c. per liter all winter with many of the readings being close to the saturation point.

The following blueberry growers were elected officers of the Tru-Blu Co-op for 1975: president, William S. Haines, Chatsworth; vice president, Tom Darlington, New Lisbon; secretary-treasurer, Harry Bush, New Lisbon; manager, Michael Scepansky, New Lisbon. This cooperative again enjoyed a very successful season doing a business of \$2,669,412. This represents a 10 percent increase in the gross business of this organization.

Burlington County Soil Conservation District is again making available packets of evergreen seedlings. This year, the packet of 25 will contain five each of the following species: Colorado blue spruce, white pine, Scotch pine, Norway Spruce and Douglas fir. The price is the same as last year, \$4 for the packets of 25. Bundles of 100 of any one species will also be sold for \$13 per bundle. These seedlings will range in size from 4 inches to 12 inches and will be packed in damp moss. Planting instructions will be included. For further information, contact the Burlington County Soil Conservation Office, Rt. 38, Cramer Building, Mt. Holly, 267-7410.

From now until next April is the time for home owners and persons near wooded areas to be on the lookout for the buff-colored egg clusters of the gypsy moth. They may be found on the underside of tree branches, lawn furniture, old buildings and old boards. Having the egg masses destroyed means getting rid of 200-800 leaf-stripping caterpillars. If you find them, paint with creosote or scrape off into a can of kerosene.

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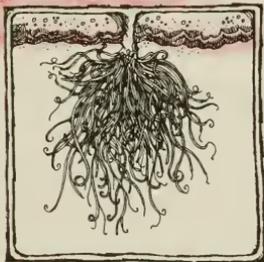
The Coastal Washington Research & Extension Unit Advisory Board held the annual meeting Feb. 14, at the Boon Docks Cafe in South Bend. Growers from each area in Washington met with faculty and Extension area representatives to review the program carried on at the Coastal Unit. No host lunch followed the meeting.

Dr. C. C. Doughty, Associate Horticulturist from Puyallup Research Center, talked with the growers on the fertility aspects of cranberry bogs. Long Beach cranberry growers met on the 14th of February and Grayland-North

Continued on page 20



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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Robert Devlin attended the Annual Meeting of the Weed Science Society of America in Washington, D. C., from February 4 to 7. Bob presented a paper on the use of Evital as an aquatic herbicide.

Drs. Robert Yaklich, Stanislaw Karczmarczyk and Robert Devlin have had two papers published recently. One is in *Weed Research*, Vol. 14, August 1974 and is titled, "The Uptake and Translocation of 14C-SAN-6706 and 14C-SAN-9789 in *Vaccinium macrocarpon* cv. Early Black." This describes the uptake and movement of Evital and a related compound in cranberry plants using radioactive material.

The other was published in *Weed Science*, Vol. 22, November 1974 and is titled, "Metabolism of 14C-SAN-6706 and 14C-Norflurazon in Cranberry Plants." This describes further experiments with Evital and related compound using cranberry as a test plant and showing how the herbicides are broken down.

Charts

The 1975 Insect and Disease and Weed Control Charts have been printed and mailed. Growers are reminded to carefully read all notes

and cautions on the charts. These are important every year but take on even greater significance with the increasing emphasis on clean environment. There is also a two-page enclosure listing pesticides approved for use in Massachusetts. Anyone not receiving charts should contact the Cranberry Station in East Wareham.

Frost Warning Service

The Cape Cod Cranberry Growers Association is again sponsoring the telephone frost warning service. Applications were mailed to all growers in early March. If a grower has not received an application, he should notify Mr. Irving E. Demoranville, treasurer of the association, Cranberry Experiment Station, East Wareham, MA 02538. There is a spot on the application for a donation to the telephone answering service which is also sponsored by the association and is in operation during the frost season at the Cranberry Station. This is a very valuable part of the frost warning for various reasons. There is a message on the recorder every day during the frost season, whether a frost warning is sent or not. We wish to remind the growers using the answering service that the recorded message will not be available before 1:20 in the afternoon or 8:20 in the evening. The frost pad for writing down the message has proved very popular and will be mailed to growers subscribing to the service. All applications and payments should be returned by March 25 in order that the necessary arrangements can be completed prior to the frost season. Applications returned after this date will result in the subscriber's name being placed at the bottom of the telephone list. There were

approximately 194 subscribers last season. Let's hope there will be an increase this season.

Weather

February was 1.2 degrees a day above normal. Considering the winter months as December, January and February, this completes our warmest winter since 1952-53. All three months were above normal and averaged 3 degrees a day above normal as a unit. The 1952-53 winter was almost 1 degree a day warmer than the past winter. Maximum temperature was 52 degrees on the 25th and minimum 1 degree on the 10th. Warmer than average periods occurred on the 19th, 20th, 22nd, 23rd and 25th-27th. Cool periods were the 1st, 2nd, 4th and 9th-14th. It is obvious that the first half of the month was cold and the last half warm.

Precipitation totalled 4.00 inches, slightly less than 1/2 inch above normal. There were only nine days with measurable precipitation, but 2.15 came in one storm on the 24th-25th. We are nearly 2 1/2 inches above normal for the first two months and almost 2 inches ahead of 1974 for the period. Snowfall was 17.3 inches occurring on the six days, with 7.0 inches on the 12th. This is more than double our average for February.

Mailing Addresses

We are having some difficulty with our mailing list. The post office is not forwarding mail as in previous times; therefore, those who are not receiving notices of meetings, frost forms, charts, etc., should send their correct addresses to me. Even a small change, such as a different rural route number is causing trouble.

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OCEAN SPRAY OFFICIALS REPORT TO CRANBERRY GROWERS IN LONG BEACH, WASHINGTON

Hope that the cranberry growers will receive the same return from their berries this year as last was expressed by Hal Thorkilsen, president of Ocean Spray Cranberries, Inc., on his annual visit to the Peninsula, Sunday, March 2.

However, the large national crop and the low yield on the West Coast will mean a drop in income for local growers.

Accompanying Thorkilsen to the west coast was Endre Endresen, senior vice president of operations; Gilbert Beaton, vice president of grower relations; and John Ropes, new administrator of grower re-

lations. Their annual report was made at a dinner meeting at the Ark, Sunday noon, with 50 growers and their wives in attendance.

The appointment of Joe Schneider of Long Beach to replace Wilson Blair as Long Beach plant manager was announced, and Tom Wagner, new West Coast area manager was introduced. Blair retired March 1st after eight years as

local manager. Wagner came to Markham from Wisconsin where he was manager of Ocean Spray's largest plant.

Ropes comes to Ocean Spray from a chemical company and will

conduct a random testing program for residues from spraying. Grower were informed that he will be back to make filed tests.

Thorkilsen said that Ocean Spray has done extremely well compared with others in the food industry in meeting the tough market situation.

Beaton pointed out that some price raises have been made to cover expenses, but the increases will mean no more income for the growers. He commended the work of the marketing committee and urged support for the program.

The Tribune, March 5, 1975

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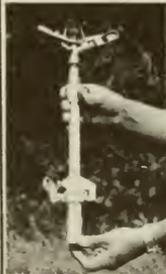
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CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

— Our 35th Year of Publication —

I. S. Cobb . . . publisher

J. B. Presler . . . editor



Issue of March 1975 / Volume 39 — No. 11



Readers of *Cranberries* magazine have become familiar with what we try to maintain as a regular feature, that is, grower profiles. When Clarence J. Hall so handily ran this magazine years ago, he was far more successful in obtaining information for these profiles from all the corners of the USA and Canada than we have been.

Cranberries is a small magazine and operates on a shoestring budget, particularly lately as with all small businesses. Though it would be a fine thing to hop out to the west coast and become acquainted with all the growers in those parts, we are rather firmly anchored in our small corner of Massachusetts, and we must rely on grower response to furnish the magazine with the sort of material which will make it a vehicle of continuing interest to its audience.

Therefore, sometime within the next several months, all of our subscribers will receive a profile questionnaire in the mail. We remind you of our previously stated intention; that *Cranberries* become increasingly the growers magazine, for the purpose of developing communication between growers in different part of the country. One way that this end can be achieved, under present circumstances, is for as many growers as are interested in the vitality of *Cranberries* to actively and creatively respond to this questionnaire. You may have a story with a different twist, something that won't fit into the pattern of the grower profile outlined in the questionnaire. Write it down. We are eager to have original stories.

While you're at it, include suggestions for our magazine and complaints! We continue to be an informal and flexible magazine, in existence solely for your pleasure and benefit.



Office: R-55 Summer Street, Kingston, Massachusetts 02364, Post Office Box J. Telephone (617) 585-6561. All correspondence and advertising should be sent to Box J, Kingston.

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Food For The Spirit



by Robert L. Clingan

Some people think it is possible to have a satisfying spiritual life without any reference to morality, the principles of ethics, or a sense of right and wrong. They fail to recognize that a person who would be spiritual must make an effort to do what is morally right.

This marriage of morality and spirituality is an important part of our Judeo-Christian heritage. It probably first came into sharp focus when Moses brought the Ten Commandments down from Mount Sinai, after his encounter there with the living God.

The first three commandments relate directly to observance of the spiritual rules. They tell us to keep no other gods before the one true God, to worship no graven images, and to remember the Sabbath and keep it holy.

Other Seven

The other seven commandments, dealing with relationships among people, have definite ethical or moral dimensions: murder, theft, deceit, adultery, false witness against a neighbor, honoring one's father and mother, and coveting a neighbor's possessions.

As Israel moved into a period in which its life was inspired, rebuked and shaped by prophetic writing and preaching, there again the union of spirituality and morality was stressed. Amos cried out against false measuring containers, and false weights, and the selling of the poor for the price of a pair of shoes.

"Let justice roll down," he said, "like mighty waters." And this was what the Lord required.

Micah said, "What does the Lord require? He has told you, O Man. Do justly, love mercy, and walk humbly with your God."

The whole prophetic movement declared the fierce judgments of God unless spiritual concerns were combined with moral insights and an obedience to the highest of ethical requirements.

This is borne out in the New Testament in John's account of Jesus' encounter with the woman of Samaria at the well of Jacob. Jesus asked the woman for a drink. He then told her that had she known the gift of God, and who was asking for the drink, she would have asked Him for the living water that would well up to eternal life.

The woman of Samaria said, "Give me this water." She then added some phrases which revealed that she did not fully comprehend the spiritual nature of what Jesus had described as "living water." Jesus answered by saying, "Call your husband." She said, "I have no husband." Then Jesus said,

"Truly have you spoken. You have had five husbands, and the man you now live with is not your husband."

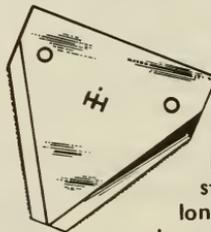
Did Jesus say this to demonstrate His psychic powers? I do not think so. I believe He was telling her that she must face up to the moral inadequacies of her own life before she could reach out to receive that living water of which He spoke. He was not saying that she was beyond attaining it, for after all, He was the incarnation of divine forgiveness. But to receive the gift of eternal life, she had to make a beginning toward becoming the right kind of person. Spirituality without morality is counterfeit.

As human beings, we need both spirituality and morality. Our lives will never become fulfilled in any adequate sense until we reach for the deeply spiritual, and at the same time, ask God to help us to become better persons.

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Peter Stearns lifts the last plank out of the flume to release the winter flood.

Growers Prepare for Spring

Contrary to popular belief, there is not an annual mass migration of Massachusetts cranberry growers to Florida beaches. Most growers spend brisk, winter days cutting brush, adjusting flumes, anxiously keeping track of snow levels on the bogs, and repairing worn machinery

in preparation for another arduous spring.

William B. Stearns, Jr., of Plymouth, Mass. manages to keep his two sons, William B., 25, and Peter, 23, plus three full-time employees, working on a full-time schedule through the winter season.

Will and Peter are second generation cranberry growers. Their father began buying cranberry bogs and learning the cranberry business after World War II and had been employed by cranberry grower George Briggs, also of Plymouth. Bill subsequently attended the G.I.

We have plenty of P E lateral and P V C main pipe with all the fittings for buried sprinkler systems and repairs and improvements to installed systems. We are taking aluminum main line pipe in trade for buried P V C. If vandalism is a problem on mains above ground, perhaps you should consider trading for buried P V C. We are also installing new systems with our Mole plow using Rain Bird sprinklers and Hale pumps.

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cranberry school at the Mass. Experimental Station and learned the ins and outs of growing cranberries under the tutelage of the staff members there.

When Bill was interviewed for *Cranberries* magazine by Clarence J. Hall in 1961 (see *Cranberries* Vol. 26 No. 4) he owned less than 60 acres. He presently owns 140 acres, 80 of which were purchased within the last three years from George Briggs, his former employer. These new holdings are a large part of the reason that six men have spent a busy winter.

The Stearns sons, like most cranberry children, developed an appreciation for the unique flavor of cranberries at an early age. At the same time, they were undoubt-



meter clears brush piles away from bog banks.

Continued on page 10

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SPRING PREPARATION

Continued from page 9

edly ingesting other aspects of the cranberry on a less conscious level, such as the unusual methods of cultivation associated with that fruit. Despite a life-long association with bogs, ditches, sand banks, and strange machinery, both men profess to being amazed at the amount of knowledge they still lack.

Both Peter and Will attended the series of Cranberry Suminars that were offered at the Mass. Experimental Station this past winter. It was a valuable schooling for them, comparable (on a smaller scale) to Bill's schooling in the G.I. program offered at the same station roughly twenty years ago.

Will studied economics at the University of Maine in Orono, Maine, where he earned a bachelor's degree. Given the concerns of a modern farmer, this field of study was an apt choice for a future cranberry grower. Peter earned a bachelor's degree in Sociology from the University of Colorado at Boulder. He subsequently became interested in agriculture and all its phases, from the most humble home gardens to the large scale business operations that agriculture has become in this country.

Peter and Will are getting a thorough grounding in increasing bog productivity by working on the 80 acres out at Indian Brook Pond in Manomet. Brush must be cut away from the banks surrounding the bogs in order to increase the air circulation around the bogs. The circulating air keeps bogs warmer

Continued on page 16



Will replaces screening on suction cages.



l. to r.: Will and Ralph Oehme load bog buggy onto trailer for transport to another bog site.

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AMERICAN CRANBERRY GROWER'S ANNUAL WINTER MEETING



The 106th annual winter meeting of the American Cranberry Growers Association was held at Mount Holly, New Jersey on February 13. President Caleb Caillever presided over the all-day meeting. The morning session was given over to reports by scientists from Rutgers University. After a buffet luncheon, a question and answer period on cranberry culture methods was followed by a brief business session and election of new officers.

Myron Flint of the New Jersey Crop Reporting Service gave the crop estimate for New Jersey and the United States. The nation's crop was 2,240,000 barrels of which New Jersey contributed 250,000 barrels. This was a new record for New Jersey despite an estimated loss of about 10,000 barrels in early autumn frosts.

Walter Z. Fort, New Jersey Field Representative for the Cranberry Marketing Order, gave a short chronicle of the production of cranberries in New Jersey. The production of 250,000 barrels in 1974 was the greatest volume ever harvested in the more than 130-year history of cranberry growing in the state and was produced on only

3,200 acres. The previous record was in 1910 when 241,000 barrels were grown on 8,453 acres. The state has produced in excess of 200,000 barrels in only eight years, but has had this volume of berries in three of the past four years. While the production has been skyrocketing the acreage and number of growers in the state has rapidly dwindled. In 1931, 305 growers produced 145,388 barrels on 10,733 acres which required 5,864 extra laborers at harvest time. In 1945 the acreage was down to 7,600 and 257 growers who produced only 49,000 barrels in a year of bad frosts. By 1955 the acreage was down to 3,600 and the production only 90,000 barrels. At present there are only 52 growers with 3,188 acres producing and 466 newly planted non-bearing acres. The yield per acre of 78 barrels is

almost four times as high as the previous record year of 1910.

Dr. Paul Eck presented a paper entitled "Vegetative Growth Control in Cranberries and It's Effect on Fruit Yields." Comparing 15, 30 and 45 pounds of nitrogen per acre in the form of a urea spray the production at the two lower rates was found to be superior to the high rate. To determine the effect of pruning, vines were hand-raked, machine-raked, treated with the growth retardant Alar and left unpruned. Over a five-year period, the unpruned vines have given the best yield while the machine-raked vines produced the smallest average crop. Paradoxically, Alar has stimulated rather than retarded runner growth and it gave the most runner growth of all of the various treatments. This was not at the expense of flowering as the Alar treatment has produced the largest number of fruiting uprights. The effect of water table depth was also studied with three controlled levels, 12 to 15 inches, 15 to 18 and 18 to 21 inches from the surface. Yields over a five-year period have averaged 153 barrels per acre at the high water table, 135 barrels at the medium level and 123 barrels at the lowest depth. There was no orderly relationship of the effect of water table on runner growth. The high water table produced the most runner growth but more runners were produced by the low than the medium water table.

Dr. William Welker, Research Horticulturist of the U.S.D.A. at Rutgers, reported on "Weed Control in New Plantings of Cranberries." A preliminary screening of several herbicides showed that Eptam and Terbacil gave the most promising results in eliminating

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Continued on Page 13

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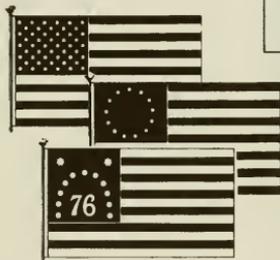
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The Eagle or the Turkey?

Benjamin Franklin seriously argued that the symbol of the fledgling United States of America should be the turkey, rather than the eagle. Franklin was quite down on the eagle as can be seen from these remarks he made in a letter to a friend:

"He is a bird of bad moral character. He does not get his living honestly. You may have seen him perched on some dead tree near the river, where, too lazy to fish for himself, he watches the labor of the fish hawk and, when that diligent bird has at length taken a fish and is bearing it to his nest for the support of his mate and young ones, the bald eagle pursues and takes it from him."

"The turkey," said Franklin, "is, in comparison, a much more respectable bird and withal a true original native of America. He is

Bicentennial Americana



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(though a little vain and silly, it is true, but not the worse emblem for that) the bird of courage and would not hesitate to attack a grenadier of the British guards who should presume to invade his farmyard with a red coat on."

On this particular subject, Franklin's advice was ignored; instead Congress adopted the eagle and the Great Seal of the United

States as our national symbol on June 20, 1782. Had the sage of Philadelphia prevailed, the symbol of the U.S. Bicentennial Society would probably be two turkeys instead of two eagles. Two gobbles for the first 200 years?

The legend of the eagle persists (and probably always will) as a powerful, beautiful, and majestic creature. There is that inspiring line from Jeremiah in the Old Testament: "They that wait upon the Lord shall renew their strength; they shall mount up with wings as eagles; they shall run, and not be weary; and they shall walk and not faint."

And in Samuel, we read, "they were swifter than eagles, they were stronger than lions."

Appropriately, two majestic eagles—one looking proudly to the past, the other confidently to the future—form the symbol for the celebration of the nation's 200th anniversary.

ACGA MEETING

Continued from Page 11

weeds from soil preliminary to planting cranberry vines. Concentrating on these two materials, excellent results were obtained in both the elimination of weeds and rapid establishment of the vines. One and two pounds of Terbacil per acre and four and eight pounds of Eptam were effective in fall and spring applications but the spring applications gave the best results. A combination of the two herbicides tilled in the soil was followed by planting ten days after treatment. Results were very impressive. Dr. Welker's colored slides showed in untreated blocks a solid wall of grasses, sedges and rushes and an exceptionally heavy growth of red-root and meadow beauty which caused very poor growth of vines. The treated areas were weed-free and vines, without benefit of fertilization, rapidly covered the area. In the second fall after the planting production was estimated at 54 barrels per acre and the potential in the third year of growth is for well over 100 barrels. The tests were

limited to the Early Black variety and the two herbicides used are not yet labelled for use on cranberries.

Phil Marucci, of the Cranberry and Blueberry Laboratory, spoke on "Cranberry Insect Control and Pollination." In the biological control bog at Oswego where insecticides have never been used, natural enemies have reduced insect populations. The amount of berries destroyed by cranberry and sparganothis fruitworms plunged from 30% in 1966 to 5.2% in 1969 and 1.5% in 1974. Uprights infested by tipworm declined from 44% in 1966 to 10.6% in 1974. For the fourth consecutive year inducing low levels of oxygen deficiency in large boxes placed on the bog during the winter has resulted in high insect mortality while having no ill effects on the crop. In the winter of 1973-74, oxygen content was below 1 c.c. for 50 days in one box and for 40 days in another and the vines still produced an excellent crop, equivalent to that of the checks where dissolved oxygen content remained high all winter. Data was presented to show that Guth-

ion is ineffective in controlling tipworm larvae already established in uprights while both parathion and diazinon gave excellent results. In "bee saturation" tests in which bees were concentrated at an estimated 300 hives per acre the production of cranberries was only the equal of acres where the bee population was only 1/2 hive per acre.

A lively question and answer period was led by Fred Mahn. Abbott and Stephen Lee, Jr. in answer to questions showed slides and a short movie to demonstrate their new aquatic sander and pruning machines. The sander had a seven foot wide hopper mounted on pontoons propelled by a drive wheel and cable. Excellent results have followed the application of two inches of sand in the Lee Brothers trials. The production in a sanded area was better than in a check plot and although they are not attributing this to the sanding, it does show that the traditional

Continued on Page 16

AGRICULTURE

NOTES

EPA STARTS SMALL BUSINESS LOAN PROGRAM FOR WATER POLLUTION CONTROL

The Environmental Protection Agency has initiated a loan program for small business to help them raise capital needed to meet water pollution control requirements.

Set up coordination with the Small Business Administration, the program will provide each qualifying company with up to \$500,000 at 6 and 1/2 percent interest, with more funds available if substantial hardship can be shown by the applicant. Loans may extend for a term of up to thirty years.

The loan program was instituted by EPA as part of its efforts to

reduce water pollution under the 1972 Water Pollution Control Act. The Act requires many types of

businesses, including small firms, to take steps to clean up their discharges of pollutants into waterways.

Small businesses (as defined by SBA size standards) may apply for loans if complete financing from

commercial sources is not available. Affected businesses include manufacturing plants, agriculture, mining, forestry and fishery operations,

and other service, wholesale, retail and commercial establishments.

A small business whose application is approved by EPA may use the loan to alter or add to its equipment, facilities or methods of operation in order to meet pollution control requirements. The equipment itself may be used as collateral for the loan.

Any small business in New England wishing to apply should contact: Edward Conley, Environmental Protection Agency, John F. Kennedy Federal Building, Boston, Massachusetts; (617) 223-5061.

European Council Sets 1975-76 EC Farm Prices

European Community farm prices for the 1975-76 marketing year were raised by an average of 10.2 per cent by the Council of Ministers on February 13.

The Council also took the first step toward demobilizing the EC monetary compensatory amounts (MCA) system, in order to gradually align farm prices closer to the real currency situation in each member state. The MCA are, essentially, EC-funded variable levies applied by member states to protect farm prices against currency fluctuations.

The Council raised the guide, target, or basic prices for sugar by 15 per cent; cattle, 8.5 per cent; milk, 6 per cent; fruits and vegetables, 11 per cent; corn, 10 per cent; common wheat, 9 per cent.

Butz Outlines Position on Labor Legislation

The Secretary told National Council of Ag Employers the only law with a chance of becoming federal reality is a "substantial modification of the farm labor exemption under the National Labor Relations Act." Personally, Butz favors free representational elections, bargaining for contracts, protection from "certain unfair practices." But, he qualifies, the unique characteristics of agricultural production must be acknowledged. Sample acknowledgement: protection for growers from crippling harvesttime strikes.

Canada Will Not Bar U.S. Wine, Cheese

Canada has postponed indefinitely its proposed regulation on appellations of origin that would have prohibited imports of a long list of U.S. wines and four types of cheese.

Under the proposal—published in July 1974—importation of specified wines, spirits, and other items having geographic or semigeographic names would have been prohibited unless the items were actually produced in the geographic locality indicated by the names.

Items such as California Burgundy, New York State Cham-

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pagne, and Wisconsin Neufchatel would have been barred, even though their labels (as required by U.S. regulations) leave no reasonable doubt as to origin.

EC "Nine" will Honor US Bicentennial

The nine EC countries are planning a cultural invasion of the United States in celebration of next year's Bicentennial.

Tours planned include the Scala opera company from Milan, the Paris Opera, prominent ballet companies from Denmark and Belgium, the Berlin Philharmonic, and the Concertgebouw from Amsterdam. France and Denmark plan *son et lumiere* exhibitions.

Holland will send three traveling exhibitions—Dutch life in the Eighteenth Century, science in the Netherlands in the same period, and the John Adams fund-raising mission to Holland. Belgium will exhibit Flemish paintings. Ireland will produce a film on Irish emigration to America.

Permanent gifts will include a planetarium from Germany and a new bell for Philadelphia from Britain—from the same foundry which made the Liberty Bell.

Price Controls in 1975?

It's a strong possibility, according to Herrell De Graff, Cornell ag-economist. Every farmer organization should begin now to prepare

to fight price controls, DeGraff warned, stating that Senate leader Mansfield and Speaker of the House have already come out publicly for controls to ease inflation.

Justice Dept. Studying Marketing Orders

Eager young lawyers at the Justice Department are coming to

the conclusion that marketing orders such as are used by many vegetable growers are anti-competi-

tive and may increase cost of food to the consumer. They are considering action to change the law that makes these orders possible.

The Word from the West

West Coast grower-shippers are looking to *their* west to expand market horizons. The major stumbling block between them and Oriental markets is transportation. In a late January workshop, these states and representatives of FAS and the U.S. Department of Transportation met in Sacramento, Calif., to discuss shipment difficulties.

Harry Krade, assistant director of California Department of Food and Agriculture, described the activity for AVG.

"What the federal government did was ask for the industry's recommendations on problem areas. The government is, in effect, seeking guidance on which areas to work on...Insufficient support facilities is one of the major areas..."

"Air transportation is too expensive, so surface loads will have to be used. These were subject to the greatest exploration... Foreign exporters can get any number of different subsidies which will encourage movement of their goods... We don't have anything comparable."

"We are now producing more than we need for domestic consumption, and prices are softer... This will encourage export, because our prices will be even more competitive overseas. Our production costs compared to, for example Japan, will make us a favorable supplier in the Japanese market, because even though we have to pay high transportation, our energy inputs are less. We produce more efficiently and at lower cost."

"There has been some wait and see attitude on the part of growers... until they can see some insurance of profit, or no alternative at home for their products."

"Market development overseas is just as important as market development domestically. As a matter of fact, it may be more important, because many of the products we're interested in exporting are new to the country to which we're sending..."

"Developing a taste for off-season fruits and vegetables is part of the total marketing need. We can supply, for example to Japan, off-season fruits and vegetables at prices which compete very, very favorably with their off-season prices. Perhaps even with their mid-season prices."

"You've got to develop an awareness in the Japanese mind that they can get these commodities year-round, as we're accustomed to having them here."

"I think as we develop more markets for our vegetable crops... we can stay in the ballgame and furnish a fairly substantial share of the world market."

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ACGA MEETING

Continued from Page 13

losses of crop the first year after sanding can be avoided by this method.

The Lee Brothers pruner is a converted side delivery hay rake with knives replacing the teeth. The machine is extremely efficient on level bogs. In a time trial five acres were pruned in 40 minutes. No evidence of mechanical damage has been observed.

In questions concerning rot control Dr. Allan Stretch pointed out that maneb and difolitan have been consistently better than ferbam. Tom Darlington analyzed the costs in rot control and found that two treatments of difolitan were cheaper and gave better rot control than three sprays of ferbam.

Questions concerning control of weeds brought out the fact that none of the labeled cranberry herbicides are now giving satisfactory control of *Panicum virgatum* grass or redroot.

Jack Matthenius, Bee Culture Supervisor, N. J. Department of Agriculture, responding to questions stated that most honey bee hives in the state had survived the winter well and were in strong condition. He expected the rental prices would be about the same as last year.

The election of officers resulted in the following slate: President, Fred Miller, Jr.; Vice President, George Kudra; Secretary, Philip E. Marucci and Treasurer, Paul Eck.

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SPRING PREPARATION

Continued from page 10



Peter cuts brush along the edge of a bog.

on frost nights and cooler in the summertime. In addition, seeds and other debris are less likely to find their way onto the bog surface if the brushline is pushed back.

Despite the attributes of these new holdings, such as the reservoir, the three acres of cultivated blueberry bushes, and the physical beauty of the isolated property, there is much to be done before the bogs will be in a shape satisfactory to the Stearns.

"It will take three years to get all the brush and everything down," said Peter. "Or into a shape where you can just maintain it from year to year," added Will, "mechanization; that's what we're looking for." They would like to get the bogs to the point where they could be maintained almost entirely by machines thus keeping labor requirements to a minimum.

Ellis Wood does a good job handling the big machinery and Melvin Sears, a high school classmate of Will's, is a jack of all trades, handy with motors and engines particularly, but able to do all kinds of light repair work on machinery around the bogs. Ralph Oehme, who has been working for Bill on a regular basis for seven years, having started part-time while he was still in high school, has become familiar with the sprinkler systems and

knows each individual bog well.

Besides being gifted with complimentary work skills, all the men enjoy the honest, hard, outdoor work of cranberry growing. Will and Peter look forward, with their father, to developing the upland around the various bogs. In particular, they are interested in getting the blueberry patch in shape and to that end they have cut all three acres down to the ground. In three years they should be actively producing. They also started a Christmas tree farm (one half to three quarters of an acre) as an experiment.

"But deer came along and ate off the tops of all the trees," Will sadly recalled. "It would be tough to find a market for square Christmas trees!"

Peter, who lives by himself out at the Indian Brook property, has turned some of the meadow immediately surrounding his house into vegetable gardens. At last year's harvest time, weeds were growing with vigor equal to that of the corn, but a cranberry man's time in the fall is scarce and hopefully the gardens will be more in hand this season.

"We just haven't had the time to get around to really developing the upland," said Peter, "but we're always investigating possibilities."

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FARMING IS EVERYBODY'S BREAD AND BUTTER

by Dwight Ziemann

Let's face it . . . everyone from sanitation engineer to the president, is in some way dependent on farming. There is no doubt that in one way or another, people everywhere depend on the farmer—grain, livestock, fruit or vegetable. Everyone has a need to eat in sustaining life and farmers supply twenty-six persons for every one of them. Considering all the food one person eats in a year, this far outweighs any other occupation in supplying needs.

Farming also provides more employment than is normally given credit for besides the farmer and his hired help, it is also responsible for keeping most parts and supply stores and also implement dealers in business. It provides employment for crop dusters and grain elevators, not to mention meatpacking plants.

These are all directly related to farming of some type, and in truth, all businesses are.

Indirectly, farming is responsible for the prices and services in many other occupations. There are always the grocery stores and hatcheries that depend almost exclusively on farms. Farmers don't always use a middle-man. Many sell eggs, beef and other products directly to the consumer.

Farming also provides the government with a good source of funds, not only from the income taxes paid, but also the taxes received on tobacco and other products. It seems that everything that is manufactured or processed in plants is in some way related to farming. Many types of enterprises are involved in obtaining and distributing food, which also includes the containers and wrapping in

which food is transported. Farming gives the irrigation profession almost all its business.

By creating all of these new occupations to help farming, they are keeping our people employed and the currency circulating, which is of utmost concern regarding the state of our economy at present.

Farming does more for this country than probably any one other occupation. It provides jobs for young boys and girls with an opportunity to earn and save money. The work builds strong bodies and good mental health.

The farmer is producing better quality foods than ever before. By cooperative measures, they utilize their knowledge of new methods and machines and thus are able to produce more than ever before. New varieties of grain are now grown where nothing could be raised before. They have a genuine concern for all mankind.

Yes, farming is America's oldest profession and it hasn't lost any importance to this country since then. Farming may have changed much in all these years, but farming is still, as it was in colonial days . . . EVERYBODY'S BREAD AND BUTTER!

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To prepare this ham you actually carve out the center of a canned ham, and then you chop the carved meat from this portion of the ham and combine it with corn bread, cranberry-orange relish, mandarin oranges, chicken broth and eggs to make a superb stuffing. The stuffing is then replaced into the ham and crowns it as a giant, symbolic egg-shape. After the ham is stuffed, it is glazed with a mixture of jellied cranberry sauce, orange marmalade, mustard, port wine and cloves. As a final touch, you can garnish your platter with colorful spring vegetables.

To round out your Easter feast, consider preparing "Asparagus Mold with Berry Hollandaise." The subtle hollandaise is made in a flash in a blender and combines cranberry-orange relish, lemon juice and sour cream.

And, to toast this joyful spring holiday—either before, with or after your dinner—prepare "Easterberry Glory." This bubbling drink can be served in a punch bowl for a large crowd or in pitchers. The components of this drink include cranberry juice cocktail, cherry wine, orange juice and champagne.

For an Easter dinner with a difference, all these recipes will bring not only color and good taste to your table but a special sense of sweetness and beauty to mark this happy holiday for your family and friends.

CRANBERRY GLAZED 'N STUFFED HAM

(Serves 10 to 12)

- 1 canned ham, about 8 pounds
- 1 package (8 ounces) corn bread stuffing mix
- 1/2 cup cranberry-orange relish
- 1 can (11 ounces) mandarin oranges, undrained
- 1 can (10-3/4 ounces) condensed chicken broth, undiluted
- 2 eggs
- Glaze:
 - 1 can (8 ounces) jellied cranberry sauce
 - 1/2 cup orange marmalade
 - 1 tablespoon prepared mustard
 - 1/2 cup port wine
 - 1/4 teaspoon ground cloves

With a sharp knife cut out center of ham leaving a shell about 1 inch thick. Dice removed ham and place in a large bowl. Add stuffing mix, relish, mandarin oranges, chicken broth and eggs. Mix well. Pile mixture into ham shell, heaping high forming a large mound. Place stuffed ham in a shallow baking pan. Bake in a preheated moderate oven (350°F.) for 1 hour. In a small

bowl mix all glaze ingredients until well blended and spoon over ham. Bake ham for another 30 minutes. Cut ham crosswise into thick slices. Arrange ham slices on heated platter garnished with hot baby carrots, whole green beans and green peas, if desired.



ASPARAGUS MOLD WITH BERRY HOLLANDAISE (Makes 1 2-quart mold)

- 3 envelopes unflavored gelatin
- 4 cups chicken broth
- 2 packages (10 ounces each) frozen asparagus spears, cooked and drained
- 1 cup mayonnaise
- 1 cup (1/2 pint) sour cream
- Cranberry Hollandaise:
 - 1 cup cranberry-orange relish
 - 1/4 cup lemon juice
 - 1 cup (1/2 pint) sour cream
- Lettuce leaves

In a saucepan stir gelatin into 1 cup of the chicken broth. Stir constantly over low heat until gelatin is completely dissolved. Pour gelatin mixture into a blender. Add half of

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remaining chicken broth, asparagus, mayonnaise and sour cream. Whirl until smooth. Pour mixture into a large bowl. Repeat with remaining broth, asparagus, mayonnaise and cream. Season mixture to taste with salt and pepper. Pour mixture into a 2-quart ring mold. Chill mixture until firm. In a bowl mix relish, lemon juice and sour cream until well blended, and then chill. To unmold, dip mold into lukewarm

water for a few seconds. Tap to loosen and invert onto a chilled serving platter. Garnish with lettuce leaves, and additional cooked asparagus spears, if desired. Spoon chilled Cranberry Hollandaise into center of ring mold.

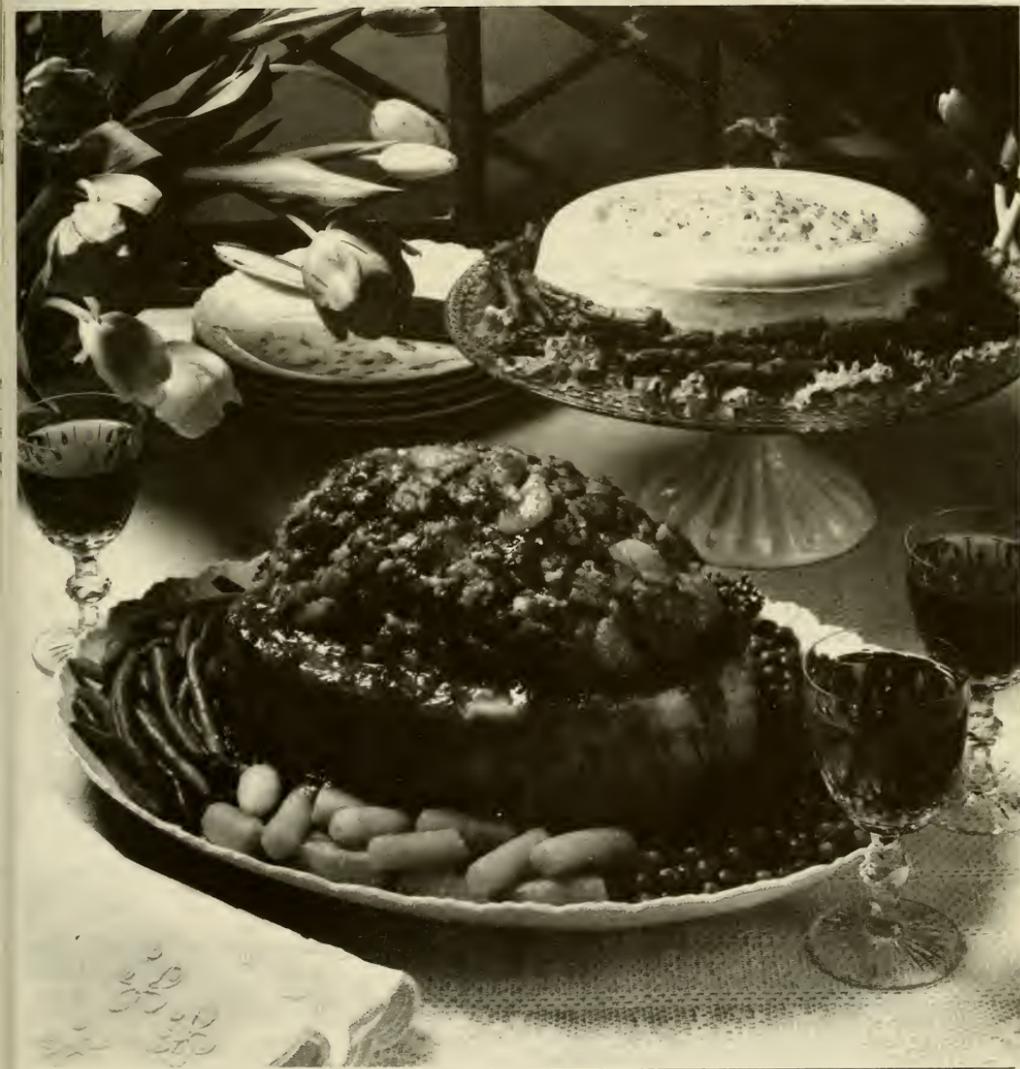
EASTERBERRY GLORY (Makes about 3-3/4 quarts)

4 cups (1 quart) cranberry juice
cocktail, chilled

1 bottle (4/5 quart) cherry wine,
chilled
4 cups (1 quart) orange juice,
chilled
1 bottle (4/5 quart) domestic
champagne, chilled

Just before serving in a large punch bowl mix cranberry juice, wine and orange juice. Gradually stir in champagne. Pour into large punch cups. Serve at once.

Recipes courtesy of Ocean Spray Cranberries, Inc.



OBITUARY

WORKSHOPS ON ZONING AND LAND USE PLANNING

WASHINGTON

Continued from page 1

Beach growers met at the Community Hall, Grayland on the 18th to hear Dr. Doughty.

Ocean Spray Cranberries, Inc. executives from Massachusetts met with Washington growers at dinner meetings, in Aberdeen on March 1, and Long Beach, March 2.

February temperature soared to 62 degrees on the 26th with a high average for the month of 48.3 degrees. The coolest day was the 21st with 27 degrees recorded. There were only 7 days with 32 degrees and below.

A total of 10.17 inches of precipitation was recorded with the greatest amount on the 12th, 1.92 inches. There were four dry days. The total for 1975 to date is 24.47 inches.

WISCONSIN

The first week of February was mild until temperatures turned sharply colder after snow fell on the 4th and 5th. This snow ranged from 2 to 5 inches in the south and 1 to 2 inches in the north. Nighttime temperatures were below zero from the 6th through the 12th. Daytime highs failed to reach 10 above on the 9th.

The second week in February began cold with maximum temperatures around zero in many areas on the 10th. Temperatures began moderating on the 11th, with highs in the 20's until reaching the low 30's

on the weekend. Light snow of 1 to 3 inches fell in the west and northwest early in the week. Only traces of snow fell during the remainder of the week until a

moderate to heavy snowfall of 4 to 8 inches occurred in the southeast on the 15th. Another snowfall of 3 to 6 inches covered southern Wisconsin late Sunday and early Monday, the 16th and 17th.

Intelligent land use is one of the most difficult problems facing public officials today. Zoning is a method of designating the land in a community into zones or areas for specific types of development, such as residential, commercial, or industrial.

Good land use planning and zoning can do much to keep the cost of local government and taxes at an optimum level. Unplanned scattered development necessitates higher costs for police, schools, fire protection, sewers and all types of public improvements. The alternative is failure to render an adequate level of public service to these communities. Planning and zoning can aid in the orderly development of suburban rural lands, so as to render adequate public services at reasonable costs to the residents.

A "Workshop on Zoning" is being sponsored by the Cooperative Extension Service, Environmental Studies of Brockton High School, and Massachusetts Federation of Planning Boards, to be held at Brockton High School on Wednesday evenings for six sessions in April and May.

NOVA SCOTIA

Lowest temperature in January was -8°F on January 21 and in February, -7°F on the 4th. More serious, however, was the heavy snowfall; 113.8 cm in January and 58.7 cm in February which produced conditions for oxygen deficiency on cranberry bogs.

I hope to attend the cranberry meeting at East Wareham on April 1 to 3 inclusive.

CHARLES LARAMIE

Charles R. Laramie, Jr., 68, N. Biron Dr., died recently in Bradenton, Fla., following an apparent heart attack.

Mr. Laramie was born June 5, 1906, the son of Mr. and Mrs. Charles Laramie, Sr., and married Gladys Plenke, July 9, 1928, at Wisconsin Rapids. He was a barber at Wisconsin Rapids for 43 years and owned and operated Laramie Barber Shop. He retired in 1969. He was president of the Wisconsin Cranberry Growers Assoc., and managerial secretary of Copper River Development Co., Merrill, since 1946.

Surviving are his wife; a son, Dr. James C. Laramie, Whitewater; a daughter, Mrs. Mike Johnson, Oconomowoc; a brother, Leon, Excelsior, Minn.; two sisters, Mrs. Arthur Daniels and Mrs. Leonard Rodeghier, both of Wisconsin Rapids; and seven grandchildren. A grandson preceded him in death.

DR. GEORGE PELTIER

Dr. George L. Peltier, 86, Tucson, Ariz., died recently at Devon Gables Nursing Home, Tucson, of bronchial pneumonia. He was a former resident of Wisconsin Rapids.

In 1913, Dr. Peltier married Florence L. Quinn, who preceded him in death. He received a bachelor's degree at the University of Wisconsin-Madison, a master's degree at Washington University, St. Louis, Mo., and his doctorate degree at the University of Illinois. He was a professor at Lincoln, Neb., for many years, moved to Wisconsin Rapids upon his retirement, and acted as a consultant for cranberry growers in the area.

Surviving are a daughter; a son; three sisters, including Mrs. Esther Cole, Wisconsin Rapids; three brothers, including Raymond Peltier, Wisconsin Rapids; four grandchildren and three great-grandchildren.



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**REGIONAL NEWS NOTES****WASHINGTON**

Long Beach growers attended a seminar for certification of private pesticide applicators, March 14, conducted by Dr. Arlen Davison, State Leader of Agriculture, W.S.U., Pullman. This was a trial presentation to evaluate the training package for private applicators and will comply with the amendments to the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA passed by Congress in 1973.) This Act requires among many things the certification of both private applicators (growers) and commercial applicators of restricted use pesticides. The effective date required for certification is expected to be October, 1976. At this time no one knows for certain what pesticides will be classified as restricted. While we hope that only the most toxic compounds may be included on the restricted list, it is conceivable that less toxic compounds that many growers use routinely could be on the list. If, in fact, this should occur, many growers will be required to be certified if they plan to apply them themselves.

Grayland growers met March 18 at the Community Hall, Grayland for a resume of experimental work with Sulfur-coated Urea (SCU), presented by Azmi Shawa.

Dr. C. C. Doughty, Puyallup Center, and Azmi Shawa attended the April 1-3 Cranberry Seminar at East Wareham, Massachusetts Experiment Station, sponsored by University of Massachusetts and Ocean Spray Cranberries, Inc.

March precipitation total was 7.63 inches bringing the year total to date to 32.10 inches. The comparison with 1974 is 7.15 inches less than the same three months last year. The greatest storm period was March 16-22 with 1.78 inches on the 17th and 5.06

inches during the week. Some hail and heavy winds pelted the area at Long Beach. Grayland recorded 4.72 inches during that same week, with a month total of 6.74.

Grayland recorded a high of 66° on the 13th with a low of 28° on the 5th and 28th, bog low of 27° on the 5th and 28th. Long Beach high temperature of 60° occurred on the 8th and a low of 27 on the 28th, bog low of 26° on the 5th, 27th and 28th. Grayland area had 16 nice days with no precip, while Long Beach only had nine days.

Date for the annual Cranberry Field Day at the Coastal Washington Research and Extension Unit at Long Beach has been set for June 28th, according to Azmi Shawa, superintendent.

NEW JERSEY

March was about normal with respect to temperature and rainfall. The average temperature was 40.9 degrees, about 0.8 below normal. The rainfall totaled 3.53, which is 0.32 inches below normal. An unusual feature of the weather is the fact that there were 16 rainy days in the month.

Extremes in temperature were 68 degrees on the 25th and 17 on the 5th and 9th. There were 16 days in which the temperature rose above 50 degrees and five in which it ranged into the 60's. Minimums went below 30 on 12 days.

As of the first of April the season appeared to be about a week behind last year in blueberry development. Mummy berry disease again posed a serious threat to the blueberry crop as enough mummies could be found in many fields to produce very damaging infestations under favorable weather conditions. Surveys this winter have shown that populations of leafrollers and Putnam Scales are well below the

I. S. Cobb . . . *publisher*J. B. Presler . . . *editor*

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Continued on page 20



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Cranberry Growers to Vote on Marketing Order

Cranberry growers in 10 states will vote May 1-12 on whether to continue their federal marketing order program, the U.S. Department of Agriculture (USDA) announced.

Officials of USDA's Agricultural Marketing Service (AMS) said the program requires a grower referendum every four years. Growers will be eligible to vote if they produced cranberries during the 1974 season in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington, or Long Island, New York.

The federal marketing agreement and order for cranberries was initiated by growers, processors, and handlers to provide authority for regulating the volume of cranberries

marketed each season. However, no such regulations have been issued since 1971.

Ballots and voting instructions will be mailed before May 1 to all cranberry growers, except those affiliated with cooperative marketing associations that vote for their members. Results will be announced after the referendum. AMS officials said any eligible grower who fails to receive a ballot may obtain one from any of the following persons:

George B. Dever, Jr.,
Referendum Agent
Fruit & Vegetable Div. AMS
U.S. Dept. of Agriculture
Washington, DC 20250
Tel. (202) 447-4552

Allen E. Henry
Field Representative
Fruit & Vegetable Div. AMS
U.S. Dept. of Agriculture
1218 S.W. Washington St.
Portland, Oregon 97205
Tel. (503) 221-2725

Charles F. Hastings, Jr., Manager
Cranberry Marketing Committee
P. O. Box 429
Wareham, Mass. 02571
Tel. (617) 295-2655

Walter Z. Fort, Fieldman
Cranberry Marketing Committee
Box 211
Pemberton, N. J. 08068
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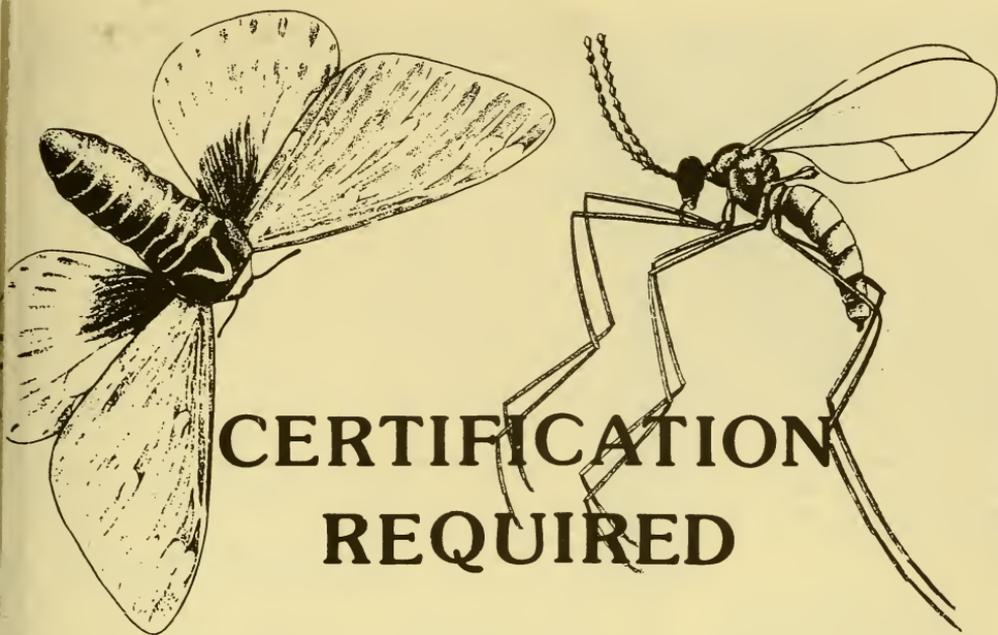
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CERTIFICATION REQUIRED

EPA Proposes Certification for Pesticide Users

More than 28,100 farmers, commercial pesticide users, and other individuals in New England who want to use certain highly-toxic pesticides after October 21, 1976, will be required to complete federally approved testing to demonstrate their competency. The new requirement is included in regulations recently proposed by the U.S. Environmental Protection Agency under the 1972 federal pesticide law.

The pesticide uses for which an applicator will have to be certified are those which EPA will designate as "restricted use." Under the 1972 law, pesticides for specific uses will bear the "restricted use" classification if EPA determines that they may cause unreasonable adverse effects to the user or the environment unless subject to some type of regulation beyond the label directions.

This Agency is now deciding which pesticide uses will be restricted to certified applicators and which will be available to the general public. EPA anticipates that

the majority of pesticide products now registered will remain in the "general use" category, particularly those used by the home owner or casual gardener. No form of testing will be required of persons wishing to use pesticides classified "general use." Of course, the label instructions for these products will have to be followed. The designations of "restricted use" or "general use" will be indicated on the labels of pesticide products by October 1976.

EPA estimates that throughout the country possibly as many as two million farmers and about 90,000 commercial applicators will seek certification. The certification procedure will be administered by the states' governments and approved by EPA.

EPA's Regional Pesticides Office estimates that 16,900 farmers in the six New England states will have to pass examinations for competency in order to use "restricted" pesticides. Approximately 3,000 of these farmers live in Connecticut; 3,800 in Maine; 3,500 in Massachusetts; 800 in New Hampshire; 800 in Rhode Island; and 5,000 in Vermont.

There are roughly 11,256 commercial applicators in New England who will require certification. About 4,231 of these are in Connecticut; 325 in Maine; 5,405 in Massachusetts; 630 in New Hampshire; 360 in Rhode Island; and 295 in Vermont. The commercial applicators include persons in the business of controlling agricultural, forest, industrial, or aquatic pests, and people who commercially use pesticides to inhibit ornamental and turf pests, public health and right-of-way pests, and for seed treatment or demonstration and research.

In general, the EPA standards are designed to ensure that an applicator knows how to use pesticides in a manner that will control the pest, protect himself and others during use, and will take appropriate precautions against contamination of the general environment.

For example, a farmer seeking private applicator certification would be required to demonstrate, in a written or oral test, his ability to recognize common pests needing control, to read and understand

Continued on next page

pesticide labels, to apply pesticides according to label instructions and warnings, to recognize local environmental situations, and to recognize poisoning symptoms and procedures to follow in case of a pesticide accident.

In any case where a person, at the time of testing for certification, is unable to read a label, the responsible state agency would use a testing procedure, approved by EPA, that could adequately assess his competence with regard to the standards. Certification will be related and limited to the use and handling of each individual pesticide for which he desires certification. Therefore, the applicator will be authorized to use only the pesticide for which he has demonstrated competence.

EPA-Agriculture Sign Agreement on Training of Pesticides Applicators

Russell E. Train, Administrator of the Environmental Protection Agency, and Earl L. Butz, Secretary of Agriculture, recently announced the signing of an interagency, cooperative agreement calling for federal, state and local cooperation in the training and certification of pesticides applicators. The agreement will help to implement existing regulations concerning certification of applicators. "This agreement will provide policy guidelines to regional, state and local agencies to promote the development of applicator training programs, by bringing federal, state and local resources to bear on this activity," said Train. "These programs will help to insure both that restricted pesticides are used safely and that agricultural productivity is maintained."

"The Department of Agriculture's Extension Service will work closely with EPA to assist the states' cooperative extension services in implementing training programs," said Secretary Butz. "The Extension Service is the basic

educational arm of the Department of Agriculture; therefore, its personnel and resources will be a vital part of our cooperative effort to train applicators in the safe use of pesticides."

EPA said applicator certification is a positive effort to insure the safe and proper use of potentially hazardous or environmentally damaging products. The Agency also noted that certification may permit continued use of those products which might otherwise have to be banned since they pose unacceptable hazards to people or the environment unless used by well-trained applicators.

Both Administrator Train and Secretary Butz believe that the training and certification program will help to maintain production of food and fiber while enhancing environmental protection. "We have a natural alliance here," said Train. "The present agreement will do much to lessen the risk of pesticide misuse which might otherwise threaten both of our efforts."

EPA estimates that domestic consumption of pesticides now

amounts to approximately one billion pounds of active ingredient each year. These pesticides will be classified for either "general" or "restricted" use as required by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as amended in 1972. FIFRA, as amended, also requires that potential users of "restricted" products be certified by October 1976 and being professionally qualified to use such products safely. EPA estimates that about 100,000 commercial applicators and more than two million farmers will have a need to use pesticides designated for restricted use and will therefore have to be certified.

To carry out these requirements, EPA issued standards for certification of applicators on October 9, 1974. On January 13, 1975, the Agency issued guidelines for state plans for training and certifying applicators. The present cooperative agreement will help the states to implement training programs with organizational and technical assistance from the U.S. Department of Agriculture.

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Developing a Standard Cranberry Wine

by Kathy Price

With Wisconsin's cranberry crop increasing every year, state growers are always looking for new marketing ideas. Perhaps inspired by the current popularity of other fruit wines, the Wisconsin Cranberry Growers Association is funding research at the University of Wisconsin to develop a standard-quality cranberry wine. While non-standard products are available, they are limited for sale in the producing state. Developing a

standard cranberry wine, marketable interstate, is the goal of a Madison professor of food sciences, Dr. Joachim Von Elbe.

"Most people think there's a lot of art and mystery involved, but it's just plain fermentation," Von Elbe says. Getting cranberry juice to ferment, however, has posed a number of special problems, from federal wine regulations to the nature of the berry itself.

Cranberry juice is resistant to fermentation in two ways. The basic problem is its acidic make-up, which prevents normal fermenting yeasts from operating effectively. Von Elbe has tested, or "acclimated," a variety of yeast cultures and found several that survive well in cranberry juice.

In addition to its general acidity, the juice contains benzoic acid, which is commonly used as a food additive to retard spoilage. In the fermenting process, benzoic acid acts as a preservative by slowing down yeast activity. To get around this natural resistance to fermenta-

tion, Von Elbe is looking for berry varieties which are low in benzoic acid.

This process involves charting the benzoic acid patterns of a number of the more common kinds of cranberries. So little previous work has been done in this area that Von Elbe would have had to rely on data developed in the 1930's. By conducting the analyses himself, he can also measure what differences, if any, occur as a result of juice extraction processes. Because some seeds are crushed when berries are pressed, it's possible that the chemical make-up of the resulting juice differs slightly from centrifuged juice.

Despite these hurdles, Von Elbe has produced a flavorful wine which he feels would be commercially competitive. To do so, he has diluted the juice with water and sugar by 60 percent to reduce acidity. But federal regulations permit this level of dilution for



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Continued on next page

only three kinds of standard wines—currant, gooseberry and loganberry. All three are technically high-acid fruits; ironically, cranberry acidity is similarly high.

"We're hoping that our data will help change the cranberry classification, and put it within this category," Von Elbe says.

To that end he is collecting information on acid content and sending letters and petitions to the Treasury Department, which has the power to review such classifications. Until any change is made, he will have to work within the 35 percent dilution level allowed for other fruit juices.

So far, cranberry wine produced at the 35 percent level has been somewhat sour and relatively low in alcohol content (seven percent versus 10 to 14 percent in most wines). Von Elbe's present research, however, may provide the information needed to make standard wine at the 35 percent level. He predicts that by next fall the benzoic acid tests will have uncovered berry varieties low in that compound. The key will be to match such a low-acid berry with a high-acid tolerant yeast.

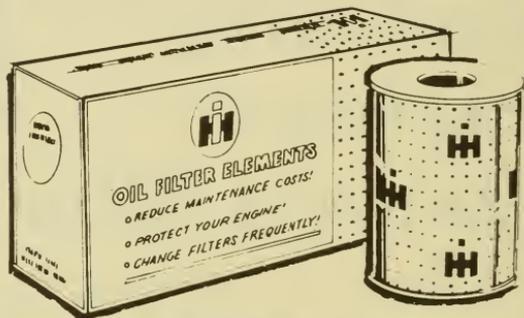
Such a combination, according to Von Elbe, "should allow us to produce a standard-quality cranberry wine which will compete effectively in the marketplace."

Should a successful formula be developed, Von Elbe plans to make it available to wine producers in the state. At present, only one Wiscon-

sin winery produces a cranberry wine (non-standard) in any quantity. John McCann, of Fruit of the Woods Wine Cellar in Three Lakes, estimates that the winery turns out 5000 gallons of cranberry wine a year. He doubts that he would take

advantage of a formula at 35 percent, as the government does not allow both standard and non-standard wines to be produced on the same premises, and because he is pleased with the success of his present wine.

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Prof. William Tomlinson was one of the speakers at the Wisconsin Cranberry Growers School held in Wisconsin Rapids from March 11 to 13.

The Cranberry Station and the College of Food and Natural Resources of the University of Massachusetts were hosts for the First International Cranberry Research and Extension Workshop on April 1 to 3. Cranberry research and extension people were here from New Jersey, Wisconsin, Washington and Nova Scotia as well as our own station group, several from the Amherst campus and a group from Ocean Spray. Ocean Spray was host for a banquet for the group on the evening of April 2, presented a session on marketing and product development procedures and two of their group were discussion leaders for other sessions.

From a strictly personal viewpoint, this was a highly enjoyable meeting. It is a pleasure to be able to hold both individual and group discussions with our fellow workers in the cranberry research area. I certainly hope that this was only the first of many more meetings.

Weather

March averaged 0.8 of a degree a day below normal. Maximum temperature was 60 degrees on the 9th and minimum 14 degrees on the 9th. The only warmer than average days were the 19-21st, 23rd and 25th. Cooler than average periods were the 2-4th, 9-11th, 14th, 15th and 27th.

Precipitation totalled only 3.46 inches which is 1-1/3 inches below normal. There were measurable amounts on 14 days, but the largest storm was only 0.84 inch on the 10th. We are just over 1 inch above

normal for the 3-month period and about 2 inches ahead of 1974. Snowfall was 5.3 inches occurring on 4 days which is slightly less than our average.

Many of our bogs have had the winter flood drawn off since mid-February and the vines are in excellent condition. There is no winterkill and little if any oxygen deficiency. There appears to be one of the better bud prospects at this time. There may be more late water this year because of red mite problems.

Using the red Persian lilacs from our phenology project as an indicator we are having a late spring such as in the 1969 through 1972 period. It will be about 3 weeks later than 1973 and 10 days later than 1974.

Cranberry Frost Warning Service

The frost warning answering service at the Cranberry Experiment Station will soon be in operation with the same telephone number as in the past. The following radio stations are again carrying the frost messages:

Station	Place	A.M.	F.M.	Afternoon	Evening
WCOD	Hyannis	590 k.	106.1 mg.	2:00	9:00
WEEL	Boston	590 k.	103.3 mg.	2:00	9:00
WBZ	Boston	1030 k.	92.9 mg.	2:30	9:00
WPLM	Plymouth	1390 k.	99.1 mg.	2:30	9:30
WOCB	W. Yarmouth	1240 k.	94.3 mg.	3:00	9:30
WBSN	New Bedford	1420 k.	97.3 mg.	3:30	9:00

Preliminary Keeping Quality Forecast

Weather factors to date show only 2 of a possible 10 points which favor good keeping quality in the 1975 Massachusetts cranberry crop. Our forecast at this time, therefore, is for a crop that is only fair to poor in quality unless growers do something about it. This prospect is so poor that growers are urged to use "late-water" manage-

ment, fungicide treatments on "early-water" bogs, and great caution to avoid over-fertilizing cranberry vines. Temperatures and precipitation must be below normal during the next two months to change the prospect.

Grower Meetings

The March grower meetings were held at the Cranberry Station on the afternoon and evening of March 20. Speakers were Dr. Robert Devlin on EPA restrictions on DDT, Prof. William Tomlinson on cranberry insect control recommendations for 1975 with particular attention given to a new herbicide "Evtal."

The Southeastern Club elected Clark Griffith, president, and Ken Ashburn, vice president. The South Shore Club had not elected officers at the meeting.

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J.R.Beattie retires



Thirty-four years of service to the Commonwealth and the University of Massachusetts were marked in a ceremony at UMass/Amherst recently honoring J. Richard Beattie on his retirement.

At a Campus Center reception in his honor, Beattie was presented a resolution of appreciation by UMass Chancellor Randolph W. Bromery. It said: "For your 34 years of service to the Commonwealth of Massachusetts, the most

recent 27 of which have been at the University of Massachusetts in Amherst and Wareham, the state and its university are profoundly grateful."

For the past 12 years Beattie had been associate director of the Cooperative Extension Service and associate dean of the College of Food and Natural Resources at UMass/Amherst. He retired as of December 1974.

Before that, he served 15 years as an extension cranberry specialist at the UMass station in East Wareham. Before joining the East Wareham staff in 1947, he was an agricultural extension agent in Plymouth County for seven years.

Prof. Beattie holds B.S. and M.S. degrees from the University of New Hampshire. His publications include works on extension operation and cranberry culture. He was cited last year by the state 4-H Youth Advisory Council for outstanding service to the Massachusetts 4-H program.

Dick Beattie lived on Great Neck Road in East Wareham for several years and was active in many local organizations. He is well known by cranberry growers and other agricultural producers in Southeastern Massachusetts and has many friends in the area.

THE VERSATILE CRANBERRY

The non-food uses of cranberries have been explored to a certain degree, but the possibilities are apparently endless. The medicinal benefits of cranberry juice for the kidneys has long been unofficially recognized. But perhaps the two following ideas will be new to most growers.

The latest edition of *The Packer* a weekly newspaper of the fruit and vegetable industry, reports yet another innovation—fish getting hooked on cranberries.

Ask Charles Weaver, a fisherman from Arkansas Pass, Texas.

Weaver buys ten pounds of cranberries each week to bait his trotlines and says the big redfish trout, drum and flounder love them.

News like this should have no trouble getting around the local docks.

We are all familiar with cranberry soap. Another cosmetic use for cranberries has been discovered with particular benefits for pregnant women.

During pregnancy women sometimes find that small areas of the face become discolored; this is called chloasma. Cranberries are a good bleaching agent when used externally.

The juice can either be squeezed out of the cranberries and used as is, or a handful of berries can be heated until the juice runs out. Either way, the juice acts as a bleaching agent.

Pat the juice on the discolored area and allow it to dry on the skin. Rinse first in warm water, then in cool water, and pat the skin dry. It is best to follow up the treatment with an application of nut or vegetable oil to the skin.

Repeated applications are necessary since one won't have much effect. Watch the skin closely to see that it is not getting irritated.

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CRANBERRY RESEARCH WORKSHOP

The first workshop for cranberry researchers from all the cranberry producing regions in the U.S. and Canada was held April 1-3 at the Massachusetts Experimental Station in Wareham, Mass. This first meeting was apparently a resounding success and it is hoped by the participants that it will be regularly followed up with subsequent meetings. The original stimulus to organize such a meeting came from the Cape Cod Cranberry Growers Association Advisory Committee. The Mass. Experimental Station provided the bulk of necessary funds and individual states which sent representatives made additional contributions in order to gather

everyone at one place for three days and nights to pool their knowledge and discuss their research.

There was little time wasted during the three days. Mr. De-Moranville's comment on the three-day session was, "I'm exhausted!" Enormous ground was covered in weed control. Yields to be expected in the near future, production trends, and pesticide registration were more areas that were intensively gone over during the informal "round-table" discussion sessions that were held mornings, afternoons and even evenings on an informal basis during the workshop.

"The valuable elements of contact with researchers from all the other areas was extremely important," said Dr. Cross in a post-workshop interview. "You get a new slant on things and you get a jump on things which makes it possible to avoid doing preliminary work that would be a duplication."

"I could get together with Dr. Azmi Shawa, Dr. Paul Eck, Dr. Bill Walker, and Dr. Malcolm Dana on weed control and growth regulators," said Dr. Robert Devlin of the Mass. Experiment Station who specializes in these two areas.

"And I learned that Wisconsin has almost no problem with field rot!" said Dr. Chester Cross with some amazement.

"A very valuable thing that comes out of a meeting like this is the exchange of information among research people that is not published," added Devlin.

Two definite conclusions were reached by those present at the workshop: there should be a second meeting of this type and it should take place in Washington.

A general consensus of opinion was reached in other areas as well. It was concluded that breeding programs should be kept alive so that the "super berry" could someday be produced. The germ plasm of all the species developed thus far should be retained so that this important work could continue to go forward without any loss of steps already accomplished.

The researchers recognized that the need at present is not for greater productivity, but for higher quality berries and crops and for reduced production costs through mechanization. The current harvesting machinery bruises fruit more than is desirable and there is an

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Continued on next page

ngoing effort among researchers in particular, Stan Norton of the Mass. Experiment Station) to develop better harvesting equipment, and the same effort continues among many growers.

Pesticide registration was a topic of particular concern to all of the researchers. They are agreed that pesticides should not be used unless there is an infestation of pests.

"We don't want to add pesticides to the environment capriciously," said Dr. Devlin, speaking for the researchers in general.

The researchers are interested in controlling pests by integrated control, using all the tools available—cultivation, flooding, exposure and chemicals. There is considerable interest in using plant hormones to accelerate the uptake of pesticides into the plant which would mean that a smaller amount of pesticide would have to be used to have the same effect.

Cranberries are a low profit crop in comparison with corn and other larger crops, so that it is difficult to get pesticides, growth regulators, and other chemical agents cleared through EPA. Cooperation among states is important and the opportunity to develop that cooperation was seized during long discussions on the subject.

During one session, UniRoyal called the Station to say that their petition for the regulation of a miticide had been permitted. The next step must be taken by the EPA. They have 90 days to take action. If EPA takes the full amount of time they are allowed, the miticide will not be available for use until next year's season. Much discussion ensued at the workshop as to how to hurry EPA along so that the miticide could be available to growers for this season.

Dr. Eugene Engle, director of the University of Massachusetts Institute for Man and Environment, took charge of the last session which dealt with land use planning. Legislation concerning land use planning could lead to a curtailment of personal property rights in the future. The general feeling was

that there should be some sort of recompense for the landowners and some states will be coming up with various kinds of recompense arrangements. Dr. Engle has been one of nine people selected nation-wide to serve on a committee which will review land-use problems across the country.

An impressive presentation during the workshop was provided by the people from Ocean Spray who deal in marketing development. They talked a great deal about new products and the attendant problems of getting them to be recognized on the market by consumers. Ocean Spray, being a relatively small concern, does not have the financial backing necessary to flood the media with advertising, which is such an important part of product introduction to the consumers. Therefore they must gauge the probability of success very carefully before investing a great deal in all-out production of a new product.

They had several brand new products that are still in the preliminary stages of testing that are carried out before a product is actively marketed. Some of these were a dessert candy, a squeeze

bottle marinade sauce, a dip and bake mixture, and orange/cranberry crush and raspberry/cranberry crush, two products about the texture of a cracker spread.

Devlin and Cross were extremely impressed by the high quality of these products and the expertise of the product development and marketing staff members.

"It looked to us like they are really on the ball. I was impressed by the sharpness and ability that these people displayed," said Devlin. "They are trying to use 100% of the berry in developing new products. This allows them to lower the price or at least keep it level and therefore be more competitive on the market."

Ocean Spray also hosted a dinner Thursday evening at the Daniel Webster Inn on Cape Cod. The after dinner speech was delivered by Mr. Harold Thorkilsen, president of Ocean Spray Cranberries, Inc. Mr. Thorkilsen discussed the future of the cranberry industry.

Other representatives from Ocean Spray took part in the workshop and researchers from Washington, Wisconsin, New Jersey, Nova Scotia and Massachusetts were all present and active during the three-day session.

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LOW OXYGEN LEVELS IN WATER UNDER ICE OF CRANBERRY BOG DURING WINTER OF 1974-1975 IN NOVA SCOTIA¹

F.R. FORSYTH and I. V. HALL

Canada Department of Agriculture, Kentville, Nova Scotia
¹Contribution No. 1547 from the Research Station, Canada
Department of Agriculture, Kentville, N. S.

On the 18th of February, 1975 we received a warning from Irving E. Demoranville of the Cranberry Experiment Station at East Wareham that recent snowfall accumulation in Massachusetts was producing conditions that could lead to oxygen deficiency on flooded bogs in that State. Realizing that our weather had probably been colder than that in Massachusetts, resulting in greater depth of ice and more snow cover, we immediately proceeded to measure the oxygen in the ice of one of our commercial bogs.

Oxygen content of the water was measured with Beckman Model 715 Process Oxygen Monitor calibrated in ppm and corrected for relative humidity.

Four readings of the oxygen content of the water were taken on February 27, 1975 from a bog at Aylesford, Nova Scotia and are presented below:

Site No.	Reading (ppm of O ₂)
1	4.0
2	4.5
3	7.7
4	10.9

At sites 1 and 2 it was necessary to remove some 60 cm of snow and cut holes in the ice which was about 30 cm in depth. Care was taken to remove the chopped ice and snow before the bottom of the ice was broken. When the ice was broken the water bubbled up as if under pressure. When taking the readings, the sensor was set in the water to a depth of 5 cm and gently moved back and forth to avoid breaking the surface of the water as little as possible. The water at both of these locations had a foul odor. Site 3 was similar to the first two locations, but was located on a different section of the bog. The water at this location had no objectionable odor. Site 4 was from yet another section of the bog. Here the snow cover was approximately 10 cm deep and considerable melt water was present. The ice in this more open area was beginning to melt.

Following this we sampled the oxygen in the Annapolis River

about 1000 m from the cranberry bog. At this location the water was flowing freely and a reading of 13.7 ppm of oxygen was obtained.

The owners of this bog carried out a good management program in 1974. The yield, however, was only moderate. In retrospect, one wonders if oxygen deficiency could have been a factor. Since the oxygen content of the cranberry bog water should not fall below 6.0 ppm (Bergman 1948), the level during the winter of 1974-75 in this bog has been and still is dangerously low in certain sections. Recent rains and melting snow have probably increased the oxygen levels at site 4. More snow, about 25 cm on March 3, will continue to maintain conditions of low oxygen levels.

We wish to acknowledge the technical assistance of Avard Brydon in carrying out this work.

Reference

Bergman, H. F. 1948. Winter conditions on cranberry bogs in relation to flower and fruit production. *Revue Canadienne de Biologie* 7: 629-641.

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AGRICULTURE

NOTES

FREEZING ENERGY SURPLUS

Surplus electricity generated at night and on weekends might some day be stored like food in a kind of deep freeze, to be used at periods when demand exceeds supply. This is a proposal of physicists at Fermi

National Accelerator Laboratory and the University of Wisconsin that calls for storing energy at super-cold temperatures to stretch power resources.

Most generating plants are operated at a fairly constant rate for maximum efficiency, and it is difficult to adjust output to demand. At night and on weekends, when demand is less, utilities generate more electricity than is used.

Generators fueled with coal can be turned off at night but the furnaces must be kept burning. And nuclear energy plants cannot be turned off at all. The excess energy is thrown away.

If a successful large-scale method of storage could be devised, the excess generated during off-peak hours could be salvaged, just as leftovers from a big meal can be saved and served later. A number of proposals for storage of energy, including the use of batteries, are being studied by nuclear physicists and electric utilities.

The world's most powerful nuclear accelerator is at Fermilab,

and demands for power to operate it fluctuate widely—from a few megawatts to 300 megawatts for a few seconds at a time.

Laboratory scientists joined with a group from Wisconsin that earlier had begun a study of possible energy storage systems.

The proposed system involves a super-conducting magnetic coil immersed in liquid helium at extremely cold temperatures—450 degrees below zero Fahrenheit. Current fed into super-conducting magnets cooled to such a degree produces a magnetic field that is maintained with the addition of more electricity.

LEBANON REDUCES SUGAR PRICE SUBSIDIZATION

In an effort to reduce Government expenditures on subsidies of sugar, Lebanon has eliminated subsidized prices for industrial users,

and raised the price paid by consumers. As of April 1, Lebanese consumers holding Government-issued supply cards will pay 14 U.S. cents per pound of sugar.

Industrial users of sugar, and consumers who exceed their monthly allotment, now to buy sugar at world market price equivalents, which in late March were nearly double the subsidized price.

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ENTOMOLOGIST SAYS MAN-KILLING BEES WORK WAY NORTH

Man-killing bees are moving toward Mexico and the United States from South America at the rate of 200 miles annually, a California state entomologist said.

The bees' hatred of humans is said to have developed over millions of years as a result of raids on their tree-top honey hives.

"The danger cannot be discounted," said Dr. Marius Wasbauer, chief of an insect identification laboratory in Sacramento.

The aggressive insect is known as the Brazilian honey-bee, a species indigenous to Africa that was introduced into Brazil by a geneticist who hoped to develop a cross-bred bee with the superior honey-producing quality of the African variety, Dr. Wasbauer said.

In 1957, swarms of half-African drones escaped with a dozen queen bees from the scientist's laboratory in Sao Phe, Dr. Wasbauer said, and

have since killed more than 300 people annually, along with thousands of animals.

They are in Columbia and moved northward at "an alarming rate," said Dr. Wasbauer.

The doctor is a member of a research team assigned \$10,000 in U.S. agriculture funds to find out how to identify the man-hating bees from look-alikes that are peaceful.

NAKED CHICKENS NOT CHEAPER TO PRODUCE

If chickens come naked, wouldn't it save costs for chicken producers?

Dr. Max Rubin and Dr. Daniel Bigbee, both of the University of Maryland, have been studying 50 naked chickens to answer this question. The answer, at least for now, is no, they say.

Since the naked chicken has only an odd feather or two, it must be kept warmer than its fully outfitted cousin, thereby making

greater demands on sources of energy. And since it doesn't have the protection of feathers, it is bruised and cut more easily.

The food quality of the naked chicken is about that of the ordinary supermarket variety, Dr. Rubin said.

The featherless chicken was first observed 20 years ago at the University of California at Davis, where researchers discovered a single recessive gene that produces naked chickens.



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Festival Plans Underway

Making plans for third annual Cranfest in Wisconsin

Officers and committees have been appointed and have started functioning for the third annual Cranberry Festival which will be held this year Oct. 4 and 5.

Jerry Schaller is heading the officers as chairman with John Rezin, vice chairman, Mrs. Donna Charles, secretary and Mrs. June Potter, treasurer.

Serving on the committee will be Mrs. James Van Wychen, queen contest; Mrs. Robert Habelman, arts, crafts and bus tours; Mrs. Loren Caldwell, advertising and carnival; Mrs. Frank Kearney, par-

ade; Mrs. Fred Pongratz and Mrs. Robert Dana, quilt contest; Mrs. James Knapp, needlecraft contest; Jerry Schaller, registration and rest rooms; Mrs. Linus Houn, Farmer's Market; Mrs. John Rezin, food stands; Mrs. Patricia Thiel, coronation stage; Donald Kaepfel, cranberry buttons; Larry Abbott, cleanup committee; Mrs. Ronald Jensen, entertainment; Mrs. Keith Potter, membership; Mrs. Lewis Epstein, publicity.

The popular quilt contest held last year for the first time will be repeated but will be a two-day

show. The sunflower seedhead contest, bus tours to view cranberry operations, antiques, coronation of a new cranberry queen and princesses, arts and craft shows, farmer's market and a carnival will again be offered this year.

New to the planning will be a Sunday parade, the largest pumpkin contest, day long entertainment, tugs of war, an art contest for youth and a needlecraft contest featuring the cranberry motif.

Tomah Journal & Monitor-Herald

Merrilyn Knox to head Cranberry Festival Association in Oregon

One of the key persons in staging last year's highly successful Cranberry Festival has been elected to serve as president of the Festival Association for 1975.

Merrilyn (Mrs. Jim) Knox, an employee of Western Bank, will head the list of officers for this year's festival, to be held September 19-20-21.

Other officers include Helen (Mrs. George) Smith, vice president; Barbara (Mrs. Don) Dodrill, secretary; Dona (Mrs. Ernie) Luther, treasurer; and Jim Hanna and Evelyn (Mrs. Denny) Blake, hold-over directors, and Barry Winters, new director.

The group also voted to send a letter of thanks and sincere appreciation to Tom McGinty, long-time Association treasurer, for his many years of service to the Cranberry Festival.

"Cranberry Mardi Gras" has been selected for the theme, with the winning entry having been entered by Lila Kirchgessler, a beautician at Bandon Beauty Shoppe. She will receive free tickets to all events for her family.

Sponsors for the princesses, who will be selected soon by students of Bandon High, will continue to be the Bandon Lions Club, Bandon

Area Soroptimists, Veterans of Foreign Wars, Southwest Oregon Cranberry Club and the Dew Valley Club.

The Association decided to adopt a new policy concerning the amount of money raised by the princesses, and agreed that each girl would receive 10% of her sales in excess of the minimum requirement of \$600.

"We felt that this would be a more fair way to handle it, since some girls sell as much as \$2,000 worth of tickets, while others are far behind," said a spokesman for the Association.

The Association also voted to order 5,000 red and white buttons advertising the festival, with organizations who sell buttons receiving a

10% commission for their club.

The group also agreed to purchase a book in the name of the late Bill Stewart to be placed in the Bandon library.

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FARMING IS EVERYBODY'S BREAD AND BUTTER

by Randy Bollum

The sun slowly rises over the eastern hills and peeps into the valley below. By now the birds are singing and the small animals are scurrying around looking for food. The fresh dew on the green grass sparkles from the rays of light being cast by the sun to awaken the world for a new day. This is what the farmer sees every morning when he too wakes up to meet the challenge of a new day.

Most farmers probably don't realize what a magnificent world they live in. They don't have time to stop and take a good look at the little things that are so close around him. A farmer is constantly bringing new life into the world. A baby calf, a newborn lamb, a leafy stalk of corn; all are perfectly made and new to the world around them. The farmer has the responsibility to look after these new creations and to be sure that they keep growing and developing into the things that they were created for.

You might compare a farmer to a sculpturer, who takes a piece of clay and molds it into a beautiful piece of art. It truly is a work of art to raise crops and livestock. It takes time, patience, creativity and a lot of dedication.

Farmers are the kind of people who aren't going to give up if the going gets tough. That has been the tradition of the farmer all along. After all, who else is going to feed the world if the farmer quits? Sure, farming has its bad times, too. When tornadoes strike, drought hits, hail shreds, floods swamp, and other disasters strike, the farmer struggles through because he knows he has the responsibility of putting food on the table of the world. Billions of people depend on him. If he doesn't make it, times will be tough. Agriculture is the backbone of America. If we lose the farmer,

with it will go all the things America stands for; peace, freedom, hard work, and with it the self satisfaction of knowing you have done a tremendous job. You, the farmer, have fulfilled a mighty task that very few people realize how much skill and dedication it actually takes.

I think the rewards of farming are really outstanding. I've lived on a farm all my life and I can't think of any other place I'd rather live. A farm is a fantastic place that has exciting things happening all the time. A farm is a great place to try things on your own. Sometimes it works out all right and other times

you fail. If it doesn't work, you just have to try harder next time. This is what has made great Americans, the desire to keep trying. And there will always be great Americans because there will always be farmers. Farmers won't give in to their problems because they like to succeed. And when you really like what you're doing, you'll succeed if you work hard. The farmer will be successful!

The next time you see the sun rise and shine across the valley, take time to notice the little things. If the air seems fresher, the grass greener, the sky bluer, maybe you should decide to be a farmer.

BELGIAN SUGAR HAS BAD YEAR, BUT OUTLOOK GOOD

Bad weather has caused Belgium's 1974 sugar production to drop an estimated 10 percent, despite a record planting of sugarbeets. Exports, too, have declined. The outlook for 1975, however, is much brighter. Belgian officials are predicting another record planting and new production highs.

Lower sugar content has been named another reason for the production downswing for 1974. Over 105,000 hectares of Belgian cropland were under sugarbeets last year, but total production will hit an estimated 660,000 tons, compared with 713,000 tons in 1973.

The production surge predicted for 1975 should result from an expected 25 percent increase in acreage this year, to 130,000 hectares.

Several factors have contributed to the expected rise in sugarbeet area. The current tight world sugar market and rising prices have prompted the European Community to raise its sugar production quota at guaranteed prices. The EC is also anticipating higher prices for the 1975-76 campaign.

An additional factor is the

decrease in plantings of winter grains, caused by adverse weather last fall. A considerably larger area will be available for the planting of spring crops, and a large part of that area will probably go into sugarbeets.

Belgium is expected to export 320,000 tons of sugar and sugar products this year, virtually all of it to fellow EC members, particularly the United Kingdom. This represents a 20 percent drop from last year's exports of over 400,000 tons.

Domestic sugar consumption jumped nearly 10 percent in 1974, after consumers stocked up last fall in anticipation of a price rise. But domestic consumption is expected to fall from the 1974 mark, near 380,000 tons, to a more realistic 360,000 tons this year.

The Belgian sugar industry is expected to benefit considerably from the present transitional period in the EC sugar market. As a result of the rise in the EC's production quotas for sugar and the subsequent increase in the acreage needed, the sugar industry stands to expand its sales potential significantly.

EAST GREET'S WEST IN CRANBERRY COUSCOUS

For centuries in the Middle East and countries located in the area described as "the cradle of civilization," certain foods such as lamb and semolina wheat have been staples of the people's diet. Beyond their traditional value, these foods continue to be favored today because they are nutritiously sound. Recipe names may seem strange, but the ingredients, even when slightly reinterpreted for the American palate, prove to be both excitingly different and economical.

So consider preparing some of these dishes for an exotic dinner for family or friends. As a main course, "Cranberry Couscous" is based on the famed Arabic couscous recipe (couscous is not only the name of a favorite dish, but also the name of a cooking pot which is used to prepare it). However, you do not need a couscous pot (or a couscousiniere, as the French call it) to make this dish. Actually such basic kitchen cooking equipment as a colander, a 4-quart saucepan or Dutch oven will serve very well for its preparation.

Since cubed lamb is an important part of the recipe, the spring season is a perfect time to prepare it, with lamb in abundant supply in our markets then. In cooking this dish, you first combine lamb with chicken broth, celery, onion, carrots and jellied cranberry sauce which gives it an especially piquant and savory flavor. After the lamb mix has cooked for awhile, a steam pot (or colander) is added to the top of the first pot. This pot will contain naturally wholesome wheat pilaf or cracked wheat, and is cooked by a steaming process from the pot below. Be sure your steam pot or colander fits the top of the first pot. "Cranberry Couscous" with lamb when done is a total meal—and you may only wish to add a salad of bright greens with a light dressing.

For a dessert which is not only delectable but nutritious, "Turkish Helva with Honeyberry Sauce" will prove a rare treat for your family or for a special company occasion. It combines kasha (or coarse buckwheat groats), blanched almonds, milk and cream into a handsome mold. Then it is topped with a delicately sweet sauce combining whole berry cranberries, honey and lemon. This recipe creation from the lands of "milk and honey" has an exotic elegance. When the platter is garnished with dried apricots and dates, you'll find it aesthetically colorful as well as good eating.

And last, a drink that is perfect to serve after your couscous dinner or with your Turkish helva, or on its own on other occasions such as an afternoon or evening pickup. "Appleberry Turkish Tea" mixes tea with honey, cranberry apple juice, lemon, cinnamon and ginger.

CRANBERRY COUSCOUS (Serves 6 to 8)

- 1/4 cup butter or margarine
- 1 large onion, chopped
- 1 clove garlic, minced
- 3 pounds boneless lamb, cut into 1-inch cubes
- 3 carrots, sliced
- 2 cups sliced celery

- 2 cans (10-3/4 ounces each) condensed chicken broth, undiluted
- 1 can (8 ounces) jellied cranberry sauce
- Salt and pepper
- 2 cups couscous (wheat pilaf, or cracked wheat), or substitute with brown rice
- Mint leaves, for garnish, fresh or dry, if available



In a 4-quart saucepan, Dutch oven or the bottom pot of a couscousiniere, heat butter and saute onion and garlic about 5 minutes. Add lamb and continue sauteing until lamb cubes are lightly browned. Add carrots, celery, chicken broth and cranberry sauce. Cover tightly and simmer for 1 hour or until lamb is almost tender. Remove cover and place a colander on top, or second part of couscousiniere, over simmering stew. Wash couscous and pour into colander. Cover tightly and simmer stew for another 30 to 40 minutes or until couscous is tender but still somewhat crunchy. If desired, stew may be thickened with flour mixed with water. Spoon couscous onto serving plates and spoon stew over top. Garnish with mint leaves.

TURKISH HELVA WITH HONEYBERRY SAUCE (Serves 6 to 8)

- 1/2 cup butter or margarine
- 1/2 cup slivered blanched almonds
- 1 cup kasha (coarse buckwheat groats)
- 3 cups milk

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cup (1/2 pint) light cream
teaspoon vanilla extract
1/2 cup sugar

Sauce:

1 can (1 pound) whole berry
cranberry sauce
1/2 cup honey
Grated rind and juice of 1 lemon

In a saucepan melt butter and saute almonds until golden brown. Add saffron and continue sauteing for 5 minutes, stirring frequently. Slowly stir in milk and cream. Cook at a low boil until mixture is thick,

stirring occasionally. Remove from heat and stir in vanilla and sugar. Stir until sugar is completely dissolved. Pour mixture into a lightly oiled 1-1/2 quart mold. Cover and chill until firm. In a bowl combine sauce ingredients and stir until well

mixed. Chill. When ready to serve, dip mold into lukewarm water for a few seconds. Loosen edges of mold and invert onto a platter. Spoon sauce over each serving. Garnish platter with dried apricots and pitted dates, if desired.

APPLEBERRY TURKISH TEA (Serves 6 to 8)

1 cup honey
6 cups cranberry apple juice
3 tea bags
1 cinnamon stick
Dash ground ginger
Rind of 1 lemon

Combine all ingredients in a saucepan and bring to a boil. Remove tea bags and then simmer mixture for 5 minutes. Remove cinnamon stick and lemon rind. Pour into small glasses and serve hot.

Recipes courtesy of Ocean Spray Cranberries, Inc.



OBITUARY

HAROLD C. GATES, SR.

Harold C. Gates, Sr., 67, a native and lifelong resident of Middleboro, died at his home on Thompson street, Saturday, Feb. 22.

The son of Clinton B. and Adella (Westgate) Gates, he was a self-employed cranberry grower and poultryman.

He was a member and former director of the Plymouth County Farm Bureau, a member of the East Middleboro 4-H Town Committee, a member of the County Aid to Agriculture, Ocean Spray Cranberry Association, Bay State Pony Association, Northern Pony Trotting Association, and member and past director of the Plymouth County Poultry Association.

He is survived by his wife, the former Ellen G. McCarthy; three sons, Harold C. Gates, Jr., Ralph E. Gates, and David L. Gates, all of Middleboro; four daughters, Mrs. Marjorie Nyberg of Dennis, Mrs. Virginia Iampietro of Wilbraham, Mrs. Elinor Tanguay and Mrs. Betsy Dunham, both of Middleboro; his step-mother, Mrs. Aymar Gates of Middleboro; a sister, Miss Ruth Gates of Middleboro, and 20 grandchildren.

NEW JERSEY

Continued from Page 1

economic level in most fields. The mild winter apparently was advantageous to blueberry bud mite as unusually heavy populations were found in a few localized areas. The damage from this pest will be readily observable this season but should not affect the crop appreciably. Some natural attrition of blossom buds might be desirable this year. An exceptionally heavy

bud set exists in most fields on most varieties. The set is actually greater than in 1974 when a record crop of blueberries was produced in New Jersey.

NOVA SCOTIA

March was slightly colder than the 50-year average. We also had more than twice the 50-year average of snowfall.

It was indeed a grand pleasure to attend the first conference and workshop of cranberry extension and research workers held at East Wareham. Since returning home, I have had a chance to talk with Mr. Robert Murray, extension horticulturist with the Nova Scotia Department of Agriculture and Marketing. He in turn will be sending some information along to the growers in Nova Scotia.

20 inches at the end of February. A year earlier there was 12 inches of frost in the ground but the frost came out rapidly in the first half of March as record high temperatures in the 60's occurred. Reporters on the Snow and Frost Depth survey had indicated that the frost was starting to soften at the bottom as of the end of February because the heavy snow cover was keeping the cold temperatures out. If the frost continues to soften and the snow melt is orderly, the threat of spring flooding would be reduced. Sub-soil moisture reserves were short in many areas going into winter due to the dry weather last September and October. The snow melt could help the soil moisture situation is the runoff is not severe.

While the heavy snow cover provides good snowmobiling, farmers are finding it difficult to spread manure and some is being stacked. Farmers are looking ahead to spring and have been lining up their supplies for the 1975 planting season. The high costs of inputs such as fertilizer, seed, and chemicals have left farmers in a dilemma as to what direction to go this year. Crop prices have declined in recent months and consideration is being given to reducing fertilizer usage. Farmers are concerned that their production costs for corn will be greater than the returns in the fall when the new crop is harvested.



1 Empty container into spray tank. Then drain in vertical position for 30 seconds



2 Add a measured amount of rinse water (or other diluent) so container is 1/4 to 1/5 full. For example, one quart in a one-gallon container

3 Rinse container thoroughly, pour into tank, and drain 30 sec. Repeat three times. Add enough fluid to bring tank up to level.



4 Crush pesticide container immediately. Sell as scrap for recycling or bury. Do not reuse.



WISCONSIN

In sharp contrast to a year ago, March has been on the cold side with below normal temperatures. A snowstorm on the 6th brought 5 to 8 inches of snow to the southern part of the state, adding to the good cover received in February. Snow depths at the end of February had averaged 14 inches in Wisconsin compared with 9 inches a year earlier. A potential for spring flooding exists, depending on the amount of frost remaining in the ground when the snow melt begins. Frost depths in Wisconsin averaged

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REGIONAL NEWS NOTES

NEW JERSEY WISCONSIN

Last month was the coldest
April in the forty-five year weather
recording history at the Cranberry
and Blueberry Laboratory in New
Lisbon. The average temperature
was 46.7 degrees, which is 4.8
degrees lower than normal and 6.3
degrees colder than April of last
year. The previous record lows for
April were 47.2 in 1966 and 47.5 in
1940.

Two daily record lows were
established. The 24 degree mini-
mum on the 14th and the 26 degree
on the 22nd displaced the previous
records set in 1940 and 1953.
Another unusual feature of the
month was the period of four days
from the 4th through the 7th when
maximum temperatures remained
in the low forties and minimums in
the twenties. For short term severe
April weather, this was exceeded
only by the six successive days of
maximum temperatures in the
forties from the 7th through the
12th in 1935.

Rainfall occurred on seven days
and the total for the month was
3.58 inches. This is 0.21 inch above
normal. For the first four months
of the year the accumulated pre-
cipitation is 14.69 or 1.40 above
normal.

As of May first the winter flood
has been withdrawn on only about
400 to 500 of New Jersey's 3,100
acres of cranberry bogs. Most
growers await the traditional May
10th date before removing the
water from their bogs. The cool wet
season has held back normal growth
of blueberries. As of May first, the
season was about ten to twelve days
behind normal. On this date there
was only a scattering of open
blossoms in early varieties in the
Pemberton area. The mild winter
was favorable and as a result there
is an extremely heavy bud set on all
varieties.

Temperatures were unseasonably
cold in the first half of April,
averaging 7 to 15 degrees below
normal. Because of the cold tem-
peratures, precipitation has been
mainly confined to snow. The
southeast had about an inch of
precipitation water equivalent from
the snowstorm of April 1-2. Other
southern areas had about a half
inch water equivalent from that
storm. Northern and central areas
have had little or no precipitation
in the first half of April. The west
and southwest had just under a half
inch from snow on April 9th. High
temperatures in the first week of
April were in the 30's except for
some 40's in the south on the 4th
and 6th. Temperatures finally rose
into the 50's on the 12th and 13th
under the influence of sunshine and
a declining snow cover.

The last two weeks of April
featured a typical variety of spring
weather with variable temperatures.
Severe thunderstorms brought scat-
tered hail and heavy rain in western
and southern areas on the 17th and
18th. Showers and thunderstorms
occurred on the 22-23, with heavi-
est amounts in the west and north.
Very heavy rains fell in the state on
the 27th and continued into the
28th.

WASHINGTON

The 5th National Cold Protec-
tion Workshop sponsored by ASHS
Committee on Meteorology and
Climatology was held in Yakima
April 8-10. The meeting, which
Azmi Shawa attended, brought
together meteorologists and horticul-
turists from deciduous and citrus
fruit growing areas.

Precipitation total for April was
3.33 inches, bringing the year total

Continued on page 20

Winterkill Digs Lake's Graves

Madison, Wis.—When, and if, the ice finally leaves the lakes up in the northlands of Wisconsin, there just may be a lot of Cranberry Lakes around.

Cranberry is a shallow 512 acre lake in Price County that went into the winter with a full complement of northern pike, perch, crappies, bluegills and large-mouth bass.

Cranberry Lake is now a shallow 512 acre grave.

Almost all the fish are dead now, according to the best of estimates, as a result of the late winter snowstorms that pelted the northwestern section of Wisconsin. When the weather warmed and some of the ice melted, the evidence was there. Thousands of fish, belly up.

Cranberry Lake is new to a lot

of people because until a year ago it had no public access. It was a reservoir for a cranberry company and it was fished by only a few people.

Then the Department of Natural Resources built a road to the lake and constructed a launching ramp.

Just when folks were beginning to fish the lake, it died. Many people thought that the cranberry company accidentally dumped some fish killing chemicals into the lake and killed the fish.

"No, it was a normal winterkill, as far as we can determine," said Bill Threinen, head of the inland fisheries department for the DNR at Madison. "It was a very severe winterkill caused by the late snowfalls."

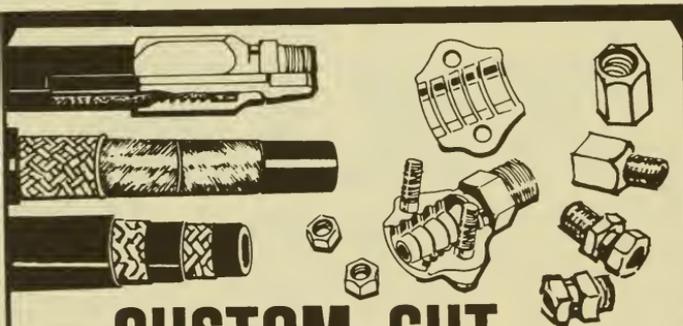
Other people thought that the winterkill was caused by a drawdown of the lake in January. Jerry Beaver of the DNR at Park Falls said he had heard of a drawdown, but DNR checks through the winter had revealed mostly normal water levels.

He said the dissolved oxygen content of the lake was checked in February and was found to be low, but not too low to sustain fish life. The late snowfall prevented sunlight from penetrating the thick ice cover, he said, and the decaying vegetation caused a further lowering of the dissolved oxygen content.

The DNR is now formulating plans to restock the lake to replace the thousands of fish that were killed. Northern pike and bass fry, for example, will be stocked as soon as possible.

It will be some time, though, before the lake is restored to the fishery it once was.

According to Threinen, there may be many other lakes with severe winterkill this past winter. It won't be known which lakes have been affected and how bad the kill has been until the ice leaves, however.



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OBITUARY

CHARLEY W. ANDERSEN

Charley W. Andersen, 66, of R. 2, Warrens, Wisconsin, died March 3 in a La Crosse hospital.

He was born Sept. 23, 1908 to Mr. and Mrs. Anton Andersen in the Township of Lincoln, Monroe County, and married Celia Noth Oct. 4, 1936. He had been a cranberry grower in the Warrens area for many years.

He was a Lincoln Township supervisor and a trustee of St. Matthew's Evangelical Lutheran Church board.

Survivors are his widow; a son, Harold A., of Warrens; a daughter, Mrs. Christopher (Karen) Scott of Chicago, Ill.; four grandchildren; two brothers, Christian of Racine and Alfred of Princeton; and a sister, Mrs. Anna Burdick of Racine.

JOHN E. WAARA

John E. Waara, 76, a long-time Grayland, Washington resident, died recently at a local hospital following a brief illness.

He was born in Matojaruy, Sweden, Jan. 23, 1899. He came to the United States in 1916 and later to Grayland from Hancock, Mich. He married his wife, Anna, July 19, 1923, in Seattle.

He had been a cranberry grower from 1927 until his retirement in 1966. He was a life member of the Aberdeen Eagles and was on the board of directors of Ocean Spray Cranberry Growers.

From 1943 to 1945 he was the assistant to the county extension agent and on the advisory board of the Grayland Cranberry Association. He was also on the local Drainage Commission.

In 1961 he was named the Aberdeen Junior Chamber of Commerce Conservation Farmer of the Year.

Besides his wife at the family home, he is survived by a son,

Wallace, a grandson, Carl, and a brother Matt, all of Grayland; a sister, Mrs. Joseph (Emma) Sundstrom of Sweden.

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PESTICIDES: THEIR ROLE IN FOOD AND FIBER PRODUCTION FOR A HUNGRY WORLD

by
DR. CHESTER CROSS
and
DR. ROBERT DEVLIN

Let us turn from consideration of pesticides and their role in protecting human health to what has been called the world's greatest current and future problem—that of feeding, clothing and sheltering people. Our largely urban population in America must realize on reflection that fruits, vegetables, meats and dairy products all come ultimately from growing plants. Fewer of them realize their dependence on green plants for their clothing and still fewer that lumber, boards and timbers for house construction, all come from growing trees and forests. Early in this century nearly half of the American work force was engaged in food and fiber production; today less than 5 per cent is so employed, and herein lies one of the great problems of American food and fiber production—the lack of knowledge and understanding by the great majority of urban Americans of the problems of farmers and foresters.

One of the sobering facts of twentieth century America is this reduction of food and fiber production workers from 50 to 5 per cent of the total. During the last several decades this had meant the steady loss of about 100,000 U.S. farmers each year. We say "sobering." Clearly it means that year in and year out (and despite many government programs designed to be helpful) farmers have had increasing difficulty making their long work week yield a decent living for themselves and their families. We do not have a solution to this growing problem, but in view of the above, it is clear that food prices paid to the farmer have not been high enough to keep many of them in business.

It may come as a shock to most readers to be told of the amazing achievements in food production during the past half-century. Commodity after commodity has shown a sharply increased productivity per

acre. In cranberries we have gone from an average crop of 20 barrels per acre in 1910 to 96 barrels per acre in 1971. These figures are the average for the crop produced in the Bay State. Corn used to yield about 25 bushels per acre in the U.S. corn belt in World War I times, but to stay in business today the mid-West farmer must produce 100 bushels per acre. Throughout the food production industry a quadrupling of productivity per acre can generally be observed.

This stupendous achievement has many consequences. First of all, it meant we could feed a population that had more than doubled in size without increasing the area under cultivation. For good or bad, this made land available for housing, for interstate highway systems and for conservation or wilderness use that would otherwise have been needed for food and fiber produc-

Continued on next page

tion. Secondly, this increasing productivity per acre meant that farmers could sell units of their produce for less because of larger volume. Difficult as it may be for the American to realize it, his food costs him on average less than one-fifth of his after-tax income (and this includes the cost of his restaurant and hotel dining). No other people in the world can boast that such a small percentage of expendable income goes for food. In England and western Europe it takes 25 to 35 per cent of expendable income to buy food, and in the U.S.S.R. and its satellites the percentage rises toward and beyond 50.

This great achievement in the efficiency of American food production was reached through many technologic improvements. We have learned to replace the plant nutrients lost in the raising of each crop so that soils remain fertile and productive. In cranberries and many other crops we have curtailed frost losses with sprinkler systems which in replacing flood frost controls have conserved enormous quantities of water. But probably the greatest curtailment of losses has come from the discovery of controls for crop-plant diseases, weeds, insect pests, mites, etc. The authors of this article can recall the devastation of a crop by insect hordes when there were no controls available. In recent years we have seen vast acreages of forests defoliated by gypsy moths and tussock moths. When this occurs in mid-growing season wild-life disappears because food supply and shelter has gone with the foliage. Though hardwood trees usually survive such defoliation for a year or more, their growth is severely limited and their resistance to disease so reduced they become vulnerable to the attack of fungus pathogens. The damage caused by defoliating pests on pine, fir and spruce forests is more deadly because evergreens frequently die as a result of a single defoliation.

Contrary to many stories in the public press, energetic efforts have



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been made by public-service scientists to control forest and agricultural pests by importing pest parasites and predators from around the world. The English or (House) sparrow and the starling were brought here decades ago to eat up the gypsy moth caterpillars. Unfortunately, these birds found other and more delectable supplies of food, failed to exert any control on the gypsy moth and freely multiplied until they had taken over the nesting sites of many native song birds and finally became insufferable pests themselves because of their millions.

Of the hundreds of pest parasites brought into the U.S.A., reared in large numbers and released into the environment, many failed to survive in our climate and only a few effected measurable control on the target pests. It is for this reason that while life history studies go forward on both pests and pest parasites that pesticides continue to be used as registered and approved, and alternative pesticides continue to be studied.

These same pesticides are largely responsible for the abundance and quality of American food. Agricultural scientists are continuing their efforts to reduce the share of each crop destroyed by pests. In recent years, great efforts have been made to avoid undesirable side-effects of pesticide usage; and because we know more about our own efforts in cranberries, we write of these while knowing that similar efforts go forward in other crops.

Wherever possible cranberry growers close the drainage flumes of their bogs prior to pesticide application to prevent the escape of toxic residues downstream with the drainage water. This impoundment allows the time necessary for the breakdown of short-lived carbamate and organo-phosphorus pesticides. In past years this same technique proved efficacious in providing time for the adhesion of chlorinated hydrocarbon insecticides to organic matter and soil particles almost completely fixing them in the site of their essential use and preventing

their migration away from the bog. Thus dieldrin was used in a cranberry bog only once in five years giving excellent control of three species of destructive cranberry root-grubs while at the same time dieldrin residues in estuarine waters and silts below the bogs remained so low that their levels were indistinguishable from waters and silts in estuaries not receiving cranberry bog drainage.

Most insecticide and fungicide applications in Massachusetts cranberries are made at dusk through solid-set sprinkler systems. While it is still daylight the sprinklers are tested with clean water to be sure all heads are turning and no leaks are present. Then as darkness comes, and as daytime winds become calm (a necessary feature for circular sprinkler patterns and even distribution) the grower meters his pesticide into the pump in 15 or 20 minutes, rinses with clean water to clear his system and shuts down. At dusk the pollinating bees are back at their hives and birds are at roost in the surrounding forest. If the grower has used an organo-phosphorus insecticide it has broken down to innocuous levels by the morning when returning bees and birds find nothing remaining that is toxic to them.

Cranberry growers know that their 40 to 50 million flowers per acre must be visited by bees to convert by pollination their flowers into berries. They regularly hire hives of bees at considerable cost to insure this vital pollination. They would be the last to do anything that would kill off these bees and destroy the relationship with their beekeeper.

Finally, it needs to be pointed out that farmers use pesticides that are approved and registered for use by the Environmental Protection Agency (EPA). Further, he knows that his produce will be tested enroute to market by the Food and Drug Administration (an agency of EPA). If illegal residues are found his entire crop may be confiscated and destroyed without compensation. The farmer knows this and he

also knows that by following label instructions he can avoid such residues. It is sometimes forgotten that the farmer and his family are often the first consumers of his crop; he is unlikely to misuse pesticides that would poison either. In cranberries (and we are sure other crops are doing likewise) we have developed a means of examining the cranberry bog to determine not only the presence of an insect pest but the number and dispersal of the pest infestation. Cranberry growers have learned to use an insecticide only when a sizeable part of the crop is threatened. In this way treatments are reduced to a minimum, costs reduced, parasites are encouraged to contribute a measure of control, environmental burdens kept at minimal levels, and developments of a tolerance by the pest to the pesticide is retarded.

EXCERPTS FROM "8 SURPRISES"

by Dr. John J. McKetta

DDT and other chlorinated compounds are supposedly endangering human lives and eliminating some bird species by thinning the shells of their eggs. There is a big question as to whether this is true. Even if true, it's quite possible that the desirable properties of DDT so greatly outnumber the undesirable that it might prove a serious mistake to ban this remarkable chemical.

Dr. Norman E. Borlaug, the Nobel Peace Prize winner, is opposed to the banning of DDT. He won the Nobel prize because he was able to develop a new strain of wheat that can double the food production per acre anywhere in the world that it is grown. Dr. Borlaug has said, "If DDT is banned by the United States, I have wasted my life's work. I have dedicated myself to finding better methods of feeding the world's starving population. Without DDT and other important agricultural chemicals, our goals are simply unattainable."

Continued on Page 20

West Germans Enforce Strict Pesticide Control Laws

By THOMAS B. O'CONNELL
Assistant U.S. Agricultural Attaché
U.S. Mission to the European Community
Brussels

West Germans traditionally have been concerned with food purity—a concern that is reflected in strict legislation regarding pesticide use and permitted levels of pesticide residues in food. These regulations have a spillover effect on food imports into West Germany—the world's largest importer of agricultural products, estimated at about \$12 billion in 1974.

While advocates of "pure foods" are found throughout the world, they seem to be more numerous in West Germany than in many other countries. Such foods are generally considered to be those produced without chemical fertilizers, pesticides, or food additives. In the United States, they are called organic or natural foods.

Not all of West Germany's organic food users, however, are aware of the country's rigid pesticide regulations, which aim at balancing consumer health safety with good farming practices. Concern is growing that German consumers are paying more for allegedly organic foods that are neither safer nor more wholesome than foods of better quality produced more efficiently with pesticides and fertilizers.

West Germany has one of Europe's longest histories of regulating farm chemical use through legislation. Two basic laws—the Plant Protection Law and the Food Law—provide authority for legislation governing agricultural chemicals. Both are general laws, under which a number of implementing ordinances are issued.

The first, the Plant Protection Law of May 10, 1969, relates

mainly to the production and application of agricultural chemicals, and is under the authority of the Federal Ministry of Agriculture. Among other things, the law delegates responsibility to the German states for enforcing various ordinances, such as that setting residue tolerances, and presents enforcement guidelines.

Another ordinance under the Law is concerned with testing and registering plant protection materials. Under this ordinance, detailed guidelines are set forth for registering plant protection materials such as insecticides, fungicides, and plant growth regulators.

Responsibility for carrying out the provisions of the ordinance rests largely with the Federal Biological Institute, a semiautonomous Federal agency, reporting to the Federal Minister of Agriculture. The Institute's main office and laboratories are in Braunschweig.

The second basic law is the Food Law of January 17, 1936, as amended. As with all other matters having to do with residues in foods, responsibility rests with the Federal Ministry of Youth, Family, and Health. The Food Law provides the legislative authority for establishing pesticide residue tolerances.

The Ministry of Youth, Family, and Health drafts residue tolerance ordinances in consultation with such other Ministries as Agriculture and Economics and Finance, as well as with food industry representatives and producer and consumer groups. Tolerances are published in the Residue Tolerance Ordinance for Plant Protection Materials, which is periodically modified,

most recently on June 5, 1973.

Both of these basic laws require the consent of the Federal Assembly and the Federal Council. Most ordinances, however, since they provide authorization for implementing programs, require the consent of only the Federal Council. Thus, in the last analysis, food legislation depends on the consent of a political body.

Establishing tolerances. The first step involved in placing a pesticide—including an imported product—on the German market is to apply to the Federal Biological Institute. Applications may be made by the producer, the owner of the firm intending to market the substance, or by the importer.

According to the Plant Protection Law, an application must include at least the following: Name and address of applicant, name of substance, composition of substance (scientific nomenclature), uses and indication of hazards, instructions for use, intended labeling of packages, nature of packaging materials, and other pertinent documentation.

The applicant must also provide the Institute with at least a 2-pound sample of the compound for chemical and physical tests, plus additional amounts necessary for carrying out biological investigations in the field.

In addition, the Biological Institute requests that the applicant complete a form with such information as toxicity, including acute, oral, dermal, and inhalation medial lethal dosages determined on at least the rat; 20-day chronic toxicity tests; and 90-day to 2-year feeding tests using the rat and the dog.

Information is requested on fire hazard; shelf life; flash point; melting point; boiling point and persistence in plants, plant products, earth, and water of original substance, degradation products, and reaction products—in foodstuffs and in feedstuffs.

Further, applicants must specify target organisms and host plants; application rates; delay between

applications and between last application and harvest; disposal; equipment cleanup; possible dangers to neighboring crops, warehouse personnel, field workers, and bees; efficacy for specific uses; and analytical methods for the determination of residues.

The Biological Institute must provide the applicant with a report on the status of its work within 3 months following receipt of the application. Before final authorization, the Biological Institute must provide its own results on at least six categories of tests, including: Chemical composition, efficacy for intended uses, possible hazards to plants and plant products, effects on human and animal health, and persistence in earth and water.

After these tests are completed, an Export Committee meets to render an opinion on a pesticide chemical before it is authorized for marketing.

This Committee is composed of 30 members appointed by the Federal Council. Members are drawn from the Biological Institute, the Federal Health Office, and the State Plant Protection Services.

As appropriate, additional representatives may be designated from universities, analytical institutes, and from among Federal and State officials. Other experts, not members of the Committee, may also be asked to appear at the meetings. Once authorization has been granted, it is valid for a period of 10 years and is renewable.

Having successfully completed procedures necessary for authorization by the Biological Institute, samples of the compound, along with copies of all the data developed to this point, are forwarded to the Federal Office of Health (an arm of the Ministry of Public Health) located in Berlin.

At this agency, toxicological data in particular are examined and further tests carried out as necessary. Data are then reviewed and compared with similar data from other agencies and with acceptable daily intake (ADI) recommendations from the World Health Organization.

All findings are then considered in the light of good agricultural practices and good manufacturing practices and used as the basis for a recommended residue tolerance and forwarded to the Federal Ministry of Youth, Family, and Health in Bonn.

This Ministry consults with other interested Ministries (particularly Agriculture), as well as with industry and consumer representatives, before preparing a final proposal on residue tolerances.

After the proposal has been approved by the Federal Cabinet, it is presented to the Federal Council for final legislative action.

At this point, the proposal has taken the form of an amendment to the Residue Tolerance Ordinance. The results of the action taken by the Federal Council are published in Part I of the Federal Law Register.

Neither newly established nor changed residue tolerances are ever published individually; rather the entire list is amended periodically (appearing as an annex to the Ordinance).

The Federal Biological Institute may publish new pesticide registrations indicating changes in residue tolerances, however, provided that an adequate delay period between last application and harvest is stipulated. Such changes or additions to the list of approved pesticides are published in the Federal Gazette.

For those pesticide-crop combinations for which no residue tolerance has been specifically established, an automatic tolerance is assumed at one-tenth the lowest published tolerance for that pesticide on the most closely related crop.

This system poses an ever-increasing number of problems, as more and more such combinations are found which do have a place, however small, in German agriculture. Growers of such crops find themselves frustrated by these prohibitively low residue requirements. German officials are aware of this situation and claim to be in the

process of remedying it.

Enforcement. Enforcement of the German Food Law, and consequently both the taking of samples of foodstuffs and the performance of chemical analyses on them, is entirely in the hands of the 11 German states. Each individual state has developed its own administrative orders.

Sampling. There is no standardization of sampling sizes and techniques in West Germany. Sample sizes and the manner in which they are drawn may in some cases be left to the discretion of the individual inspectors.

Domestically produced commodities may be sampled in retail stores, in retail or wholesale storage facilities, or, in a very few cases, on the farm (after harvest and already sold). Imported agricultural goods are sampled at the point at which they enter the German customs territory.

Food inspectors are authorized to sample agricultural commodities only after they are legally classified as food. Imported goods become food immediately following sale to the first merchant in the chain. Processed goods, such as bread, milk, or beer, may be sampled at the processing plant.

Many German officials would prefer to sample at the "farm gate," but the present situation, plus the more practical fact that German farms are relatively small and widely scattered, make "farm gate" sampling very difficult.

These legalistic and logistic problems make it very difficult to enforce proper pesticide usage on the farm. By the time an infraction is discovered, it is often too late either to identify the producer or to prevent circulation of the lot from which the sample was taken.

More and more, German states are making use of coding systems, whereby each lot of commodities is identified as to specific farm or origin, and samples for analysis are similarly identified. Such systems at least will permit the inspectors to take punitive action against those who misuse agricultural chemicals.

Sampling regulations vary from state to state. Nordrhein Westphalia, which includes the densely populated Ruhr Valley, is the most populous of all the German States and receives a large portion of the foodstuffs imported into Germany. This State adopted an Administrative Order on Food and Quality Grade Inspection in November 1971.

The order spells out all of the operating details concerning sampling techniques for foodstuffs, as well as analytical methods to be used, such as those for determining pesticide residues. For example, it provides that at least 10 samples per year be taken for each 2,000 inhabitants. At least three of these 10 samples must be from foodstuffs of animal origin.

The Order also contains lists showing the minimum sample sizes required for many individual food products. These samples are drawn by trained food inspectors either by buying samples in retail stores, or at the production level by visiting food manufacturers, processors, or slaughter plants.

The inspectors are responsible, among other things, for taking samples, identifying them as to source, and forwarding them for laboratory analyses. Thus, compliance is concentrated much more heavily on the final processed product than on raw agricultural products.

Imported products may be sampled twice—first, at the point of

entry into the Federal Republic, and second at the point of sale in one of the states.

Customs officials now have the authority and responsibility to determine—in cooperation with the regular food inspection laboratories—that imported foods comply with the new German Food Law, enacted in August 1974. The new law specifically provides that all imported products must meet the requirements of the Food Law, with only the exemptions that are specified in detail.

Analysis: Throughout the FRG, there are some 60 State Institutes for Chemical Investigation. Each of these institutes is equipped with laboratories, which are charged on an individual basis with performing continuing analysis of different substances for contaminants. These substances include pharmaceuticals, cosmetics, detergents, wines, meats, other foods, water, and sewage. Pesticides are among the contaminants looked for.

Only 11 of the 60 facilities are directly instructed to perform pesticide residue analyses, but these 11 are located so as to facilitate the shipment of samples taken by inspectors.

In 1970, these laboratories employed about 500 academically trained chemists, the number in each laboratory varying from only 2 to 3 to 25 or more, depending upon workload (facilities in Augsburg and in Bremen, for example, have 8 trained chemists each, Ham-

burg has 21, and Munich 28).

Similarly, the average number of samples analyzed in a year varies from laboratory to laboratory (about 450 in Bremen and 1,500 in Hamburg).

Analytical methods used for detecting and measuring different pesticides on different crops are from a variety of sources. The German Ministry of Public Health, for example, is the sole authorized source of analytical methods for wine and meat.

For other commodities, methods are taken from the Association of Official Analytical Chemists and its German counterpart (the DFG), the Federal Biological Institute of Germany, the International Standards Organization, and various industry and university sources.

Most if not all of these laboratories have gas-liquid chromatographs with a variety of detection devices for analytical purposes. In addition, the larger laboratories have increasingly sensitive and sophisticated equipment ranging from infra-red and ultra-violet spectrophotometers to fluorimeters and atomic absorption equipment for detecting heavy metals. Ultra-sound is used in a few laboratories for extraction purposes. Gel chromatography is being evaluated as an analytical tool and at least two facilities will have mass spectrometers by early 1975.

After receiving a sample from one of the inspection agencies, the laboratory performs a standard series of analyses as quickly as possible. Regardless of the nature of the findings, a certificate of analysis must be forwarded immediately to the inspection services that drew the sample. If no pesticide residue problem appears, the shipment or lot remains in circulation.

On the other hand, if excessive residues are found, the appropriate inspection service is notified and a more detailed analysis for confirmation is made, if possible by the same laboratory. If more sophisticated equipment is required, the sample is forwarded to the nearest facility so equipped.

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U.S. '75 Farm Export Outlook Clouded by Uncertainties

By ARTHUR B. MACKIE and HENRY C. TRAINOR
*Foreign Demand and Competition Division
Economic Research Service*

Exports of U.S. farm products, which were valued at a record \$22 billion in calendar 1974, may approach this record in calendar 1975. However, this year's outlook is clouded by such uncertainties as sluggish economic conditions throughout the world, the tenuous nature of crop predictions in major producing areas, and the need for many countries to rebuild their stocks of important feedgrains and oilseeds.

The future role of U.S. farm exports in world agricultural trade will hinge largely on the rapidity—or lack of it—of economic recovery in Western Europe and Japan in the short run, and on the success of developing countries in increasing their agricultural production in the long run.

Economic growth in developed countries will affect export sales of U.S. feedgrains and soybeans, while U.S. wheat and rice exports will be heavily influenced by future expansion in the developing and centrally planned economies.

A combination of world events of the past three years—highlighted by major crop shortfalls, rapid economic growth and inflation, monetary instability, and rapid growth in demand for U.S. farm products—has lifted the U.S. share of world agricultural trade to its highest level in a quarter of a century—16.5 percent in 1973 and probably an even greater share in 1974.

At this level, the U.S. market share was up more than 3 percentage points from the 13.3 percent of the 2 previous years and almost 3 percentage points above the 1966-70 average of 13.7 percent.

The previous high for U.S. market share occurred in 1966, when it reached 15.3 percent as a result of major crop shortfalls in the Asian subcontinent. Large shipments of U.S. grain, primarily to India, were made at that time.

The U.S. market share of world agricultural exports had been fluctuating around 13 to 14 percent for 24 years until the rapid increase that occurred in 1973. Except for the period 1968-72, when the U.S. portion of world agricultural trade decreased slightly, the U.S. market share has trended steadily upward from a low point of 10.8 percent in 1953-55.

For example, the U.S. percentage share increased from 11.9 to 13.4 between 1951-55 and 1956-60 and to 14.6 percent in 1961-65 before declining slightly to 13.7 percent in the 1966-70 period.

The recent low of 12 percent in 1969 can be considered abnormal, since it was heavily influenced by the dock strike that held the volume of U.S. exports in that year to well below the average level for all other years of the 1966-70 period.

In retrospect, it appears that the years 1967-69 may have been exceptionally low years for U.S. agricultural exports, both because of the impact of the dock strike and the Green Revolution in developing countries that greatly reduced their grain imports from the United States and other major grain producing countries.

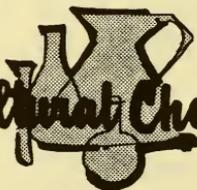
For example, during the 7-year span 1965-1972, India expanded its wheat production from 11 million to 27 million tons, an increase in a major crop unmatched by any other country in the history of wheat production.

The rapid growth in production of agricultural products in many developing countries during this period greatly reduced their total import demand for food products. For example, wheat imports by Bangladesh, India, Indonesia, Pakistan, and Sri Lanka were reduced by half—from 9.2 million tons in 1965-67 to 4.6 million tons in 1970-71.

Continued on next page

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China—the latter case rocketing to about \$852 million in 1974.

The recent upward trend in U.S. agricultural exports began in 1970 when value rose to nearly \$7.25 million. In recent years, U.S. agricultural trade hit new records in each successive year—\$7.69 billion in 1971, \$9.2 billion in 1972, \$17.7 billion in 1973, and \$22 billion in 1974.

During this recovery period, thriving markets for soybeans and feedgrains in Japan and in the European Community greatly contributed to boosting U.S. agricultural trade. As export markets began to recover, soybeans and feedgrains led the way.

In 1972, for example, more than \$2 billion worth of U.S. soybeans and products were exported—the largest single item in value in all U.S. foreign trade including such glamour export items as aircraft and computers. In the early 1970's, cash purchases—rather than P.L. 480 transactions—of U.S. farm products by wealthy nations was in fact exactly the kind of trade the U.S. agricultural economy had been seeking.

Large purchases by the USSR of wheat and feedgrains in 1972—as well as shortages of some agricultural products—contributed to the exceedingly large export volume of U.S. agricultural products at record price levels.

In 1973-74, purchases by the USSR—formerly an exporter of wheat—were reduced considerably. However, export markets for U.S. products expanded in East Europe and in the People's Republic of

China in 1974. In addition, Japan and the EC continued to be extremely important customers, with Japan importing \$3.4 billion worth of U.S. farm products and the EC \$5.3 billion worth.

Another major factor responsible for the recent trends in U.S. market shares of world agricultural trade has been grain exports—both food and feedgrains. Soybeans and products also have been influential during the past five years, but grains have been clearly the leading commodity in setting trends since 1950.

Of the grains, wheat exports have been the most accurate barometer of the actual level of U.S. exports as well as of the market

share. The trend in the U.S. market share of world agricultural trade has been closely related to the role of the United States in world wheat exports.

For example, the United States increased its share of world wheat exports steadily from 1954 through 1966, as did the entire U.S. share of world agricultural trade. When the U.S. market share for wheat exports declined in 1967-72, so did the role of the United States in world agricultural trade.

The resurgence of U.S. wheat exports from 35.4 percent of world wheat exports in 1972 to 45 percent in 1973 was sufficient to increase the U.S. role in world agricultural trade from 13.3 to 16.5 percent.

Courtesy Foreign Agriculture

U.S. MARKET SHARE OF WORLD AGRICULTURAL EXPORTS INCREASES, 1973 AND 1974

Year	Agricultural exports ¹		U.S. share	Agricultural share of total U.S. exports	U.S. share of world	
	World	U.S.			Wheat	All grain
	Bil. dol.		Percent	Percent	Percent	
1950	20.60	2.87	13.9	28.3	32.1	30.5
1951	27.63	4.04	14.6	27.1	44.2	42.7
1952	26.58	3.43	12.9	22.8	42.4	35.3
1953	26.67	2.85	10.7	18.2	30.2	27.9
1954	27.89	3.05	10.9	20.3	26.0	20.9
1955	28.76	3.12	10.8	20.2	28.2	29.3
1951-55 Avg. . .	27.50	3.30	11.9	21.7	35.2	31.2
1956	30.79	4.17	13.5	22.0	38.1	34.4
1957	31.74	4.51	14.2	21.8	35.2	32.0
1958	29.83	3.85	12.9	21.7	34.8	37.1
1959	31.80	3.95	12.4	22.6	34.7	38.6
1960	33.95	4.83	14.2	23.7	40.7	38.7
1956-60 Avg. . .	31.62	4.26	13.4	22.3	36.7	36.2
1961	34.61	5.02	14.5	24.1	43.1	38.8
1962	35.25	5.03	14.3	23.4	38.1	40.7
1963	38.85	5.58	14.4	24.1	40.8	41.1
1964	41.58	6.34	15.2	24.1	39.3	39.8
1965	42.68	6.23	14.6	22.9	34.8	40.5
1961-65 Avg. . .	38.59	5.64	14.6	23.7	39.2	40.2
1966	45.03	6.88	15.3	22.9	39.2	44.5
1967	44.82	6.38	14.2	20.4	35.6	38.6
1968	45.59	6.23	13.7	18.2	33.6	37.9
1969	49.34	5.94	12.0	15.9	28.3	33.7
1970	53.77	7.26	13.5	17.0	33.4	35.6
1966-70 Avg. . .	47.71	6.54	13.7	18.9	34.0	38.1
1971	57.93	7.69	13.3	17.7	30.0	30.6
1972	70.79	9.40	13.3	19.2	35.4	40.0
1973	107.00	17.68	16.5	25.6	45.0	46.9
1974 (Prel.) . .	130.00	22.03	16.9	22.5	39.9	40.2
1971-74 Avg. . .	91.43	14.20	15.5	21.9	37.6	39.4

¹ Includes SITC Sections 0, 1, 2, and 4, but excludes divisions 03, 24, 25, 27, and 28.

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Prof. Stan Norton has a paper published in the *Transactions of the American Society of Agricultural Engineers*, Volume 18, No. 1, pages 20-26, 1975. The title is "Development of a New Cranberry Harvester." This describes our traditional methods of harvest, both dry and wet, and gives a detailed description of the development and performance of the new picker developed by Prof. Norton. Reprints of this paper are available on request.

Frost Warning Service

The Frost Warning Service sponsored by the Cape Cod Cranberry Growers Association has 180 subscribers to date as compared with 194 last year. However, the donations to the answering service have been coming in at a slightly better rate which is encouraging. This is a valuable service at all levels and I hope you will continue to support it. There were no frost warnings issued through May 8, although we had two nights in late April (the

28th and 29th) when temperatures ranged from 16 to 23 degrees. This caused no injury as the month had been very cold and the vines had winter color. We are at least 10 days behind our normal this year.

Weather

April was very cold averaging about 3.7 degrees a day below normal. This was the fourth coldest in our records. Maximum temperature was 62 degrees on three days, the 18th, 23rd and 30th. Minimum was 26 degrees on four different days, the 1st, 10th, 12th and 22nd. The only warmer than average days were the 18th, 23rd and 30th. Cooler than average periods occurred on the 2nd, 4-10th, 13th, 16th, 27th and 28th.

Precipitation totaled only 7.90 inches which is about 1.4 inches below normal. There were measurable amounts on nine days with 1.23 inches on the 3rd as the largest storm. Actually, one-half of our precipitation occurred in the period from the 3rd through the 5th and

the other during the period from the 24th through 27th. This was our driest April since 1968. We recorded one inch of snow on the 5th.

Water supplies are in reasonably good shape as we come into the frost season. Winterkill is no problem and there is little oxygen deficiency injury. There is some patchy leaf drop, particularly in Howes where the bog is in need of sanding or has severe red mite injury or where some other stress situation has occurred. The bud will have to rank at or near the top of the list, so our prospects appear excellent at this point in time. Early Blacks are still struggling to attain green color at the end of the first week in May, while Howes retain their red winter color.

Tips for Late Spring and Early Summer

1) The early spring pests are, or soon will be, showing up on bogs. These include cutworms, spanworms, leafhoppers, fireworms, tipworms, sparganothis fruitworm, weevils and red mites. The sparganothis fruitworm can be detected by careful examination of looestrife or the new cranberry tips for webbing. Weevils over-winter as adults and are active whenever temperatures reach 70° or above. If these pests are controlled in May or

Continued on Page 15

We have plenty of P E lateral and P V C main pipe with all the fittings for buried sprinkler systems and repairs and improvements to installed systems. We are taking aluminum main line pipe in trade for buried P V C. If vandalism is a problem on mains above ground, perhaps you should consider trading for buried P V C. We are also installing new systems with our Mole plow using Rain Bird sprinklers and Hale pumps.

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AGRICULTURE NOTES

Massachusetts Water Quality Planning Areas Approved

The U.S. Environmental Protection Agency has approved the designations of five Massachusetts areas as areawide waste treatment management planning areas. These areas are Berkshire County, Martha's Vineyard, Brockton, Cape Cod, and Lowell. These designations are the first in Massachusetts under Section 208 of the Federal Water Pollution Control Act of 1972.

John A. S. McGlennon, Regional EPA Administrator, noted that a sum of \$374,000 in 208 contract authority has been reserved for the Berkshire program, to be administered by the Berkshire County Regional Planning Commission; \$216,000 for Martha's Vineyard, to be administered by the Martha's Vineyard Land and Water Commission; \$350,000 for Cape Cod to be administered by the Cape Cod Planning and Economic Development Commission; \$456,000 to Lowell, to be administered by the Northern Middlesex Area Commission; and \$650,000 to Brockton to be administered by the Old Colony Planning Council.

Section 208 of the Federal Water Pollution Control Act calls upon state governors to designate, with EPA guidance, areas within their states that have substantial water quality problems. The program is designed to bring the cooperative efforts of state, regional, and local officials to bear on complex water quality problems. One innovative feature of this program is that it permits the integration of water pollution control projects and other environmental activities such as air quality improvement and solid waste management. The program also permits examination of land use and development in terms of its environmental implications.

Mr. McGlennon noted that the

208 program sets out a two-pronged approach to solving water quality problems—one stresses systematic planning to find workable solutions, and the other stresses follow-up to ensure that those solutions are implemented.

Massachusetts has designated four other 208 planning areas, which will probably be acted on before July 1 of this year. Maine has five approved 208 areas, and New Hampshire has designated one area which is awaiting approval.

Promising DDT Alternatives Found

The U.S. Forest Service has reported discovery of three materials that have promise as alternatives for DDT in controlling tussock moth epidemics, according to the Wildlife Management Institute. The materials are non-persistent. The discovery was among key conclusions reached in a Forest Service report recently delivered to the Environmental Protection Agency.

The materials included a chemical insecticide, carbaryl, and two

biological agents—a nucleopolyhedrosis virus and a bacterium called *Bacillus thuringiensis*. During tests, carbaryl, applied at two pounds per acre, reduced tussock moth populations by 95 to 99 percent. However, environmental effects of the pesticide have not been documented. Officials said that the biological controls need further testing. The *B. thuringiensis* bacterium is not well thought of by some forest entomologists as the Forest Service report indicates.

Environmental effects of spraying 430,000 acres with DDT last year to control tussock moths have not been documented completely. The major effect so far has been the contamination of livestock which cannot be marketed until having been on "clean" feed for four months to reduce DDT build-ups.

EPA Rejects Louisiana DDT Request

Environmental Protection Agency Administrator Russell E. Train has turned down a request by the State of Louisiana for emer-

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gency permission to use 2.25 million pounds of the banned pesticide DDT this spring to control an insect pest on 450,000 acres of cotton.

"The quantity requested constitutes approximately 20 percent of the total quantity of DDT used in the United States in the year preceding cancellation," Train said.

"The environmental and public health risks that would occur from the DDT use outweigh the potential benefits. The best available evidence indicates that fluctuating weather conditions, national overplanting of cotton, crop subsidy, prices, and other economic factors have had a greater impact on reduced cotton yields in Louisiana than the tobacco budworm insect."

Alternative controls are available to Louisiana farmers, according to Train. Other pesticides—for example, Galecron, EPN, and methyl parathion, coupled with proper application timing—have been shown to be effective and are expected to be available in sufficient quantity this year. Farmers in the Brazos Valley of Texas and the Arkansas Delta have controlled budworm problems without DDT using integrated pest management such as "scouting," and by using alternative pesticides, Train added. The tobacco budworm is a caterpillar that damages cotton plants by feeding upon them. Louisiana cotton accounts for five percent of total United States production.

The Train decision agrees with the recommendation of an EPA hearing panel that the Louisiana request raised no substantial new evidence that would warrant exemption from the 1972 ban against applying DDT to crops. The panel conducted approximately one week of informal hearings on the Louisiana request, beginning February 27, 1975, in Baton Rouge, and ending March 5, 1975 in Washington, D.C.

Louisiana applied for emergency use of DDT on January 24, 1975. Those presenting views in the informal hearings included: the Louisiana Congressional delegation; Louisiana State University; the U.S. Department of Agriculture; the

Continued on Page 20

STATION NOTES—Cont. from 13
June, particularly those that have a new or second brood, they very seldom create a problem later in the season.

2) Do not forget to put in the flume planks and impound drainage water for 24 hours after using any pesticide. Drainage water must be held for seven days after using guthion or difolitan.

3) This is a good time to treat brush, poison ivy and brambles on the uplands using silvex. It should be mixed with water rather than oil at this time of year because of damage to turf.

4) Stoddard solvent or stoddard-kerosene treatments following late water should be completed within five days after the flood had been withdrawn or within eight days if kerosene is used alone. Less damage will occur to the vines if temperatures are below 65° when these oils are applied.

5) Casoron, alanap, Chloro-IPC, simazine and morcran should *not* be applied after withdrawal of the late water flood as vine and crop injury will result.

6) Many bogs will benefit from an application of fertilizer, espec-

ially where heavy crops were harvested. Some bogs that have had casoron treatments either last fall or this spring may look "hungry" and should be fertilized. Don't forget to touch up the thin or weak spots by going around with a bucket of fertilizer and using it.

7) Get out and walk your bogs, you will be surprised at the number of little things, both good and bad, that you will notice on your inspection trips.

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FARMING IS EVERYBODY'S BREAD AND BUTTER

by Brian Schluckebier

While everyone is yelling about the high price of food, no one is complaining that there is food to eat. The farmer is the prime target of the blame. He is the one that receives all the abuse. The people don't realize the farmer is the beginning and the end of the circle of production.

The farmer produces a crop, sells it, and then buys new and better equipment, a new car or a snowmobile. The people are all involved in the expenditures of the farmers from producing directly on the assembly line, refining oil for gas,

mining the materials for new machinery, to stringing the power lines for the new electrical appliances the farmer has bought.

The multitudes don't comprehend the value of the farmer in regards to production. An average farmer produces enough food for himself and 27-35 other people, and that is a little fact overlooked by most people. The average farmer in India produces only enough food for his family. This is the reason overpopulated countries must import our grain and meats to feed the vast numbers of people in their cities and villages.

So you see, without the beet farmers in Reese, the tomato growers in California, the wheat producers in Kansas, or the corn cash croppers in Illinois, the world would be in terrible shape. During a natural catastrophe, food has to be in constant supply to prevent epidemics such as cholera or typhoid due to lack of nutrition. This grave responsibility falls upon the farmers of the world.

In the years ahead the scarcity of food will cause the price of food to skyrocket while the price of gold will tumble. But who can eat gold?

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The systems are the first and only powered air purifiers which meet NIOSH standards (TC-23C-78) for respiratory protection against pesticides. The system is designed to protect the user against Category I pesticides, the most toxic of the four categories of pesticides as defined by the Environmental Protection Agency.

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cause the worker does not have to expand his own energy to breathe in air through a filter medium, he breathes normally and works more comfortably, efficiently and productively.

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For further information, contact 3M Company, Occupational Health and Safety Products, Dept. OH5-6, Box 33686, St. Paul, Minn. 55133.



Of course you've heard the expression, "Chicken Every Sunday"—well it originated over four centuries ago with King Henri IV, who benevolently exclaimed he hoped "there would not be a peasant so poor in his realm who would not have a chicken in his pot every Sunday." Some many years later, an American politician enlarged this statement to "two chickens for everyone's pot . . .!"

In any event, whether chicken turns up on your Sunday menu or not, it certainly is a bird that can qualify for a variety of recipes almost any day of the week, using its many parts individually. As in Henri the Fourth's time—it's an important food for both the price conscious and the nutrition minded menu planner since it is high in protein, niacin and iron.

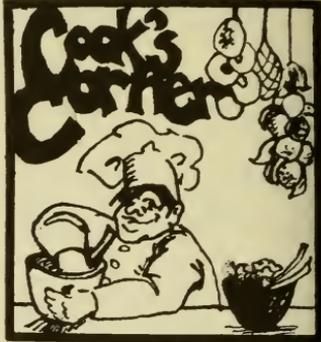
Chicken can be cooked in endless ways because its mild flavoring makes it an excellent base for varied seasonings and methods of preparation—for either hearty family meals or elegant dinner parties.

America's own native cranberry, like the chicken, is extraordinarily versatile and offers many varieties to season the prince of poultry in different ways, each with a special taste and look. Here are just three ways whereby the mighty little berry can positively perk up chicken—each will find a well used corner in your recipe collection.

For pure delectable elegance, "Cranberry Chicken Kiev" is a superb company dinner. In this instance, boneless and skinless chicken breasts are used and formed into log shapes. What makes this dish so delicious is the combination of whole berry cranberry sauce and raisins with white wine or sherry into a colorful sweet 'n tangy sauce that is added in the last step of preparation. Serve your chicken on a platter of saffron rice, along with carrots, a crisp green salad and a bottle of dry white wine.

"Bacon Berry Stuffed Chicken Thighs" is as good to look at as to eat, and you'll find it easy to prepare with great success. After the thighs have been boned (simple to do as you'll find in the recipe), they are stuffed with a tasteful mixture of cranberry-orange relish, crumbled bread, chopped onion and poultry seasoning. When each thigh has been stuffed they are wrapped in strips of bacon. These can be cooked either by baking or on stove-top in a skillet. Either way, you can serve them from stove to table in their cooking container—simply add some bright parsley and perhaps some baked tomatoes.

For indoors or out, "Chicken Berry Barbecue Bake" is a taste tempter in any season. In this instance chicken quarters are given the spotlight. By combining chopped onion, a bit of garlic, chili sauce, tangy jellied cranberry sauce, and orange juice, the chicken is colorfully coated—and succulently seasoned. If you decide to do it on the grill, simply keep the sauce in a bowl and brush on while the chicken is barbecuing. Serve along with corn on-the-cob and a salad of thinly sliced tomatoes and sweet onions with a light oil and vinegar dressing. A pitcher of cranberry juice cocktail with floating lemon slices mixed with soda will add a thirst quencher.



CRANBERRY CHICKEN KIEV (Serves 6)

- 6 tablespoons butter or margarine, softened
- 1 tablespoon minced chives
- 1 tablespoon minced parsley
- 6 boneless and skinless chicken breasts
- Salt and pepper
- 1 egg, well beaten
- Flour
- Dry bread crumbs
- 1/2 cup butter or margarine
- 1 package (6 ounces) saffron rice
- 1/2 cup dry white or sherry wine
- 1 can (8 ounces) whole berry cranberry sauce
- 1/4 cup raisins
- 1 teaspoon cornstarch mixed with 1 tablespoon water

In a bowl mix butter, chives and parsley. Shape butter mixture into 6 balls. Wrap butter balls and freeze until hard. Pound chicken breasts to 1/4 inch thickness. Sprinkle chicken with salt and pepper. Place 1 ball of butter on each chicken breast. Roll up, turn in ends and continue rolling until butter is completely covered and chicken is the shape of a log. Secure logs with toothpicks, if necessary. Dip logs into egg and then into flour. Dip into egg again and then into crumbs. Let logs stand at room temperature for 10 minutes to dry. Cook rice as label directs. Heat 1/2 cup butter in a large skillet. Add chicken logs and fry quickly until brown on all sides. Lower heat and cook until chicken is done. Remove chicken to a heated platter lined with rice and keep warm. Add remaining ingredients to drippings

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in skillet. Stir mixture over low heat until sauce bubbles and thickens slightly. Spoon sauce over chicken logs.

BACON BERRY STUFFED CHICKEN THIGHS

(Serves 6)

12 chicken thighs
Salt and pepper
1/2 cup cranberry-orange relish
4 slices white bread, crumbled
1 small onion, chopped
1/2 teaspoon poultry seasoning
12 slices bacon (about 1/2 pound)
1 cup chicken broth

With a sharp knife slit thigh on underside along the bone, but not cutting and piercing the skin. Remove bone. Season thighs with salt and pepper. In a bowl mix relish, bread crumbs, onion and poultry seasoning. Use mixture to stuff thighs. Wrap each thigh in 1 strip of

bacon. Place thighs, skin side up, in a shallow baking pan, side by side, in a single layer. Pour over chicken broth. Bake in a preheated moderate oven (350°) for 1 hour or until thighs are tender. Serve garnished with parsley, if desired. Thighs may also be cooked on top of the range in a skillet. Fasten ends of bacon with toothpicks and brown thighs on all sides in a large skillet. Pour over chicken broth, cover and simmer for 1 hour or until thighs are tender.

CHICKEN BERRY BARBECUE BAKE

(Serves 8)

2 chickens, about 2 pounds each,
quartered

Salt and pepper
1/4 cup butter or margarine
1 large onion, chopped
1 clove garlic, minced
1 cup chili sauce
1 can (8 ounces) jellied cranberry
sauce
Juice of 1 orange

Sprinkle chicken quarters on all sides with salt and pepper. Combine remaining ingredients in a saucepan and beat with a rotary egg beater until well mixed. Heat until bubbly. Place chicken side by side, in a single layer, in a foil lined and greased shallow baking pan. Pour sauce over chicken quarters. Bake in a preheated moderate oven (350°) for 1 hour or until chicken is tender. Serve hot garnished with parsley, if desired.

*Recipes courtesy of Ocean Spray
Cranberries, Inc.*



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to 35.43 inches. This amount is more than 10 inches less than 1974 precipitation recorded at this date. The temperature has remained on the cool side, with a high of 61 degrees on the 11th and a low of 29 degrees on the 21st. There were 10 days that recorded 32 degrees or below in the bog. This extended low periods activated sprinkler protection for frost so that bogs have been continually wet, allowing little time for work on the bogs. Four days recorded no precipitation, with eight days having only a trace. The greatest storm came on the 24 hour period preceding the 24th with .53 of an inch. Readings are taken at 8:00 A.M. each morning.

WEST GERMANS ENFORCE PESTICIDE CONTROL LAW

Continued from Page 10

For domestically produced goods, an attempt is made to locate the producer and as much of the lot in question as possible. Whatever is found of the lot is then returned to the producer, with a warning, fine, or other penalty. The producer may destroy the lot or find some alternative use for it that presents no hazard to human, animal, or plant health.

In the case of imports, the shipment is usually still relatively easy to locate. The entire shipment or portions of it may be denied entry into the country or the purchaser may be allowed to find alternate uses for it as long as no health risks are involved.

In general, German food law enforcement appears to be quite efficient and dynamic. There is widespread awareness of problems and equally widespread interest in seeking solutions and improvements. Apart from the basic question of extremely rigorous residue tolerance levels, the weakest point in Germany pesticide legislation seems to be in sampling. German officials are quite ready to admit

The month of April was considerably cooler than average and this cool trend continued until the second week of May. Following this there was a dramatic change and conditions were ideal for planting and bog operations.

Since the cranberry meeting in East Wareham, there has been an increased exchange of information and this material has been helpful. We wish to thank those who contributed.

Appreciation is extended to all cranberry growers for a 100% crop report. This excellent response makes crop reports very accurate.

Year: 1974

Number of Growers: 5

Acres Harvested: 36.5

Total Pack-out in Pounds: 90,250

Average Price: .251

Three growers reported complete crop losses. These crop losses were the result of (1) vandalism on the bog whereby flood water was released on a frosty night resulting in a complete freeze, (2) bog frosted due to inadequate sprinkler protection and (3) insect damage.

The five growers who did harvest reported lower crops due to insect damage, and possibility of oxygen deficiency during the winter flood which might have caused bud injury.

this and to solicit suggestions.

With regard to residue tolerance levels, the German people are certainly not in favor of any relaxation of the strict controls. However, many senior officials are frankly opposed to such a position and to some extent their voices seem to be reaching receptive ears.

Nevertheless, such influential sectors as consumers organizations may not be sufficiently exposed to these voices. Certainly, influence by example from authoritative sources outside the FRG can help to speed improvements.

Courtesy Foreign Agriculture

DDT has had a miraculous impact on arresting insect-borne diseases and increasing grain production from fields once ravaged by insects. According to the World Health Organization, malaria fatalities alone dropped from four million a year in the 1930s to fewer than one million in 1968. Other insect-borne diseases such as encephalitis, yellow fever, and typhus fever, showed similar declines. Surprise number five is that it has been estimated that 100 million human beings who would have died of these afflictions are alive today because of DDT. Incidentally, recent tests indicate that the thinning of eggshells may have been caused by mercury compounds rather than DDT.

Dr. McKetta is a professor of chemical engineering at the University of Texas at Austin. This brief article is from an address he presented in San Francisco to members of the American Institute of Chemical Engineers.

AGRICULTURE NOTES

Continued from Page 15

Health Research Group, the National Audubon Society; the Sierra Club; Environmental Defense Fund; U.S. Fish and Wildlife Service; American Shrimp Cannery Association; Louisiana Shrimp Association; and the National Wildlife Federation. "EPA is not insensitive to the economic plight of Louisiana cotton farmers during the current farm cost-price squeeze," Train said, "but we do not believe the use of DDT will greatly alleviate these problems."

During the informal Louisiana hearings, EPA announced revised procedures regarding emergency use or registration requests for pesticides that were previously taken off the market (cancellation or suspension). EPA told the informal hearing panel on March 5, 1975, that if the EPA Administrator determined that such a request raises "substantial new evidence" which could materially affect a previous suspension or cancellation order.

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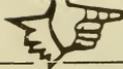
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REGIONAL NEWS NOTES

NEW JERSEY WASHINGTON

Reversing the recent trend, May was warmer than normal. The average temperature was 63.2 degrees which is 2.1 degrees above normal. It was the warmest May since 1965 when the average was 65.2. Extremes in temperature were 91 degrees on the 24th and 36 degrees on the 3rd.

Rainfall totaled 4.05 inches which is 1/2 inch above normal. It has been a rainy year so far. The accumulated total for the first five months stands at 18.74 which is about two inches above normal for this period.

On the night of May 13th an unusually heavy thunder storm caused unprecedented hail damage to a few blueberry fields in the Chatsworth area. Hail stones the size of walnuts battered down on bushes, stripping off well over half of the crop. The tattered bushes, with the ground stems with leaves, blossoms, and green berries represented to veteran blueberry growers the most severe storm damage they had ever seen. The intensity of the storm was indicated in the 3.77 inches of rain recorded in a few hours at the Rutgers Cranberry and Blueberry Research Center at Oswego. Hailstones were so numerous they actually clogged up drainage ditches and caused flooding. The large blueberry areas near New Lisbon and Hammonton escaped damage. At the New Lisbon weather station the rain measured only 0.97 inch. No damage occurred to cranberries.

Most of the floodwater was removed from New Jersey cranberry bogs on the traditional May 10th date. It has been a very easy spring frost season for growers. As of the end of May only two frost calls were issued by the Cranberry and Blueberry Lab, none after May 10th when most growers are concerned.

The month of May brought a slight warming trend with a high temperature of 83 degrees on the 14th at the Long Beach Unit and 82 degrees registered at Grayland. No freezing or below recordings were made, and the low at the Unit was 35 degrees on the 12th with a 36 degree low on the 20th in the north end of the County.

The Experiment Station records gave a total of 3.42 inches of precipitation with the greatest storm on the 3rd of 1.23 inches. Whiffletree Farm, now recording at Grayland area, showed 3.67 inches total with a deluge on the 3rd of 2.05 inches.

Bog activity is slightly behind last year, but good progress. A notice was sent to area growers on May 26th alerting them to the first brood of Black-headed Fireworm. Several growers are finding weevil evidence, and since at the present there is no chemical passed for use, may have some damage. Dr. Carl Shanks is working experimentally with a formula hoping a future use may be recommended.

NOVA SCOTIA

A recent inspection of some cranberry bogs indicates that development of plants is about on schedule. As of June 18 florets were visible on Stevens at Aylesford. Spiraea or broad-leaved meadowsweet continues to be the main weed problem. Since we lack a herbicide that readily kills Spiraea and yet is not toxic to cranberry vines, handweeding continues to be the method of control. Growers who have had a problem with fireworm in recent years are advised to spray with Sevin at the rate of 6 lb. per acre.

We had a light frost on June 10.

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WISCONSIN

Temperatures averaged near normal during the last week of May with highs in the upper 60's and 70's. The week began and ended with mostly sunny skies. A cloudy period from Wednesday through Friday produced some locally heavy rain in central and southern areas except for the southeast.

Temperatures were generally near or above normal during the first week of June. High temperatures were in the 70's to mid 80's and lows were in the 50's. A cold front moved through the State on Wednesday, producing thunderstorm activity with heavy rains, strong winds, and large hail in southern sections. Widespread showers occurred in the north.

Temperatures were considerably cooler toward the weekend, with lows dropping into the 30's across the north Saturday morning.

Planting of crops was late getting started this spring in Wisconsin. Temperatures in the first half of April were well below normal and fields were slow to dry out. Farmers were about ready to begin field work in late April when extremely heavy rains on the 26-28th caused further delays. Many farmers did not have any oats in the ground by the first of May, making this one of the latest oats planting seasons ever.

Better weather in May enabled some progress on spring plowing and planting. As of May 12th, seeding of oats was about a third completed. This was considerably behind last year's 95 percent sown and the normal progress of 80 percent. The south is well advanced

on seeding of oats and many farmers have started on corn. Planting of corn is about 10 percent done, slightly behind the normal pace of 13 percent. A year ago 20 percent of the corn was in but rain and cold temperatures were severely disrupting planting schedules and causing slow germination of corn already in the ground. Spring plowing is now active with 35 percent done. Last year 70 percent of the spring plowing was finished and normally 60 is done by this time. Planting of peas, potatoes, commercial vegetable crops, and home gardens continues but progress is behind normal. Hay and pastures have started to grow with the warmer temperatures. Some winterkill has been noted on older hay stands in the south central area.

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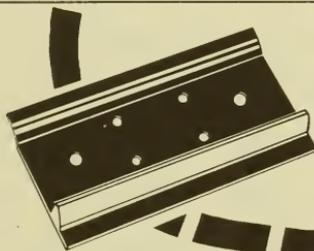
A new agent has been appointed to the Coos county staff of the Oregon State University Extension Service.

He is Arthur P. Poole, who has been appointed to fill a position left vacant since the resignation of David Keir a year ago. His appointment was announced by Lynn Cannon, chairman of the Extension Service's Coos county staff, and by Joseph R. Cox, director of the OSU Extension Service.

Cannon said Poole will lead Extension educational programs relating to Coos county's horticultural crops, particularly cranberries. Working with agricultural producers, Extension agents apply educational techniques and provide information to produce food and fiber efficiently and economically, Cannon explained.

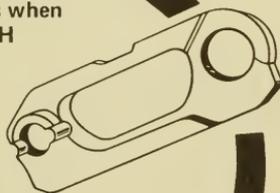
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Continued on Page 20

Mass. Cranberry Station Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Robert Devlin attended a meeting of the Northeastern Section of the American Society of Plant Physiologists in Providence, Rhode Island on May 9-10.

spring, there was at least one night when the State Bog was flooded which indicates a general warning was issued. We did have two nights when there were a few bogs that dropped to 30 degrees briefly but this has been the only action.

To compare with other years we issued seven warnings in 1974, six in 1973, five in 1972, six in 1971, 14 in 1970 and 25 in 1969.

Weather

May averaged 2.4 degrees a day warmer than normal. This is our warmest May since 1959 and the fourth warmest on record, surpassed only by 1944, 1942 and 1959. Maximum temperature was

82 degrees on the 29th and minimum 32 degrees on the 1st. Warmer than average periods occurred on the 16th, 19-24th and 27-30th. Cool days were 2-5th, 7th and 14th. Basically, the first half of the month was very cool and the last half very warm.

Rainfall totalled 2.60 inches which is 0.85 inches below normal. There was measurable precipitation on only nine days, with 0.73 inches on the 16th as the largest storm. We are 1.1 inches below normal for the year to date but ahead of 1974 by 0.3 for the period.

Final Keeping Quality Forecast

Since the preliminary forecast was issued in early April, we've had a cold and dry April and a warm and dry May. As of June 1st there are five of a possible 15 points favoring good keeping quality. The prospect has there improved from "poor" on April 1st to "fair" on June 1st. The formulators of this forecast feel that timely fungicide applications this year could help more than usual to make the '75 cranberry crop one of good quality. A cool June and an absence of high heat and drought this summer could also help. Growers must work at it to make this crop one of good keeping quality.

Insect Note

The first fruitworm moth was caught in Bill Tomlinson's Black Light trap on May 31st. This is a week to ten days earlier than usual. The only other year that a fruitworm moth was caught in May was in 1965 when the first one was trapped on May 28. This is just another indication that we are running ahead of normal.



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From left to right: Dr. John Nagle, University of Massachusetts; Dr. Chester Cross, Massachusetts Cranberry Experiment Station; Dr. Ivan Hall, Nova Scotia; Azmi Shawa, Washington; Dr. Edward Knapp, University of Massachusetts

Extension Service; John Ropes, Ocean Spray; Dr. Paul Eck, Rutgers, New Jersey; Dr. Bert Zuckerman, Massachusetts Cranberry Experiment Station; Bill Tomlinson, Massachusetts Cranberry Experiment Station; Gilbert Beaton, Ocean Spray; Dr. Charles Doughty, Washington; Robert Alberghini, Massachusetts Experiment Station; Dr. Richard Rohde, head of plant

pathology department, University of Massachusetts; Stan Norton, Massachusetts Experiment Station. Missing from the photo are Dr. Malcolm Dana, Dr. Donald Boone and Dr. Joseph Von Elbe, all from Wisconsin, and Dr. Robert Devlin and Irving DeMoranville of the Massachusetts Experiment Station.

Photo by John A. Meacham, Specialist in Weed Science, Rutgers University, N. J.

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A YOUNG COMPANY PROMISES NEW MARKETING POSSIBILITIES FOR CRANBERRIES

by J. B. Presler

The question has often been asked, "Why hasn't someone developed a cranberry-flavored carbonated beverage?" Al DeGutis Sr. asked himself this question one day while driving down to his brother's bottling plant in West Hanover, Massachusetts. His route took him through a cranberry producing area and, presumably as he gazed out at the bogs, a connection between them and his brother's bottling plant was formed in his mind.

DeGutis is not the only person or organization to have followed the question up with research, consultation and developmental experimentation. Al DeGutis Jr., having made the final breakthrough after ten years of 'trial and error,' in his own words, remarked that there were ten patent applications on file when they received approval on their own application in 1963

and their patent became legally binding. The silent competition behind the scenes was fiercer than perhaps anyone had presumed.

Al DeGutis Jr., president of Cranberry Cola Corporation for three years now, carried out the nitty-gritty work of coming up with a workable, stable recipe for Cranberry Cola, the carbonated beverage now successfully marketed by his company. His formal training for such work was nearly non-existent. Neither Al jr. nor his father had ever been involved in the cranberry business in any way. Al jr. had, however, worked part-time and full-time, depending upon the season, for his uncle at the bottling plant for 14 years. A working knowledge of the carbonated beverage field was of great value to him.

DeGutis received a degree in aeronautical engineering from the Boston University College of Industrial Technology and, though he

continues to enjoy flying for fun, this education obviously was not undertaken with the intent of preparing him for the work which he has assumed so successfully. Al jumped into the food development business cold but, with experience accumulated over these last ten years, he has become self-sufficient and eminently competitive in that field. Most of his management skills were also picked up along the way. As is so often the case, even in a highly refined technological society, many solid businesses are begun in sheer earnest effort and inquiry and handsomely fed and built by accumulated experience 'on the job.'

At the young age of 33, Al looks forward optimistically to a bright future for his young company. The stumbling blocks overcome thus far must have required persistence for it turns out that the cranberry was an ornery little critter to deal with.

Compared to an orange, for instance, a cranberry yields very little juice. Therefore the size of the berry was a real disadvantage. It would follow that an attendant problem would be to develop a product using cranberries that would have a competitive price on the soft drink market. Though it has taken a *long* time (Al's emphasis) to get that price down, he has achieved a competitive price.

More difficulties presented themselves in the areas of taste, color consistency, and stabilization. The color problem alone took two and a half years to overcome. These were solved in part by using cola, which is an extraction from the cola nut, as a base. Hence the name of the firm's first product, 'Cranberry Cola.'

The field of product distribution and marketing is as critical as good product development, for what is the final worth of a fine product that is only scarcely available? Al Sr. had done the ground work by checking with the USDA concern-



Al DeGutis, Jr., president of Cranberry Cola Corporation

ing cranberry markets and by the time the patent was secured, Cranberry Cola was being sent off to those places.

"We initially present the products on a local basis. Then we market it further than that—even to areas outside this country."



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Bottles and cans of Cranberry Cola

The DeGutis' corporation is involved in other food product development, but 99% of their business is with cranberries.

"We consider ourselves specialists in cranberries," said Al jr. "The timing on any new product has to be perfect. I guess it's partly instinct, a feeling more than anything else—you play it from there."

Cranberry Cola Corporation develops new products which they market themselves and they also create products for other companies which those companies market. The advertising for the latter is inter-corporate. Advertising is something the DeGutis feel is critical and, for a young company, they have jumped into the field

without reserve. The DeGutis produce their own television ads, from the script writing through the final photography. Their taped ads appear on Channels 6, 9, 2 and 27 in the Massachusetts locale. They also advertise on radio, in the newspapers, and they make use of aerial advertising, of course, hiring airplanes to pull banners.

All of this has had results. Sales have doubled in one year and four new bottling franchises have been opened within the last eight months. The public seems to welcome this new soft drink, particularly young people. It was the DeGutis' intention to gear their product toward this age group (14-24 years old). They compose a

large segment of the consumer population and previously there were no cranberry products that really appealed directly to that particular segment of the market.

The DeGutis look forward to rapid expansion, which will inevitably be good for the cranberry industry as a whole.

"If we capture one tenth of one percent of the carbonated beverage market it will represent a \$50,000,000 business!" With Al's drive, this is a real possibility and that spells good news not only for Cranberry Cola Corporation, but for the whole business of growing, harvesting, and the profitable consumption of cranberries.

Cranberry Growers VOTE TO CONTINUE MARKETING ORDER

Cranberry growers in 10 states have voted to continue the federal marketing order program regulating the handling of fresh cranberries, the U.S. Department of Agriculture announced.

In a referendum conducted May 1-12 by USDA's Agricultural Marketing Service (AMS) 83 percent of the growers who voted favored continuing the program. Those favoring it grew 91 percent of the production represented in the referendum.

The federal marketing agreement and order for cranberries was initiated by growers, processors, and handlers in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington, and Long Island, New York.

Purpose of the program, an AMS official said, is to provide authority for regulating the volume of cranberries marketed each season. However, no such regulations have been issued since 1971, the official noted.

The marketing order, established in 1962, requires that a referendum be conducted during May every four years to determine if growers favor continuing the program.

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USDA WARNS FRUIT GROWERS OF POSSIBLE MEDITERRANEAN FRUIT FLY INVASION

Consumers and fruit and vegetable producers were warned of a new threat from the highly destructive Mediterranean fruit fly, by officials of the U.S. Department of Agriculture (USDA).

Newly discovered Medfly outbreaks in El Salvador, Nicaragua, Honduras, and Guatemala raise the possibility of the flies hitchhiking on winter fruits and vegetables exported from these countries. To keep the pests from entering this country, USDA has placed a variety of restrictions on shipments of fruits and vegetables from all infested Central American nations.

Dr. F. J. Mulhern, administrator of USDA's Animal and Plant Health Inspection Service (APHIS) states that if the insect gained a foothold in the United States, U.S. agriculture would suffer untold millions of dollars of damage to citrus, peaches, pears, and other soft-skinned fruits and vegetables.

"In some parts of Africa and Asia and the state of Hawaii, this insect has made fruit production all but impossible," Dr. Mulhern said. "A major infestation here could result in costly control programs and higher prices to the American consumer."

In all, the Mediterranean fruit fly attacks more than 200 kinds of fruits and vegetables. Female fruit flies damage fruit by laying eggs under the skin. The eggs hatch, change to larvae, and begin eating

their way into the fruit. This causes the fruit to fall to the ground prematurely. The larvae then burrow into the ground to pupate and a few days later hatch into adult flies and emerge from the soil ready to begin their damage all over again.

"To forestall the possibility of this fruit fly being accidentally introduced into the United States, shipment of fruits and vegetables that might harbor fruit flies has been restricted to North Atlantic ports only. Climatic conditions in the North will prevent this insect's survival," Dr. Mulhern said.

In addition, the few fruits and vegetables that present an extremely high risk will no longer be allowed into the United States under any circumstances. Still others, such as papaya, require special pest control treatments as a condition of entry.

A secondary source of invasion would be natural spread northward through Mexico where the insect does not now exist. Many varieties of the winter vegetables eaten in the United States are grown in Mexico.

"Should this pest become established in Mexico, nearly all shipments of fruits and vegetables from that area would have to undergo an expensive fumigation before delivery to the United States," Dr. Mulhern said. "Some fruits and vegetables, such as tomatoes cannot withstand present fumigants and would have to be denied entry entirely."

Should the pest accidentally enter the United States at a port where it could survive and reproduce, its presence will be detected early by a "DEW Line" of traps. "Early detection," Dr. Mulhern explained, "is our first line of defense and the key to a successful eradication effort."

Dr. Mulhern pointed out that the Mediterranean fruit fly has

invaded the United States at least six times in the past 36 years—in Florida in 1929, 1956, 1962, and twice in 1963, and in Brownsville, Tex., in 1966. Each time it was detected early and eradicated.

These past Mediterranean fruit fly outbreaks have cost state and federal taxpayers over \$23 million not including the destruction of host fruits.

Will Mexico and U.S. agriculture continue to be jeopardized year after year by this foreign pest? One way to reduce the threat would be to establish a barrier in the dry desert regions of southern Mexico.

APHIS scientists envision a barrier at the Isthmus of Tehuantepec. South of this barrier, an integrated control program could be introduced using sterile Mediterranean fruit flies, bait-lures, and sprays to suppress the populations. The sterile flies would mate with wild native flies; eggs from such matings do not hatch. A regulatory program would be set up using inspection stations at the buffer zone where all agricultural products, vehicles, and passengers moving north would be checked for presence of the Mediterranean fruit fly.

What if Mediterranean fruit fly does get into the United States? APHIS scientists will use lure for detecting the insect; ultra-low volume bait/toxicant sprays, insecticide aerial sprays, and soil treatments to eliminate the pest; and safe fumigants for fruits and vegetables to prevent spread.

A similar detection and eradication effort has been carried out successfully in southern California against the oriental fruit fly. This pest invaded that area late in 1974. Now, after 7 months of intensive eradication effort, APHIS and California plant protection inspectors are unable to detect the pest's presence and are planning to declare it eradicated.

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A REVIEW OF CRANBERRY WEED CONTROL

M. N. Dana
Department of Horticulture
University of Wisconsin—Madison

Weeds in cranberry marshes intercept the sunlight needed by the cranberry plants, slow wind currents that help to evaporate dew and rain, compete for soil moisture and nutrients, and interfere with efficiency of harvest. There is evidence that certain weeds serve as hosts for insects that attack cranberries, e.g., tipworm on looses-trife and dearness scale on grass leaved goldenrod. Weeds are also unsightly and an irritant to the cranberry grower. Altogether the many weed species found in association with cranberries reduce the productivity and efficiency of cranberry culture.

A weed control program is built around management program to develop optimal soil drainage, controlled soil fertility, effective disease and insect control and the wise use of herbicides. The use of herbi-

cides supports the other management practices but must not be expected to provide weed eradication and the prevention of reinvasion.

The petroleum derivatives (Stoddard solvent, Kerosene, Fuel oil) have been used for weed control for many years. This group of contact killers is most effective against early starting weeds—those that commence new growth before the cranberry vines pass the white bud stage. Oil sprays in early spring kill the tops of many weeds and suppress weed growth until after the critical cranberry blossom time. When used against newly established weeds in young cranberry plantings there is often a good weed kill.

Recent advances in oil prices and shortages of oil may make any

discussion of this herbicide an academic question. Five years ago an application of 350-400 gallons per acre represented a cost of \$100 per acre. Current prices would make this cost nearer \$200 per acre. Such a cost becomes prohibitive except under the most unusual circumstances of desperate control needs.

Of the newer organic herbicides dichlobenil (Casoron) has received the most widespread use. Dichlobenil was first tested in 1959 and received label registration in 1965. Since that time many tons of granules have been applied for weed suppression and control. Perhaps the most striking general result of extensive usage has been the virtual elimination of wiregrass (*Carex oligosperma*) as a major weed problem in Wisconsin cranberry marshes. Allied to the elimination of wiregrass has been the emergence of creeping sedge (*Carex chordehiza*) as the single most troublesome pest in marshes.

Dichlobenil has three characteristics to be appreciated if wise usage is to occur. Firstly, it is a material that volatilizes from the granule into the atmosphere when left at warm temperatures on the soil surface. This volatility results in loss of effectiveness as well as leaf absorption with a resultant undue amount of cranberry vine injury. Secondly, this herbicide is an inhibitor of root growth and development. This results in poor nutrient absorption by the cranberries and also reduces the usefulness of treated vines for cuttings in new plantings. Thirdly, treated vines often produce very brittle new shoots that tend to break off at harvest and come away with the

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harvested crop. This vine damage has been of concern to many growers.

Adaptation of proper management practices minimizes the first two problems. Sprinkler irrigation, shallow flooding or rainfall shortly after dichlobenil application moves the herbicide from the granule into the soil where it is not susceptible to volatilization. Likewise late fall applications under temperature conditions near freezing followed by sanding result in conservation of the herbicide and a strong response in weed control. The root injury problem is partially overcome by judicious use of ammonium nitrogen fertilizer. The readily absorbed ammonium stimulates plant recovery as shown by greening of leaves and elongation of shoot growth. This early recovery from injury symptoms is associated with normal growth that may also reduce the vine brittleness problem.

Casoron does not persist in the soil for a long period. Some studies show that the active material is mostly degraded within 6-8 weeks after application when the application is made in May. Observed weed control, or lack thereof, would support this evidence. Sickie grass and barnyard grass tend to recover and grow quite normally after mid-summer. This relatively short lived nature of the herbicide is desirable from an environmental standpoint although the grower might wish its effects to last longer and give a more permanent control of some weeds.

Dichlobenil may be applied in the fall after harvest or in the spring before May 15. The fall application at 4 lb/A of active ingredient is the preferred application for wiregrass control. A spring application in early May of 2 to 3 lb/A has been found most useful for buckbean (*Menyanthes trifoliata*), bunchgrass (*Scirpus* sp.), bluejoint grass (*Calamagrostis canadensis*), stargrass (*Dulichium arundinaceum*), ragweed (*Ambrosia artemisiifolia*), and tearthumb (*Polygonum sagittatum*). The spring application suppresses sicklegrass and loosestrife.

(*Lysimachia* sp.) and delays the development of barnyard grass (*Echinochloa crusgalli*) and tickle grass (*Panicum*). Unfortunately, asters, goldenrod, creeping sedge, three square grass and woody species are tolerant of dichlobenil.

Chlorpropham (CIPC) was registered for weed control in cranberries in the mid-60's. This material was primarily effective against grasses, both annual and perennial species. It had little value against broadleaf species except smartweeds and did not effectively control any sedge and rush species. The recommended rate of 15 lb/A often resulted in cranberry vine injury at unacceptably severe levels. The limited number of weed species controlled restricted the acceptance of chlorpropham in the Wisconsin area and thus it has never become a widely accepted herbicide.

The combination of chlorpropham with naptalam was labelled for use under the product name Mor-Cran. This granular formulation is made up of 4.5% chlorpropham and 7.5% naptalam. Both of these herbicides are primarily grass killers and are most effective against germinating seedlings of annual grasses. At the recommended rate of application of 100 lb/A of granules, Mor-Cran has given acceptable control of sickiegrass, barnyard grass, tearthumb smartweed and perennial smartweed. In some instances a suppression of creeping sedge has occurred.

The results from Mor-Cran treatment have been inconsistent both among years and among sections within marshes in a given year. The control is best from applications put on after the spring reflow and in those years when the spring rainfall is not excessive. Apparently Mor-Cran is highly soluble and moves away from the treated area readily. It is also a short residual and does not exercise control over the full season. Although some growers have reported excellent results from the use of Mor-Cran the inconsistency of results and the narrow range of weed species sensi-

tivity discourages general recommendation for use. Where smartweeds, either annual or perennial, are the major pest, then Mor-Cran may be the herbicide of choice.

Evaluation of the herbicide value of norflurazon for cranberries began in 1970. A label for its use was obtained in February 1975. Norflurazon was known first as SAN 9789 and received the brand name of Evital in 1973. This is the name it will carry for 1975. It will be available as a 5% sand core granule.

Norflurazon is absorbed through the roots of weeds and cranberries. Within the plant system norflurazon interferes with chlorophyll production and causes the new growth of affected plants to remain white, sometimes with a small amount of associated red pigment development. On susceptible species the leaves remain white for an extended period and then slowly turn brown and die. On tolerant species such as cranberry, the white areas in the leaves eventually gain normal green color and apparently progress with normal leaf function.

Although norflurazon is poorly soluble in water, there is evident movement within a treated field. This movement dilutes the concentration at the point of application and thus reduces contro

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potential. Application should be made after the spring reflow and preferably after heavy spring rains. We believe a sprinkler irrigation after treatment will be beneficial in moving the material into the soil before it has a chance to be washed away by surface water movement. In other words, "watering in" as recommended for dichlobenil is beneficial.

Norflurazon is particularly effective against grasses. It is the best material for use against sickle grass, barnyard grass, bluejoint grass, turkeyfoot grass, muskrat grass and the annual Panic and lovegrasses that invade new plantings. At the recommended rate of 4 lb/A one may expect excellent control of these species. In some instances we have seen excellent control of creeping sedge, bunchgrass, ragweed, sticktites, sensitive fern, perennial smartweed, spikerush, round reed (*Juncus* sp.), nutgrass, horsetail, narrow leaved willow and hardhack. Control has been poor on wiregrass, redgrass (cottontop), wideleaf sedge, marsh five finger, loosestrife, St. Johnswort, and woody species such as bog sage, leatherleaf, and brambles.

New plantings may be safely treated with 3 lbs/A immediately after planting for control of germinating grass and broadleaf weeds. A small amount of vine injury may develop in midsummer but the vine growth in the weed-free environment will more than compensate for any loss from herbicide effect. This use of the herbicide may give the most spectacular results of all the uses that will develop.

Results from experimental treatments with norflurazon have been inconsistent. Applications in very heavy stands of creeping sedge have not given good control. Treatment with comparable rates on sparse stands have given good results. The dilution of material by absorption in many roots may reduce the concentration below toxic levels. Or possibly the accumulation of masses of old stems on top of the ground may prevent penetration of the herbicide to the root zone. We do not know the answer.

The herbicide appears to be more effective in sand beds or newly sanded beds than on old peat beds. This may be explained readily by the absorptive capacity of organic matter immobilizing the

herbicide while in sand. The herbicide remains available for root uptake. In general, herbicides are less effective on peat than on sand soils.

We have no evidence to suggest that post-harvest treatment has any special value. Late fall treatment tests, although limited in number, have consistently been inferior to spring applications. The dilution of herbicide by the winter and spring floods apparently reduces effectiveness.

There is little doubt that the spring reflow, frostflooding or heavy rainfall after application reduce the effectiveness of the herbicide. For this reason we believe a mid-May treatment will be more useful than an April or early May treatment for perennial weeds. However, the herbicide is most effective against annuals (ragweed, sticktites, tearthumb, barnyard grass) if applied before the seeds germinate. Therefore, where the target weeds are annuals, a late April application without a spring reflow offers the most promise of success.

The cranberry weed control program will be built on good water, fertilizer, and pest control management with judicious use of petroleum solvents, dichlobenil, Mor-Cran and norflurazon. Selecting the best herbicide for a particular weed problem and using this herbicide only on areas infested with this weed will be rewarded with lower cost and reduced hazard to the cranberry crop. With the advent of Evital the grower is challenged to become ever more aware of his weed problem and the best material to use for its solution.

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THE COOLING WORLD

There are ominous signs that the earth's weather patterns have begun to change dramatically and that these changes may portend a drastic decline in food production—with serious political implications for just about every nation on earth. The drop in food output could begin quite soon, perhaps only ten years from now. The regions destined to feel its impact are the great wheat-producing lands of Canada and the U.S.S.R. in the north, along with a number of marginally self-sufficient tropical areas—parts of India, Pakistan, Bangladesh, Indochina and Indonesia—where the growing season is dependent upon the rains brought by the monsoon.

The evidence in support of these predictions has now begun to accumulate so massively that meteorologists are hard-pressed to keep up with it. In England, farmers have seen their growing season decline by about two weeks since 1950, with a resultant over-all loss in grain production estimated at up to 100,000 tons annually. During the same time, the average temperature around the equator has risen by a fraction of a degree—a fraction that in some areas can mean drought and desolation. Last April, in the most devastating outbreak of tornadoes ever recorded, 148 twisters killed more than 300 people and caused half a billion dollars' worth of damage in thirteen U.S. states.

Trend: To scientists, these seemingly disparate incidents represent the advance signs of fundamental changes in the world's weather. The central fact is that after three quarters of a century of extraordinarily mild conditions, the earth's climate seems to be cooling down. Meteorologists disagree about the cause and extent of the cooling trend, as well as over its specific impact on local weather conditions. But they are almost unanimous in the view that the trend will reduce agricultural productivity for the rest of the century. If the climatic change is as profound as some of

the pessimists fear, the resulting famines could be catastrophic. "A major climatic change would force economic and social adjustments on a worldwide scale," warns a recent report by the National Academy of Sciences, "because the global patterns of food production and population that have evolved are implicitly dependent on the climate of the present century."

A survey completed last year by Dr. Murray Mitchell of the National Oceanic and Atmospheric Administration reveals a drop of half a degree in average ground temperatures in the Northern Hemisphere between 1945 and 1968. According to George Kukla of Columbia University, satellite photos indicated a sudden, large increase in Northern Hemisphere snow cover in the winter of 1971-72. And a study released last month by two NOAA scientists notes that the amount of sunshine reaching the ground in the continental U.S. diminished by 1.3 percent between 1964 and 1972.

To the layman, the relatively small changes in temperature and sunshine can be highly misleading. Reid Bryson of the University of Wisconsin points out that the earth's average temperature during the great Ice Ages was only about 7 degrees lower than during its warmest eras—and that the present decline has taken the planet about a sixth of the way toward the Ice Age average. Others regard the cooling as a reversion to the "little ice age" conditions that brought bitter winters to much of Europe and northern America between 1600 and 1900—years when the Thames used to freeze so solidly that Londoners roasted oxen on the ice and when iceboats sailed the Hudson River almost as far south as New York City.

Just what causes the onset of major and minor ice ages remains a mystery. "Our knowledge of the mechanisms of climatic change is at least as fragmentary as our data," concedes the National Academy of

Sciences report. "Not only are the basic scientific questions largely unanswered, but in many cases we do not yet know enough to pose the key questions."

Extremes: Meteorologists think that they can forecast the short-term results of the return to the norm of the last century. They begin by noting the slight drop in over-all temperature that produces large numbers of pressure centers in the upper atmosphere. These break up the smooth flow of westerly winds over temperate areas. The stagnant air produced in this way causes an increase in extremes of local weather such as droughts, floods, extended dry spells, long freezes, delayed monsoons and even local temperature increases—all of which have a direct impact on food supplies.

"The world's food-producing system," warns Dr. James D. McQuigg of NCAA's Center for Climatic and Environmental Assessment, "is much more sensitive to the weather variable than it was even five years ago." Furthermore, the growth of world population and creation of new national boundaries make it impossible for starving peoples to migrate from their devastated fields, as they did during past famines.

Climatologists are pessimistic that political leaders will take any positive action to compensate for the climatic change, or even to allay its effects. They concede that some of the more spectacular solutions proposed, such as melting the arctic ice cap by covering it with black soot or diverting arctic rivers might create problems far greater than those they solve. But the scientists see few signs that government leaders anywhere are even prepared to take the simple measures of stockpiling food or of introducing the variables of climatic uncertainty into economic projections of future food supplies. The longer the planners delay, the more difficult will they find it to cope with climatic change once the results become grim reality.

Courtesy Newsweek Magazine

PLANS UNVEILED FOR FARMFEST 76; ONE MILLION ATTENDANCE EXPECTED

Farmfest 76—set to be the nation's major bicentennial event for agriculture, in the fall of '76—is already firmly planned and comprehensively organized.

The plans were unveiled on April 28, 1975 by H. Edward Hart, executive director of Farmfest 76, who announced that the event has now been officially recognized as America's Bicentennial Salute to Agriculture. Farmfest 76 will be Sept. 13-19, 1976, on a 1,200-acre farm site near Lake Crystal, Minn.

(Hart's announcement was made to over 2,000 Future Farmers of America (FFA) gathered in St. Paul for the annual convention of the Minnesota FFA. The FFA, by resolution adopted at the 1974 national convention, has made Farmfest 76 the organization's official bicentennial activity nationally.)

"Farmfest 76 is one of the first national agricultural projects officially recognized by the American Revolution Bicentennial Administration," Hart said. "This means Farmfest 76 will be heavily flavored with historical observances and educational exhibits. In fact, hundreds of leading ag companies and organizations are already planning once-in-a-lifetime exhibits.

"This historical-educational emphasis is unique for a farm show.

We believe it's the key to making Farmfest 76 the largest farm show ever," Hart said. "We're already getting indications that farm people from all over the nation will plan their major family bicentennial trips around Farmfest 76.

"We also expect much of the attendance to be urban families who will be attracted to Farmfest 76 for a better understanding of agriculture—past, present, future. Total 7-day attendance could easily pass the million mark, families coming to Lake Crystal, and through Minneapolis, St. Paul and nearby Mankato, by car, camper, air, rail, bus, and shuttle-transfer—individually and by organized group travel."

Farmfest 76 is sponsored by Agricultural Promotions, Inc. (API), a non-profit corporation of farmers, educators, and agri-business leaders. API sponsored Farmfest USA in 1972, which attracted 350,000.

The FFA is taking a major role in Farmfest 76: Many of the nation's 465,000 FFAers will work and perform in historical costumes and compete in "historical observance" contests. Operation of a "living historical farmstead" is under study. Nearby FFA chapters will help stage a gigantic "children's barnyard." And FFA members will

spearhead advance national ticket sales.

Hart also announced that Farmfest 76 has now been officially certified under the Trade Fair Act of 1959 by the U.S. Department of Commerce. "We're already receiving inquiries from agricultural interests all over the world, and this certification could well help bring an international flavor to Farmfest 76," Hart said.

"We have an outstanding site—perhaps the best blend of good topography, farmability, and accessibility ever discovered for a farm show," according to Hart. He reported that more than \$50,000 has been invested in preparation of the site, owned principally by farmers Leslie Lloyd and Robert Schroeder.

Hart listed other features scheduled for Farmfest 76:

* 20th World Championship Tractor Pull, sanctioned by the National Tractor Pullers Association, is scheduled and is expected to be the largest pull ever.

* The World Championship Horse Pulling Contest and the National Horse Plowing Contest are already booked. Negotiations are nearly complete for chuck wagon races and competitions in tractor plowing, mechanical corn picking and hand corn husking.

* The 91-acre exhibit area is already about 70 percent booked. Another 1,000 acres are now being prepared for 1976 field demonstrations. Subjects will include harvesting, plowing, grain drying, tillage, weed and insect control, seed plots, growing examples of crops from every part of America, livestock feeding set-ups, feed storage, exotic and basic livestock breed exhibits, communications, rural homes and living, farm credit, farm buildings, and exhibits from states, cities and educational institutions.

Continued on Page 20

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AGRICULTURE NOTES

WORLD BANK PLANS TO BOOST LENDING FOR AGRICULTURE

The World Bank is planning a significant increase in its lending for assistance to agriculture and rural development over the next 5 years. Plans call for provision of \$7.2 billion for this purpose, about half of which will be for rural development.

By 1980, the Bank expects to be lending \$1 billion annually for rural development—about double the present rate of lending. The plans, outlined in a new Bank publication, "Rural Development: Sector Policy Paper," constitute a central part of the Bank's efforts to direct its assistance increasingly to the poorest among countries and peoples, and to help spread the benefits of development more widely.

The publication notes that nearly 800 million people live in

poverty—about 85 percent living in what World Bank President Robert S. McNamara describes as "a condition of life so degrading as to insult human dignity." The rural poor include small-scale farmers, tenants, sharecroppers, landless workers, and their families.

To reduce poverty, the report states, rural development programs must be clearly designed to increase production and raise productivity. Poor farmers should have access to suitable technology and to the capital required to use the technology.

Improved food supplies and nutrition, together with basic services such as health and education, can not only directly improve the

physical well-being and quality of life of the rural poor, but can also directly raise their productivity and their ability to contribute to the national economy.

The World Bank, the report emphasizes, recognizes the high priority of food production, and looks upon the need to reduce poverty in rural areas and to increase food production as twin goals.

The emphasis in its agricultural lending, therefore, includes lending not only for the rural poor but also for other farmers when it is necessary to raise their production in order to increase domestic food supplies and/or contribute to exports.

WORLD WIDE WATER DATA TO BE PRESENTED IN ONE LARGE VOLUME

"Water Resources of the World" is a new reference work by Frits van der Leeden, soon to be published by Water Information Center, Inc.

In over 560 fact-filled pages the book assembles, in tabular form, the most up-to-date statistics available on all water resources topics for 138 countries and territories. Presented on a county by county basis are data on streamflow and runoff, ground water, water use, irrigation, industrial and public water requirements, and water use projections. Additionally, the book covers statistics on climate, the oceans, and characteristics of the world's major rivers, lakes and reservoirs. Also presented are data on the water supply situation in developing countries, the availability of hydrologic information, desalination, financing of water projects and much more.

A basic reference, "Water Resources of the World" is designed to provide quick access to previously scattered and hard to find information.

The hard cover, 7 x 10 inch volume containing 578 tables and

47 maps and diagrams can be acquired at a pre-publication price of \$26 if ordered before August 15, a saving of \$6.50 on the regular publication price. Available from Water Information Center, Inc., Dept. P, 44 Sintsink Drive East Port Washington, N.Y. 11050.

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USDA REPORTS PROGRESS ON INTERNATIONAL FOOD STANDARDS

The U.S. Department of Agriculture (USDA) reported progress toward international food standards.

USDA representatives reported on developments at the annual meeting of the Codex Alimentarius Committee on Processed Fruits and Vegetables in which representatives from 30 countries and five international organizations participated. The meeting was held recently at the State Department in Washington, D.C.

The Committee reviewed standards that were in the final stages of development and advanced them to the Commission at Step 8, the last formal step before referring them to the more than 100 member governments for acceptance. The three standards covered jams (preserves) and jellies, citrus marmalade and mature processed peas.

In previous meetings, the com-

mittee has advanced standards for 18 major processed fruits and vegetables. These standards have been sent to member governments for acceptance.

The Committee is one of several operating under auspices of the Codex Alimentarius Commission, an international body established in 1963 by the Food and Agriculture Organization (FAO) of the United Nations and the World Health Organization (WHO) for the purpose of elaborating international standards for foods. The purpose of these food standards is to protect the consumer's health and facilitate world trade.

A Codex standard for a given food commodity sets forth requirements on identity, composition, hygiene, additives, labeling, and sampling and test procedures.

Floyd F. Hedlund, director of the Fruit and Vegetable Division of

USDA's Agricultural Marketing Service, chaired the Committee on Processed Fruits and Vegetables, and David A. Patton, deputy director of that division, headed the U.S. delegation. Dr. Robert W. Weik, Bureau of Food, Food and Drug Administration served as alternate representative for the U.S. delegation.

In addition to the United States, the following member countries were represented at the meeting: Argentina, Australia, Belgium, Brazil, Canada, Denmark, Equador, France, Ghana, India, Iran, Ireland, Israel, Italy, Ivory Coast, Japan, Libyan Arab Republic, Mexico, Morocco, Netherlands, Nigeria, Norway, Poland, Saudi Arabia, Spain, Switzerland, Thailand, and the United Kingdom. South Africa attended as an observer. Two representatives of the FAO in Rome and members of the Economic Commission for Europe also attended.

ADMINISTRATOR OF USDA'S AGRICULTURAL MARKETING SERVICE TO RETIRE

Ervin L. Peterson, Administrator of the U.S. Department of Agriculture's Agricultural Marketing Ser-

vice, has announced he will retire June 30 after serving as head of the agency for the past three years and

after eleven years of federal government service.

Secretary of Agriculture Earl L. Butz brought Mr. Peterson from the State Department's Agency for International Development in June 1972 to direct the reestablished Agricultural Marketing Service. Mr. Peterson had been with AID for two years, and had served as Assistant Secretary of Agriculture for federal-state programs from 1954 to 1960.

He is retiring upon the advice of his physician. "He's told me to slow down," Mr. Peterson related. The USDA official suffered a heart attack in 1971.

"I leave AMS with very mixed feelings and some projects unfinished," he said. "This has been a most satisfying experience for me." He said he has a deep respect for AMS personnel, and feels they are "as thoroughly on top of their jobs as any group with whom I've

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worked." He added he has deep affection for USDA, and especially for its people who are dedicated to agriculture.

One of his major goals as AMS Administrator, Mr. Peterson said, has been to carry out as fully as possible the requirements and services provided by laws passed by Congress affecting marketing of agricultural products, and assigned by the Secretary of Agriculture to AMS for administration.

A major accomplishment during his tenure with AMS, he said, was to change the operating character of the agency's management divisions from that of being directive to that of maximum service and support to the eight program divisions. He said the emphasis was placed on the word "service" to support program divisions in conducting the many and varied programs of AMS.

Mr. Peterson was born in North Bend, Ore., Sept. 18, 1909. He

attended the University of California at Los Angeles, majoring in political science and economics.

He farmed in Coos County, Ore., from 1931 to 1941, and was county judge there the next two years. While in that position, he obtained legislation authorizing county courts to establish county forests and parks, and established the first county forest in Oregon as well as a county park which is now part of that state's park system.

From 1943 to 1954, Mr. Peterson was director of the Oregon department of Agriculture. He served as president of the National Association of State Departments of Agriculture in 1947-48.

He left USDA in 1960 to become executive director of the Milk Industry Foundation. He later served as special representative for that organization and the International Association of Ice Cream Manufacturers.

Following that, and prior to his AID assignment, Mr. Peterson was senior agriculturist and then director of agricultural development for the Development and Resources Corporation of New York City, an international consulting and development firm.

His honors include a distinguished service award from the National Association of Soil Conservation Districts, "Watershed Man of the Year" award from the National Watershed Congress, and an honorary Doctor of Science degree from Clemson University.

Mr. Peterson said he is looking forward to doing things neglected while busy working in Washington the past 20 years, and "to getting away from the pressures and harassment in Washington."

He and his wife, Gladys, will return to their home in Sacramento, California. They plan to arrive at their residence there, at 1210 El Sur Way, around July 12.

WILLIAM H. WALKER, III, NAMED AMS DEPUTY ADMINISTRATOR

The U.S. Department of Agriculture (USDA) announced the appointment of William H. Walker, III, of Brownsville, Tenn., as deputy administrator for program operations of the Agricultural Marketing Service, effective June 1.

Mr. Walker, 42, was deputy commissioner of the Tennessee Department of Agriculture from 1971 until 1975.

He operates a 1,000-acre farm producing cotton, soybeans, timber, beef and dairy products in Haywood County, Tenn.

In 1969-70 he was a member of the Tennessee House of Representatives and served on that body's

Agriculture Committee. In 1970-71 he was appointed as Tennessee's member on USDA's Regional Farmer Advisory Committee. After three years of pre-medical studies and two of agriculture, he received a B.S. (1958) and M.S. (1961) degrees in animal husbandry from the University of Tennessee.

He is married to the former June Elizabeth Derryberry of Cookeville, Tenn. They have two children, Alison Elizabeth, 11 and Brandon Rew, 10.

A Baptist, he has served as both deacon and Sunday school teacher. He was in the U.S. Army in 1955-56.

Among the major accomplishments of the Tennessee Department of Agriculture while he was deputy commissioner were the establishment of a Consumer Affairs Division, a Commodity News Service, increased surveillance programs of animal disease control and wholesome foods, and participation in export markets.

AMS Administrator Ervin L. Peterson said Mr. Walker is joining a highly competent organization and brings with him a set of credentials uniquely suited to the task ahead, including experiences in legislative matters and program administration.



FARMING IS EVERYBODY'S BREAD AND BUTTER

by Tony Barcroft

In today's world, many people think of the farmer as the laborer who raises wheat, oats, corn, beans, beef, pork, chicken, eggs and milk. Of course farming produces food, but it does much, much more.

Think about farming. First a farmer needs machines to plow, fit, and plant the land. Tractors, plows, drags, drills, planters and other machines have to be designed, engineered and manufactured. This requires manpower and raw materials such as iron ore, steel and others which in turn require more manpower. These all mean jobs and more jobs. Truckers have to truck this merchandise to dealers. Railroads carry many of these products across the country. These all create more jobs.

The farmer needs seed and fertilizer to plant and grow his crops. He buys these at the local elevator or co-op. Another farmer had grown the seed, and it had been transported to the dealer. Other people had worked to prepare the fertilizer and get it to the market place. These too make more jobs. The farmer needs sprays to keep cereal leaf beetles from eating the oats and wheat, and alfalfa weevils from devouring the hay crop. It takes more people to provide raw

materials, research and manufacture pesticides. This means more jobs.

When the crops mature, they need to be harvested. Combines, choppers, balers, and other harvesters and equipment are needed. They've all had to be designed, researched and manufactured. They all use raw materials. They all require manpower. They all make jobs, jobs, jobs!

To do all this farming, a farmer uses gasoline, propane and diesel fuel in his tractors and trucks. Think of all the jobs the producers of these fuels provide—geologists, surveyors, drillers, refiners, truckers and on and on.

Farmers use lots of electricity too, to run their bulk tanks, milkers, elevators, dryers and welders. Many farmers use it to heat their milking parlors and milk houses and to heat their hot water. Electricity generates many jobs.

Throughout supplying the farmer with the things he needs and getting his products to the con-

sumer, trucks, trains and even ships are used over and over. This means more jobs.

Wholesalers and retail stores handle farm products. Some farm products are manufactured into other things that consumers need. Examples of this are: wheat made into bread and pastries, milk made into cheese, corn oil made into margarine. The list could go on and on. Products are many and they provide jobs. Many jobs!

No industry circulates money throughout the economy any more relentlessly than farming. Even this creates jobs. Jobs in the banks, jobs in the loan industry, jobs on the stock market, and jobs in the real estate business are only some of them.

Yes, farming plays a key role in this economy. Everything a farmer does or uses is making jobs for others. And jobs? They're how you live. They fight recession. Your job is your bread and butter. Farming is everybody's bread and butter!

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Cranberry Turkey Tonnato Highlights an Italian-style Feast

Have a super cool Italian-style dinner at home this summer, either indoors or al fresco. If you like, create a festive gay Italian scene—with checkered tablecloths, glowing lanterns, and candles set in chianti bottles.

Two classic and summer-right Italian recipes have been slightly reinterpreted so that you can prepare them ahead of time, and then serve them with ease buffet-style.

The first of these recipes, for your main entree, is "Cranberry Turkey Tonnato." The original recipe calls for veal, but the mild taste and light texture of sliced turkey breast is a perfect substitute—and economical. The secret for this beloved Italian recipe is a subtly piquant sauce combining tuna fish, olive oil, cranberry juice cocktail, red wine vinegar, capers and a bit of garlic. You can make your cranberry tonnato sauce in a blender, in a flash, to be spread over thinly sliced turkey breast before serving. Present it on a large platter, colorfully garnished with black and green pimiento stuffed olives, and tomatoes.

Along with your entree, serve a crisp salad of summer fresh greens and thinly sliced red onions tossed with a light oil and vinegar dressing. And, don't forget some bread sticks, both plain and seasoned with sesame seeds.

For dessert, "Berry Biscuit Tortoni" will please both children and adults. They are prepared in a snap by combining heavy cream, confectioners' sugar, vanilla extract, cranberry-orange relish and macaroon crumbs. After mixing, fill small serving dishes (such as custard or soufflé cups) and freeze until ready to serve.

No Italian dinner would be complete without a palate-pleasing wine drink, and "Cranissimo Pitcher Punch" is tastefully right. It combines cranberry juice cocktail, sweet red wine and melon balls. Keep a pitcher at the table—and one on reserve in the refrigerator. If children are present at the party, you can have a special pitcher without wine for them. Replace the wine with a quart of cherry soda or ginger ale.

As they say in Italian, your dinner will be "buonissimo"—very good!

CRANBERRY TURKEY TONNATO

(Serves 6 to 8)

1 frozen turkey breast, about 6 pounds

Salt and pepper

1/2 cup olive or salad oil

1 can (7 ounces) tuna, drained and rinsed with cold water

1/2 cup Ocean Spray cranberry juice cocktail

1/4 cup red wine vinegar

1 clove garlic

1/4 cup capers, drained

Garnishes:

Sliced tomatoes

Black olives and green olives, stuffed with pimiento

Parsley sprigs

Thaw turkey breast and sprinkle on all sides with salt and pepper. Roast as directed on label. (Or, at 325° F. 25 minutes per pound, or until meat thermometer inserted in

thickest part of turkey breast reads 170°F.). Cool and then chill. Except for garnishes, combine in a blender the remaining ingredients and whirl until smooth. Pour into a bowl and season to taste with salt and pepper. Chill. When ready to serve, skin turkey breast and cut into thin slices. Arrange slices on serving platter and garnish with sliced tomatoes, sliced pimiento stuffed olives, pitted black olives and parsley sprigs. Spoon tuna mixture over slices. Nice served with bread sticks or slices of crusty bread.

BERRY BISCUIT TORTONI

(Serves 6 to 8 generously or 10-12 small servings)

2 cups (1 pint) heavy cream

1/3 cup confectioners' sugar

1 teaspoon vanilla extract

1 cup Ocean Spray cranberry orange relish



1 cup crisp macaroon crumbs
Additional macaroon crumbs and cranberry-orange relish

In a bowl whip cream until stiff. Fold in sugar, vanilla, relish and crumbs. When mixture is well blended, spoon into serving dishes and freeze until firm. Sprinkle top with additional crumbs and a spoon of cranberry-orange relish. Serve frozen.

CRANISSIMO PITCHER PUNCH

(Makes about 2 quarts,
8 servings)

1 quart Ocean Spray cranberry juice cocktail, chilled

1 bottle (4/5 quart) sweet red wine, chilled, (or 1 quart cherry soda)

1 package (12 ounces) frozen melon balls, thawed, or assorted fresh melon balls

Ice cubes

In a large pitcher mix cranberry juice, red wine and melon balls and their juice. Chill until ready to serve. Pour into glasses. Spoon a melon ball into each serving. Add ice cubes and serve at once.

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OBITUARY

FARM FEST

Continued from Page 13

CHARLES BUCKALEW

Charles Buckalew, 78, of Ridge rd., Browns Mills, N. J., died May 26 at his home.

Mr. Buckalew was a blueberry farmer for the past 26 years and attended the Browns Mills Methodist Church.

He is survived by a daughter, Mrs. Norman Foulks of Browns Mills, and two grandchildren.

OREGON

Continued from Page 2

local citizens to develop and deliver needed programs in home horticulture, farm forestry, and land and resource-use planning, Cannon noted.

For about three and a half years before joining the OSU staff, Poole was an Extension agent in Marshall county, West Virginia.

He earned a bachelor of arts degree in 1965 from Northeastern University, Boston, then he volunteered for the Peace Corps. He worked for three years in the Gabonese Republic, a country in southwestern Africa. There, he supervised construction of schools and teachers' housing and he helped local fishermen.

After his Peace Corps experience, Poole enrolled at Oregon State University where he earned a second bachelors degree in 1969 and a masters degree in 1971. His studies included farm crops, soils, and agricultural economics.

In Coos county, Poole joins a staff of four other Extension agents who conduct educational programs in six major subject areas. Besides agriculture, forestry and community development in which Poole is to work, the major areas are marine resources, family living and 4-H youth programs.

Poole's headquarters will be with other county staff members at the OSU Extension Service office in the courthouse at Coquille. The telephone there is 396-3121, ext. 246.

FREDERICK L. CARLSON

A memorial service for Frederick L. Carlson, 57, of Pembroke St., Kingston, Mass. was conducted on June 24 at 2 p.m. at a Kingston funeral home. The Rev. George S. Buhl of the Mayflower Congregational Church officiated.

Mr. Carlson was born in Quincy on March 13, 1918, the son of Capt. F. G. E. Carlson of Plymouth and the late Hilda (Lindergren) Carlson. Self-employed, Mr. Carlson was the owner of the Carlson Manufacturing Co. which manufactured cranberry equipment. He had lived in Kingston the last 30 years.

He was also the owner of many cranberry bogs. He attended the University of Maine and was a veteran of WWII. He was a first lieutenant in charge of radio repairs for the Army.

He is survived by his father, two sons, Frederick A. Carlson and Richard L. Carlson, both of Kingston; a sister, Mrs. Wallace Jensen of Washington, D.C.; a half-sister, Mrs. Dorothy Douglas of Manomet; and several nieces and nephews.



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* The 1975 National Crops Test Center is being planted now. The 120-acre area, previewing soil and weather conditions, will be one of the nation's major "experimental station" projects this year.

* A permanent memorial to the American farmer is being commissioned, to be erected high atop

40-foot knoll. It will be dedicated during the event, complete with 100/200-year "time capsule" with memento from each Farmfest 7 participant.

* Free stage shows with top name entertainment, and major political figures, will play to vast audiences in a 5-acre natural amphitheater on the northeast face of "American Farmer Monument Hill. The event will close with massive final-Sunday church service.

* Historical pageants will recount the epic story of American agriculture. And the largest-ever showing of antique farm equipment and tools is now being assembled. The first item in the collection was Farmfest's own 1834 Deering reaper; thousands more items will be consigned and loaned by museums and companies. Attempts are being made to line up every tractor model ever made of certain leading makes.

* Other features, in brief: an Education Hall, with seminars to make the event tax-deductible for farmers... possible network television documentary on agriculture and commemorative books and albums... an agricultural commemorative postage stamp issued at the event... countless tie-in activities being planned by farm organizations and companies.

Farmfest 76 is seeking help—ideas about historical materials and volunteer effort for special promotions—from throughout the nation. Write: Farmfest 76, P. O. Box 76, Lake Crystal, MN 56055.



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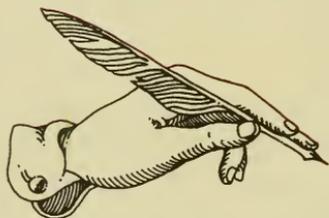
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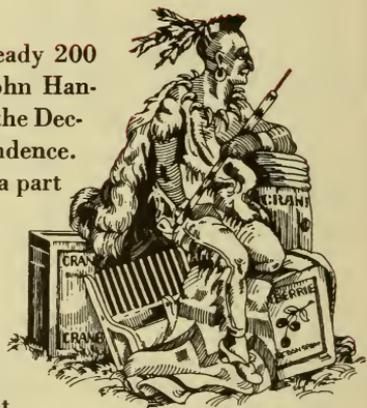
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the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-

berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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3.energetic 4.eager
workers**

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REGIONAL NEWS NOTES

NOVA SCOTIA

We have been experiencing one of the driest summers on record. All crops are suffering from lack of moisture and many fruits, especially lowbush blueberries, are maturing early because of the warmer temperatures. The mean temperature for the month of June was 15.9 degrees C compared with the 50-year average of 15.3. The first two weeks of July had only one brief shower and daytime temperatures were high for this region. During part of July, 1 was in Prince Edward Island and conditions are also dry there.

WASHINGTON

Dr. Charles Doughty and Azmi Shawa attended the Faculty Retreat for Washington State University Department of Horticulture, June 10-13. The Statewide Hort Faculty gathering was held in Issaquah, Washington at the Providence Heights Education and Conference Center, a full facility available for conferences or educational groups by reservation.

Thirty Gig Harbor, WA 9th grade students toured the Cranberry Unit June 23, during their Mobile Education Tour of the State of Washington. Troop 60, Boy Scouts of America from Missoula, Montana enjoyed a wet, but interesting tour and discussion on cranberry growing at the Experiment Station June 26. The 40 young men and their scout masters are seeing the Western States by bus.

June weather was slightly warmer than normal with maximum temperature of 78 degrees occurring on the first. Minimum was 39 degrees on the 12th. There were 10 days warmer than average, 1st-3rd, 6th, 10-14th and 30th.

Precipitation totaled 2.58 inches which is about normal. There were measurable amounts on 17 days with .49 the largest storm. The 6th-14th were welcome dry days.

WISCONSIN

The corn crop was off to a good start this year in contrast to a year ago when cold, wet weather in May disrupted planting schedules and caused slow germination. Home gardens and commercial vegetable crops are developing good. Most potatoes have been planted. The early pea harvest should begin around mid-June as will picking of strawberries in the south. The outlook for fruit crops is promising as the bloom was heavy and pollinating weather was favorable.

Progress of crops as of the second week in June: unstable weather with frequent showers interfered with the first crop hay harvest, the corn crop continues to look good but growth has been slowed by cloudy and cool weather, vegetable crops and home gardens are showing good development but would benefit from more sunshine and warmer temperatures.

Frequent rains continued into the third week of June and second crop hay growth was reported to be coming through the windrows of the first crop which could not be removed due to the wet weather. Warm and humid conditions occurred after mid-week resulting in rapid plant growth for corn and other crops. Corn averages 12 inches in height compared with 7 inches a year ago and an average of 9 inches. A report from the Plant Industry Division said the recent weather has favored most leaf-spot and root rot diseases in crops where they were established earlier, and insect problems are many.

Continued on Page 20

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CROP REPORT FROM USDA

CRANBERRY PRODUCTION (000 Barrels)

State	1972	1973	1974	1975	%
Massachusetts	819	901	932	950	2% inc.
New Jersey	196	228	250	235	6% dec.
Oregon	104	97.3	92	95	3% inc.
Washington	154	118	92	126	37% inc.
Wisconsin	805	756	870	850	2% dec.
UNITED STATES	2,078	2,100.3	2,236	2,256	1% inc.

RECORD LARGE CROPS (000 Barrels)

MASSACHUSETTS

1,072 in 1971

957 in 1970

932 in 1974

901 in 1973

UNITED STATES

2,265 in 1971

2,236 in 1974

2,100 in 1973

2,078 in 1972



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ANNUAL FIELD DAY IN WASHINGTON

Cranberries were the topic of the day July 28th, when cranberry growers, extension agents, and representatives of chemical companies met at the Coastal Research and Extension Station at Long Beach. The occasion was the annual Cranberry Field Day.

Attention was focused on insects and how to control them with fungicides and herbicides. A color film, "The Rival World," was shown to the nearly 150 persons who attended the annual event. The film, produced by Shell Chemical, pointed out that the insect population of the world outnumbers humans. "We eat what the surviving insects leave us," the film's narrator said. Nature takes care of keeping a balance, but cultivation upsets that balance, making excellent breeding grounds for many kinds of insects.

The film centered on how insecticides are used to control plagues of locusts in Africa, relating the situation to the use of insecticides by farmers in this country.

Azmi Shawa, extension agent in charge of the Research Station, introduced speakers for the day's program. Dr. J. Orville Young, director of W.S.U.'s Cooperative Extension Service, described the operation of the extension service, which is one of the three functions of a landgrant university: teaching, research and extension of knowledge to people who can use it.

Dr. Young also discussed the possibility of a real world food crisis. "How long are we going to be able to enjoy red meat for instance, or maybe we'll have to feed all the grains cattle now get to people." He does feel that technology will catch up and with wise planning, we'll be able to produce food for all.

Land use planning is going to be extremely important in the future, Dr. Young said. "Are we going to take the bogs, the orchards and farmland and build houses, then be forced to import the food we need here in the Northwest from the Midwest?"

Another speaker was Dr. Ernest Smith, chairman of the Department of Horticulture at W.S.U. He told the audience of the importance of horticulture crops in Washington State's economy, representing a farm gate value of \$500 million. This figure he said is multiplied three or four times to measure the monetary impact in the economy.

He also discussed how the Department of Horticulture is growing at Washington State University. The number of students majoring in Horticulture has grown in five years from 79 to 225.

Bruce Monroe, representative from Chevron Chemical Company, Wenatchee, talked about safe handling of pesticides as well as a new fungicide to control fruit rot on cranberry plants.

A special presentation was made during the program by Dr. J. Harold Clarke, Long Beach, to Dave Allmendinger, who is retiring as head of the Western Washington Research center at Puyallup. Dr. Clark described Allmendinger as one who "has had the benefit of agriculture and the growers in his heart."

A gift of luggage was presented to Allmendinger by Norman Brateng.

Azmi Shawa said that this station might have been closed many years ago except for the support Allmendinger has given.

Shawa closed the day's program with a discussion on "What's New." He told about the weevil infestation in cranberry bogs in the Grayland area. No chemical has been found yet that is really effective in controlling weevils, he said.

A problem some growers are having with Lily of the Valley in the cranberry bogs was discussed. Chemicals from three different companies are under test at the research station, with one apparently controlling the plant, but injuring the cranberries. Shawa said that the berry crop might be lost in the area treated for one season, but that they are finding that the cranberry plant comes back and produces the following season or the third year.

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Mass. Cranberry Station & Field Notes

by **IRVING E. DEMORANVILLE**
extension cranberry specialist

Frost

There were a total of four frost warnings released during the spring of 1975 including afternoon warnings. Actually the nights of June 8 and 9 were the only ones with warnings out. The temperatures did not drop below 30 degrees on either nights except for possibly an occasional cold spot. This was the smallest number of warnings beginning on the latest date in our records. To compare with recent years; there were eight warnings in 1974, 1973 and 1972, 10 in 1971 and 16 in 1970. The year with fewest warnings in the spring prior to 1975 was 1960 with three nights.

We again thank all of the people responsible for the success of the Frost Warning Service: the weather observers, telephone distributors, radio stations and National Weather Service personnel. Their assistance is without measure in providing this service which is sponsored by the Cape Cod Cranberry Growers Association.

Annual Meeting

The 88th Annual Meeting of the Cape Cod Cranberry Growers Association will be held on Tuesday, August 19 at the Cranberry Station beginning at 10 A.M. The program will include equipment displays and exhibits, a guided tour of the State Bog research plots and a chicken

barbeque at lunch. After lunch there will be a business meeting committee reports, industry reports, the guest speaker will be Miss Evelyn Murphy, Secretary of Environmental Affairs and the official crop forecast by Mr. Byron S. Peterson of the Crop Reporting Service.

Weather

June was warm, averaging 1.3 degrees a day above normal. Maximum temperature was 90 degrees on the 19th and minimum 44 degrees on the 8th. Warmer than normal periods were the 2nd, 19th, 21-24th, 26-27th and 29th. Cooler than normal days were the 4th, 6th, 8th, 9th, 12th, 13th and 30th.

Rainfall totalled 4.48 inches which is 1.2 inches above normal. This figure is rather misleading as there was no rain for the last 17 days of the month. There was measurable precipitation on eight days with the largest storm of 2.98 inches on the 12-13th. The first

Continued on Page 20

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THE MASSACHUSETTS CRANBERRY CROP POTENTIAL FOR 1975

by John S. Norton

Associate Professor, Cranberry Station, College of Food and Natural Resources, University of Massachusetts, Amherst

The cranberry crop forecast, based on weather conditions from June 15 through July 20 (the bloom period) is for 1,160,000 bbls. to be produced in 1975. This

value results from use of the formula devised by the author and first used to predict the 1973 crop. The derivation of the formula was

described in detail in the August and September, 1973 issues of *Cranberries*. A review of the 1973 Forecast was presented on page 13 of the February 1974 issue of *Cranberries*.

Figure 1 is the graph from which the Potential Crop was determined.

In effect, sunshine and daytime temperatures and precipitation during the bloom period are boiled down to a value which I call "penalty-points." This value, 27 penalty-points, is located along the base line of the graph. A vertical

line is drawn from the base line to the upper curve. From the intersection of the vertical line and the upper curve, a horizontal line is drawn to the left hand margin labeled "Potential Crop." The "Potential Crop" in the present case, using 27 penalty-points is 920,000 bbls. This is the crop that would be

expected if there were no unusual losses to frost, flood, scald, etc. and if the entire crop were dry-picked. Since water-harvesting results in increased yields over dry-harvesting and, since the graph was developed from yield and weather data from a

25-year period starting in 1949 with water-harvesting being practiced for only the last four years, it is necessary to add the increase due to water-harvesting to the reading from the curve. This increase is estimated to be 40% of the water-harvested volume. My guess at the volume to be water-harvested is 350,000 bbls., so the increase over dry-harvest will be 140,000 bbls. In addition to the adjustment for water-harvest effect, an adjustment must be made for the extremely mild spring frost season. Based on

the crops of 1960 and 1973, when similar frost seasons occurred, I am adding 100,000 bbls. due to zero frost injury. Addition of the three figures presented above: $920,000 + 140,000 + 100,000 = 1,160,000$ bbls. This is my estimate, as of July 22, 1975, of what the 1975 Massachusetts cranberry crop should be. Obviously, if there are losses after the date of the forecast,

or if the volume of berries water-harvested varies from the estimate, the forecast will be in error by at least the amount of those effects.

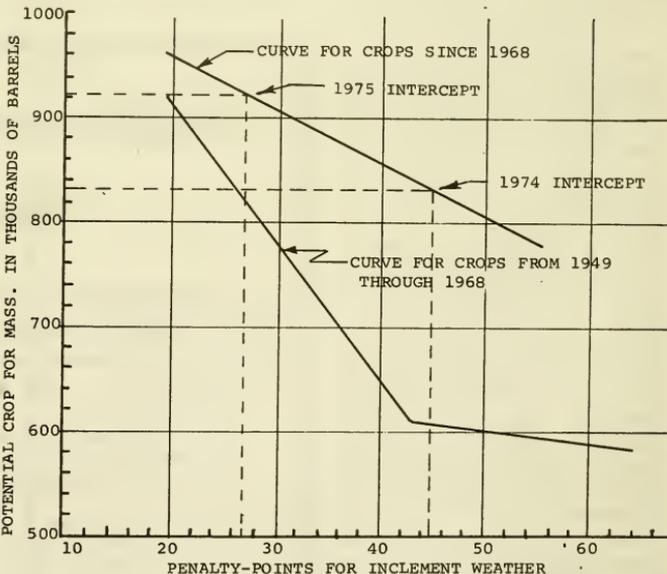


Figure 1. Relationship between weather during bloom period of June 15 through July 20 and the "Potential" cranberry crop for Massachusetts during a 25-year period.

EPA WARNS THAT THE USE OF ORGANIC WASTES MAY BECOME NECESSARY AS FERTILIZER COSTS CLIMB

The 120 percent price rise in commercially-produced fertilizer materials since 1973 may make the use of organic materials such as feedlot wastes and municipal sludges an economic necessity in the future. The use of feedlot wastes and municipal sludges could satisfy 6.5 percent of national nitrogen requirements. We do not want to leave the impression that organic waste utilization on the land is a panacea. It will not solve all of our fertilizer problems, even if we achieve maximum potential. But in this day and age, small increments are very important and may mean the difference between sufficiency and shortage.

Energy pressures have been translated into steep fertilizer price hikes. Increases began when Phase IV price controls on fertilizers were lifted in October 1973. The Department of Agriculture reports an average fertilizer cost increase from \$75 per ton in mid-1973, to well over \$140 per ton by the fall of last year. The price of anhydrous ammonia alone nearly tripled over the same time span. If the cost of fertilizers continues to rise at this rate, the total national expenditure to farmers for commercially-produced fertilizer materials this year could well top \$6.5 billion—a dramatic increase of more than 120 percent above that spent in 1973. The use of organic waste in agriculture will become an economic necessity, given these circumstances, rather than only an ecological nicety. Sludges brimming with nutrients are not used on soil for a variety of technical, economical, social and institutional reasons. At the same time, our farmers remind us that we are short on fertilizers. When our cities seriously contemplate shipping sludge thousands of miles to African countries while

domestic fertilizers double in cost, you know that something is wrong. Much of the same situation applies to other organic wastes—although we are told that, nowadays, farmers look at animal manures with a good deal more favor than two years ago. However, it must be noted that not all sludges can be used for soil improvement because, in some cases, the waste might contain excessive concentrations of metals or viruses that could be hazardous to health.

Our Agency (EPA) is taking a lead in testing methods and practices that will return organics to the productive soil of the nation. Within three years, an EPA resource recovery demonstration will go into operation in the State of Delaware. The demonstration will include compost production and facilities

to enrich the product with synthetic fertilizers. The project is designed so that marketing of the humus product will be explored, and later expanded if sales warrant. The project will test the concept of soil enrichment by plowing under shredded solid waste and sewage sludge. The EPA also plans to demonstrate other sludge utilization concepts, possible involving solid wastes, next fiscal year, and we will soon issue a policy paper on sludge management that will stress the use of such residues on land.

Now is perhaps a better time than any to change old tendencies toward the disposal and destruction of residuals and waste. The relative economics appear to be changing, and with that the strongest bid against organics utilization is crumbling.

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MARKETING COMMITTEE VOTES

NO SET-ASIDE

After relatively short deliberation, the marketing committee voted no set-aside for the 1975 cranberry crop. The committee met at the Dunfey's restaurant-hotel in Hyannis, Massachusetts on August 21 and 22 for their annual meeting. Two local growers attended the meeting in addition to the committee members and alternates from all the cranberry-producing states.

Included in the agenda were several adjustment requests from growers. The outcome of these discussions will be dealt with in the next issue of *Cranberries*. A timetable for completing adjustments was also discussed and it was decided that another meeting for the specific purpose of completing allotment adjustments will be held in January.

Gilbert Beaton, from Massachusetts, gave the report of the subcommittee for Crop Forecasting. The findings of that report are as follows:

Mass.	930,000 barrels
N. J.	250,000 "
Ore.	100,000 "
Wash.	125,000 "
Wis.	880,000 "

Total 2,285,000 barrels

Individual committee members differed with Beaton on some estimates. Decas and Olsson from Massachusetts felt Beaton was high and offered an estimate of 900,000 barrels and 890,000 barrels, respectively. Craig estimated 800,000 as compared to Beaton's 880,000 for Wisconsin. Walla agreed with the estimate for Washington and Oregon of 125,000 and 100,000, and New Jersey members put their crop at 230,000 rather than Beaton's 250,000. The total figure from individual members' estimates added up to 2,155,000 barrels.

The committee voted to adopt a compromise figure between the subcommittee's total crop estimate and the USDA's total crop estimate figure as the official figure from

which to calculate the projected usable crop available for the 1975-76 season.

Secretary Chuck Hastings reported his finding of a carry-over of 700,000 barrels from last season's crop. This figure was questioned by John Decas but finally accepted by the committee. The estimated carry-over needed by the industry was estimated to be 600,000 barrels. The committee voted to change the customary shrinkage figure from 5% to 7%. When this percentage is applied to the official total figure for the 1975-76 crop (2,200,000 barrels), a figure of 154,000 barrels is obtained. After the necessary computations were performed the figure of 2,146,000 barrels was arrived at as the amount of cranberries which will be available for use in the 1975-76 season for actual sales.

Beaton said the estimated trade demand for the season would be 1,800,000 barrels leaving a projected surplus of 346,000 barrels of cranberries.

No set-aside was unanimously voted by the committee despite the large surplus. Beaton urged those present to seriously consider invoking the grower allotments for next season's crop in order to avoid another large surplus and diminish the bad publicity a set-aside would create. It was argued by John Decas that the allotment policy would generate publicity which would be just as harmful as that brought on by a set-aside and said that it was "naive" to expect cranberry growers not to grow the best and biggest crops that they could and consequently there would be a "set-aside" on an individual grower basis. "Growers will grow berries, so they'll have to be dumped anyway." Decas doubted that the media would be fooled by such a practice.

Beaton countered that the unused bogs could be flooded to rid them of briars and improved in other ways during the year in which they were not producing.

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OBITUARY

MECLINA SILVA

Our Lady of Lourdes Church in North Carver was filled to capacity for the Funeral Mass celebrated for Mrs. Meclina (Wager) Silva, 79, matriarch of a family having 152 descendants. Burial followed in the family lot in the Parish Cemetery. The Rev. James Gibbons was celebrant of the Mass.

Mrs. Silva died Aug. 7 at the Jordan Hospital where she had been a patient since the previous Saturday. She had been in ill health for some time at her home on Purchase St., East Carver.

Mrs. Silva was born on June 6, 1896 in Fall River, the daughter of the late Joseph and Joquina (Cunha) Wager, both of the Azores. She and her husband, Innocense J. Silva, Sr., observed their 65th wedding anniversary last Oct. 16. Holder of the Boston Post came as the oldest citizen in Carver, Mr. Silva was 93 years old on June 13.

Married at the age of 14, Mrs. Silva came to Carver with her husband who was employed on the cranberry bogs. She worked right along with him, taking time out to rear her large family, to garden, cook and be a friend to her neighbors. She was particularly loved by the children who came to her door.

Mrs. Silva is survived by her husband; four sons, John J., Raymond E. and Innocense J. Silva, Jr. of Carver and Peter L. Silva of Southington, Conn.; five daughters, Mrs. Frank (Inez) Silva of Carver, Mrs. Louis (Jeannette) Vincent of Sacramento, Calif., Mrs. Andrews A. (Jacqueline) Gomes of Carver, Mrs. Charles (Dorothy) Pina of Plymouth and Mrs. John (Mary Ann) Andrews) of Carver; 48 grandchildren; 86 great-grandchildren; and eight great-great-grandchildren. Mrs. Silva's last two great-grandchildren were born recently, Meclina Gomes was born on August 2 at the Jordan Hospital

and a son was born August 11, to a grandson and wife, Mr. and Mrs. Donald Silva of Waterbury, Conn.

RAYMOND EMERY

Funeral services were held July 9 for Raymond Emery, 66, of New Egypt, New Jersey, prominent blueberry grower who died suddenly the previous Sunday.

He is survived by his wife, Ida Kotean Emery, a daughter Clara Nuran of Hightstown, a son, David of New Egypt, two grandchildren and three brothers, Leon, Ellis and Irving all of New Egypt.

Funeral arrangements were handled by Tilghman Funeral Home, New Egypt.

Food For The Spirit



by Robert L. Clingan

One of the most poignant portions of the Bible is Psalm 137:1-6. It reads:

By the waters of Babylon, there we sat down

We wept when we remembered .
Zion.

We hanged our harps upon the willows in the midst thereof.

For they that carried us away captive required of us a song;

And they that wasted us required of us mirth

Saying, "Sing us one of the songs of Zion."

How shall we sing the Lord's song in a strange land?

Behind these words is the story of the people of Judea and Jerusalem who had been taken captive to Babylon. It was an hour of great distress. Their hope for the survival of the nation was gone. Their personal hopes and dreams were dashed. They and succeeding generations would live out their lives in concentration camps and refugee colonies . . . not as a people who had fled, but a people who had

been taken captive and forcibly removed from their native land.

The story unfolds. By the rivers of Babylon they had hung their harps upon the willow trees, and probably wondered if they would ever sing again. Their captors ridiculed and tormented them, saying, "Sing us a song of Zion." Their answer out of broken hearts, broken lives and a defeated nation was, "How shall we sing the Lord's song in a strange land?"

How could they be expected to sing for their captors, or even for themselves, a song of Zion? Yet in the end this is just what they did. Some of the most beautiful songs of faith found in the Bible are in that portion of the book of Isaiah that was written in exile. Out of the crucible of captivity, the gold of Israel's faith was refined, polished and preserved for the entire world and succeeding generations. They *did* sing the Lord's song in a strange land.

Sometimes we cannot help feeling that the time in which we live is a time of distress, and the land has become a strange land. So much around us is foreign to Christian and Jewish faith and morality, our Judeo-Christian heritage. When more than now has the world needed moral and spiritual values, an empowering and sustaining faith, an integrity of character?

It is too easy for us to say, "How shall we sing the Lord's song in a strange land?" Rather, let us search our hearts for the songs of faith that can and will surface in our lives. It happened to the children of Israel by the rivers of Babylon. It can happen to us.

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Cranberry juice is sampled by a Swedish institutional buyer.

A colorful exhibit featuring hundreds of U.S. processed foods, held in Stockholm's Sheraton Hotel on May 26-30, culminated in sales success stories by almost all exhibitors. A total of 1,176 key buyers from the Nordic hotel, restaurant and institutional trade registered to view the 43 U.S. food exhibits—and to sample a tempting array of U.S. consumer-ready products.

Special interest groups and visitors swelled attendance to at least 1,350. Of those registered, most were from Sweden, 83 were from Finland, 34 from Norway, 18 from Denmark, and 39 from other countries.

By the show's end, the U.S. firms reported \$24,000 in direct sales, with other sales on the verge of completion and several exhibitors yet to report. Orders of over \$1 million—\$1,095,000—are foreseen by exhibitors in the next 12 months.

Four agency arrangements were finalized at the show by one participant, with five other firms expecting to sign up to 21 agency arrangements in the near future.

Although profitable contacts were made by all U.S. exhibitors, products new to the market registered the most spectacular successes. One U.S. firm for example, is negotiating the sale of two containers of a convenience hard-boiled egg product—and a container of mixed pizzas. The firm expects sales of \$70,000 in the next year.

Another U.S. company, producer of cranberries and products, has selected Sweden as its first test market—to be followed by Switzerland and Belgium. The firm plans to begin sales in October, and could ship products worth some \$150,000 to Scandinavia this year.

A major U.S. wine company wrote 18 orders during the exhibit, in spite of constraints on sales to

the Swedish market because of the country's wine monopoly. The firm was very pleased with the keen interest in their products and optimistic about future admission to the monopoly.

Dehydrated foods shown by a U.S. producer new to this market were a high point at the show and meaningful contacts were made. Trade interest in U.S. soy protein was also beyond the expectations of U.S. exhibitors, who expected contacts to lead to substantial future sales.

The attractive product displays were given an added boost by daily demonstrations of U.S. salads, soy protein, and beef and poultry, conducted daily by Josef Schafers, Supervising Executive Chef of the Hilton Hotel Chain. Mr. Schafers also supervised the preparation of a U.S.-type salad bar—virtually unknown in Scandinavia—and arranged three press and trade luncheons, all featuring exhibitors' products.

Two of the taste-testing luncheons featured 20 new recipes using soy protein, developed to meet Nordic tastes and measuring units by Sweden's agricultural test kitchen, under a program spearheaded by the American Soybean Association with the Foreign Agricultural Service. Reaction to the new foods was almost universally enthusiastic. Benefits of use were outlined by Mr. Schafers and recipes were distributed, printed in Swedish and Danish and adapted for both household and institutional use.

The Stockholm food show is only part of a continuing program of market development for U.S. farm products being conducted in Scandinavia by the Foreign Agricultural Service, as well as several U.S. commodity groups that cooperate with FAS in developing overseas markets for their products.

The environmentalist and the agriculturist must work together if the state is to have any productive land left by the year 2000, according to Frederic Winthrop, Jr., Massachusetts Commissioner of Agriculture.

"Their long range goals are identical—how to conserve and wisely use our natural resources—and they should recognize this and bury the hatchet," said Winthrop in a commencement address in June at the Essex Agricultural & Technical Institute.)

"Farmland must not be subverted to other uses. If we lose it," he said, "we lose our capital base, our ability to feed ourselves and also our quality of life."

There are about 6000 farmers in the state, according to Winthrop, but about 200 have gone out of business each year in the last decade.

"That means 20,000 acres of prime farmland lost per year, and at that rate, there will be no farmland left in Massachusetts in 25 years."

Winthrop (has) proposed a five-year plan to reverse the situation.

"By 1980, I want to see the state set up a program to purchase development rights on prime agricultural land. In such a program, the farmer could voluntarily sell his

rights to build on his land, but would keep all other property rights, and would be in an improved financial position to continue producing food for the Commonwealth.

Development right purchases could be financed by a bonding program through a tax on real estate transfers, similar to systems operating in Suffolk County, Long Island and under consideration in New Jersey and Connecticut.

The state government should also finance feasibility studies to encourage the private sector to launch new agricultural enterprises, and banks and insurance companies to make loans to agricultural operations," said Winthrop.

He also called for the eventual turnover of management of state owned farmland to the state Department of Agriculture, which would make land available for farming and community gardening.

More research is needed on the recycling of organic wastes (manure, leaves, sewage, even garbage) for agricultural purposes with a goal of reducing our dependency on petroleum derivatives, said Winthrop.

Another goal is reducing the state's dependence on imported food which currently stands at 86% of all food consumed. "At present New England is self-sufficient only in potatoes and cranberries. Milk, cheese, butter, eggs and non-citrus fruit should be added to this list.

"Major processing centers should be established in the state canneries, slaughter houses and feed mills to encourage more local production of fruit, vegetables, bee cattle, dairy and poultry products," said Winthrop.

The construction of a major grain receiving storage facility would also create economies of scale, put pressure on freight rates and lower feed and food costs.

"Agriculture in the state must become healthy enough so that more young people will be attracted into farming.

It is a cruel irony," added Winthrop, "that the acreage of farming in the state has declined at about the same rate the world population has increased.

"We may not have much power to restrain world population growth, but we can have some control over how we use our land."

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WORLD FOOD SITUATION BETTER SINCE NOVEMBER'S CONFERENCE



The short-term outlook for the world food situation has improved significantly since the World Food Conference in November 1974. Food aid shipments from the United States and other countries have alleviated the food problem in the most severely affected countries. And there is optimism over prospects for sharply improved crops this year.

An increase in world food production of about 5 percent in 1975 would place us close to the long-term trend of recent years. Based on crop conditions in April such an increase appears possible as farmers around the world respond to the relatively high prices. Of course, if adverse weather occurs in some major areas, we could be faced with another very tight world food situation.

World wheat production is currently forecast to reach a record 72 million metric tons, a gain of 7 percent over the 1974 total of 347 million. Most of the increase is expected in the United States, Canada, and the USSR. Coarse grain production may reach a record 626 million in 1975 against the 562 million in 1974, with the United States accounting for the bulk of the gain.

Availability and price of fertilizer have been of major concern in recent years, but now there are signs of an easing in the tight supply situation. India, Pakistan, and Turkey reportedly all have relatively large inventories, and the Philippines has banned fertilizer imports.

Although predictions are still very uncertain, North American fertilizer consumption is expected to rise much less in 1975-76 than in the previous two years. U.S. manufacturers' inventories, while less than normal, continue to increase above last year's low levels.

In 1975-76, worldwide, USDA expects an 8 percent rise in nitrogen capacity and a 6 percent increase in consumption; for phosphate, increases of 12 percent and 5 percent, respectively; and for potash 3 percent and 5 percent, respectively. While estimating production from capacity is uncertain, it appears that fertilizer supply will be sufficient to meet expected consumption levels, and prices may soften.

The World Food Conference set a target for food aid commitments by the participating developed countries of 10 million tons of grains for 1975 and each year thereafter. As of March, this target for 1975 was close to fulfillment with commitments of about 8.8 million tons.

Since the World Food Conference, the United States has increased its Food Aid Program by \$600 million to \$1.6 billion (including ocean transportation) in this fiscal year, compared with \$939 million in fiscal 1974. The volume of food aid this year has been programmed to rise to about 5.6 million tons, from 3.3 million tons last year.

Shipments planned under P.L. 480 during fiscal 1975 include 4 million tons of wheat and 1 million

tons of rice. The United States has been making every effort, with the cooperation of recipient countries, to make delivery on these commodities before the end of fiscal 1975.

The United States believes that nearly all of the wheat can be exported. We have not been able to reach an effective program level of 1 million tons of rice, but up to 800,000 tons will probably be exported.

Bangladesh, India, and the Sahel are areas of the world that are being watched carefully as crisis food areas, but most indications show improvements in food availabilities. Despite widespread flooding in Bangladesh last August, the total rice harvest probably was near the previous year's level of 12 million tons, milled basis.

The United States P.L. 480 agreement with Bangladesh for fiscal 1975 includes 550,000 tons of wheat and 350,000 tons of rice. This total amount is scheduled to arrive in Bangladesh by end-August 1975, before the critical year-end period.

Bangladesh has also received significant food aid during fiscal 1975 from Australia, Canada, the European Community, and Sweden, and money aid has been received from various oil-exporting Moslem countries. It is still possible that some financing arrangements could be cancelled or aid shipments could be delayed, but nonetheless, the situation now appears better than in previous years.

Total 1974-75 production of cereals and pulses in India is now expected to exceed 100 million tons, down from 104 million tons last year, but higher than estimates of a few months ago. Rice and coarse grains showed declines, but the wheat crop now being harvested is up from 22 million tons to 24-26 million tons.

Total Indian grain imports are expected to be in the 6.5-7-million-ton range during fiscal 1975—up from 4.5 million tons the previous year. Almost 5 million of this, including 800,000 tons under P.L. 480, is from the United States. These rising imports have brought improved food supplies to cities, but expanded distribution from Government supplies to rural areas, especially in western India, will be needed during the lean period, June-October.

In the Sahel, late 1974 crops were generally good, as the drought was relieved by more normal rainfall. Food supplies are now nearly adequate, and the need for foreign supplies is diminished. Recovery and rehabilitation programs are underway. The dry season is now on, and new plantings will start soon.

Like the Sahel, Ethiopia experienced much better rainfall in 1974. There were abundant crops in many areas and the drought-hunger spectre has, for the most part, lifted. However, some remote areas still have hunger problems carrying over into 1975. Recent political turmoil is reported to have cut some supply lines between surplus and deficit areas.

Africa's 1974 drought scene shifted to the Somali Republic where prolonged drought has caused widespread hardship. Relief camps are packed with at least 250,000 refugees from the countryside. International aid, including U.S. corn and sorghum, is being provided. Somali officials stated that famine conditions would peak in April or May 1975 and estimated that possibly one-quarter of the country's population would require relief.

For many of the non-OPEC developing countries, monetary and economic problems are having a direct and severe impact on their ability to solve their immediate and long-term food problems. These countries are being caught in a vise as their overall balance-of-trade and payments positions continue to deteriorate in 1975.

The overall trade deficit of non-oil-exporting developing countries jumped to \$26 billion in 1974, up from \$12 billion in both 1973 and 1972. The combined current account deficit of these countries, including the services and transfers account, was estimated at \$23 billion for 1974 and is projected at \$30-\$35 billion for 1975. Oil import costs for 1974 added an extra \$10 billion to total import costs, on top of higher food, fertilizer, and capital goods imports.

In addition to the problems of higher imports the developing countries are also facing problems with falling prices for many of their primary products exports. Reduced business activity in the industrial nations—particularly in the textiles, housing, and auto industries—is largely responsible for the price declines of raw materials. By the end of 1974, some prices were below both 1973 and 1974 average prices.

Not all developing countries are being affected equally by the export-import problems. Several of them are relatively self-sufficient in

oil, like Malaysia, Mexico, and Egypt. Others have dynamic export sectors that sell a wide variety of both primary products and manufactured goods. These countries along with those whose internal food grain production is high relative to needs will fare best in 1975.

International monetary reserves of non-OPEC developing countries in fact, grew by \$3.8 million in 1974. This was, in part, due to a large increase in commercial borrowings. These countries borrowed some \$6.4 billion from the Eurocurrency markets in 1974, with over three-quarters of that going to five countries: Mexico, Brazil, the Philippines, Argentina, and Peru.

For the bulk of developing countries however, borrowings were made from international agencies and through bilateral agreements. Net drawings from the regular International Monetary Fund (IMF) credit facility exceeded \$1.5 billion in 1974, including loans from the IMF oil facility of over \$900 million. The OPEC countries disbursed roughly \$2.5 billion in aid to developing countries in 1974 with other large commitments as yet undisbursed. A potential problem will be debt servicing, especially since many of the commercial loans are shortterm and even the IMF oil facility loans have a maximum repayment period of 7 years.

Continued on Page 16

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AGRICULTURE NOTES

CHERRY GROWERS HAVE PROBLEMS, TOO

Less than 145 of the nation's tart cherry growers want to leave part of their crops on the trees rather than placing it in reserve under a federal marketing order.

Frank Owen, manager of the US Department of Agriculture's Cherry Marketing Administrative Board, said about 600 growers or 13.6% want to leave part of the crop unpicked.

The rest, Owen said, want to harvest their cherry crops.

Under a federal marketing order issued last winter, 15% of this year's tart cherry crop must be included in a reserve pool or left unharvested.

The order designed to take the surplus cherries in the large crop

years, put them in a reserve pool and release them in short years," Owen said. A reserve pool is designed to prevent soaring prices in bad crop years.

This year's crop estimate is about 314 million pounds, Owen reported, with 14 million to 15 million pounds not expected to be processed or frozen for the reserve pool. About 42 million pounds from last year's crop were unsold on July 1.

Owen said 30 million pounds of those frozen cherries from that reserve pool will be needed before this year's crop is harvested. He expects 269 million pounds of new cherries to be sold, leaving a reserve of 35 million pounds.

The crop this year compares with 270 million pounds last year and will slightly exceed the 306 million of 1972.

Owen gave this breakdown of those seeking permission to leave part of their crop in the field rather than in the reserve pool:

District One (New York), 130 growers or about 12%; District Two (Pennsylvania, West Virginia and Virginia), four growers or 2%; District Three (Wisconsin and Upper Michigan), 160 orchardists or 15% in Michigan and 70 or 17% in Wisconsin; District 4 (Central Michigan), 125 or about 20%, and District 5 (Southern Michigan and Ohio), 100 or about 9%.

BLUEBERRY GROWERS, FARMERS REPORT SEVERE DAMAGE TO CROPS

Severe hail and rain storms in recent weeks have caused serious damage to local fruit and produce crops in Burlington County, New Jersey, prompting county officials to seek "disaster" status for area farmers.

Freeholder-Director Mrs. Catherine A. Costa has asked Gov. Brendan T. Byrne to make the formal request with the U.S. Gov-

ernment of Agriculture, following several weeks of heavy storms that have destroyed an estimated millions of dollars in local produce.

Coles Roberts of Roberts' Orchards in Southampton township has estimated recent crop damage at \$150,000 to \$200,000. And, area blueberry growers have suffered severe problems from a May 13 hail storm that partially destroyed the blueberry blossoms.

Phillip E. Marucci, head of the blueberry and cranberry research station at New Lisbon, said he is

hopeful that some of the blossoms will survive the freak storm.

The most recent storms on June 6 and again on June 12, damaged apple and peach orchards as well as sweet corn, field corn and the remaining strawberry crop. All told, more than 200 farmers were hurt by the storms, causing serious setbacks in local crop production.

If the emergency status is approved by U.S. Agriculture Secretary Earl Butz, area farmers will be eligible to apply for five percent low interest loans from the Farmer's Home Administration.

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MAINE BLUEBERRIES

As of mid-July, prospects were for a 1975 Maine blueberry crop about 25 percent less than a year earlier.

While bushes wintered in good condition, alternating periods of rain and drought have reduced the crop potential. Farmers report worm damage as light but blight is rated medium and moisture avail-

ability varies between light and adequate. Quality of berries and size are expected to be good.

Harvest will be later than normal this year, becoming general in southern areas the second week of August and starting in Hancock and Washington counties during the third week of the month.

The Mediterranean fruit fly, a highly destructive pest of fruits and vegetables, has been discovered recently in three additional Central American countries, the U.S. Department of Agriculture (USDA) reports.

These latest outbreaks—in El Salvador, Honduras, and Guatemala—indicate that the “Medfly” is continuing its slow march northward.

“If it’s not stopped,” warns Dr. F. J. Mulhern, administrator of USDA’s Animal and Plant Health Inspection Service (APHIS), “it could spread extensively within Mexico. Mexican agriculture could suffer untold millions of dollars of damage to citrus, and other soft-skinned fruits and vegetables. The fly could eventually also reach the United States.”

If it does enter this country, Dr. Mulhern explained, the Medfly will probably come one of two ways. The most likely route is through international commerce. To prevent this, fruits and vegetables that

might carry Medfly from those countries must meet one of two conditions. They must be treated, after which they may be shipped to any place in the U.S. Certain untreated, approved fruits and vegetables may enter the U.S. only at the port of Baltimore or other Atlantic ports north of Baltimore. The flies cannot live through the colder northern climate.

The other possible route is the natural spread northward through Mexico where the pest does not now exist. “This is just as serious as direct entry since many varieties of winter vegetables eaten in the United States are grown in Mexico,” Dr. Mulhern commented. If the Medfly does become a serious pest in Mexico, shipments of fruits and vegetables from there would have to be fumigated—which is both expensive and injurious to some varieties, he added.

To counter these potential dangers, discussions have been held with Mexican officials relative to

what their plan may be to counteract the northern spread of this pest. Among items discussed was the establishment of a barrier, in southern Mexico, which would involve an integrated control program using sterile flies, bait lures, and sprays to suppress the native fruit fly populations. Also, inspection stations would be set up to check north-bound agricultural products, vehicles, and passengers for Mediterranean fruit flies.

If Medfly does get into the United States, APHIS scientists will use sex lures to detect the insect. Then, ultralow-volume bait toxicant sprays, insecticide aerial sprays, and soil treatments would need to be applied to eradicate it.

A similar detection and eradication program has been carried out successfully in southern California against the oriental fruit fly. This pest invaded that area in late 1974. After seven months of intensive eradication effort, APHIS and California plant protection inspectors have declared the pest eradicated.

AREA OZONE SLOWS PLANTS, CROPS

Farms such as the DeVincent Farm on Beaver Street in Waltham, Massachusetts, may have a yield as much as ten percent less during years when ozone levels are especially high, according to Dr. William A. Feder, of the University of Massachusetts’ (UMass) field station on Beaver Street. It was his opinion that the DeVincent Farm

“probably does experience a smaller yield in the more sensitive crops, particularly beans, tomatoes and some flowers, during summers when the ozone problem is serious.” Ozone is a gas that results, in part, from automobile emissions and high temperature burning.

Located near the DeVincent Farm, the UMass field station monitors ozone levels and gauges their effect on plant life. Dr. Feder said that he can begin to see

damage to plant life as early as April while the plants are still in the greenhouses. He stressed that the damaging ozone is ground level gas and has nothing to do with the natural ozone layer that is found at high altitudes in the earth’s atmosphere. The natural ozone is beneficial for it provides a natural sun shield that “protects us from being burned by the sun,” Feder said.

Automobiles give off nitrogen oxide and hydrocarbons which, through a photo-chemical reaction by the sun’s rays, form ozone. More ozone is formed during warm, humid summers, and the worst plant damage is experienced during such summers. Automobiles exhaust other dangerous gases such as carbon monoxide and lead compounds, but Dr. Feder monitors just ozone levels.

According to Feder, the field station, located near Bentley College, gets high ozone readings because winds, generally blowing from the southwest, carry the gas up the valley into the hills. Much of

the ozone blows in from the Route 128 and Route 95 area. Some is created by the heavy downtown traffic in Waltham, and sometimes the gas blows from as far away as

Rhode Island and New York, Feder said. “Sometimes, due to certain conditions, a cloud of the gas will cover hundreds of miles of the East Coast,” added Feder. “It is not an

alarming level of ozone as far as people are concerned, but it is harmful to plants,” said Feder. “In fact, ozone is ten times as harmful to plants as it is to animals.”

NEW PRODUCTS:

MULTI-PURPOSE SPRAYERS

Tough, durable and corrosion-proof, multi-purpose sprayers are available from the Allis-Chalmers Corp. Agricultural Equipment Division.

The unit can handle a myriad of spraying jobs including flower beds, shrubs, trees, lawns and vegetable gardens. Because the unit is corrosion-proof, it can also handle insecticides, disinfectants, liquid fertilizers, detergents and degreasing compounds.

These sprayers have an operating capacity of 2½ gallons. The hose length is 58 in. with a 16 in. extension and adjustable brass nozzle.

For additional information, contact the Allis-Chalmers Corp. Agricultural Equipment Divisions, Parts Merchandising, Box 14329, West Allis, Wis. 53214.



NEW WATERPROOFING TAPE

A new peel 'n stick waterproofing tape that solves a wide range of farm maintenance problems and emergencies is now available.

Flashband, a patented tape, has an aluminum facing backed with a thick layer of contact-sealing asphalt adhesive. Applied with hand

pressure, it provides an instant watertight bond.

Flashband is particularly useful on and around the roofs. It can be used for long-lasting repairs to damaged flashings, valleys, joints, gutters and downspouts. It has hundreds of other uses outside and inside the house, around the barn and storage sheds.

According to the manufacturer, Flashband sticks to all conventional building materials: aluminum, wood, asphalt, galvanized iron, steel, brick, plastic, and concrete. It can be cut easily with scissors or knife into the proper size and shape, and can be fitted by hand pressure to almost any contour—over window sills and in joints. Once applied to a clean, dry surface, Flashband gives a watertight seal that gets even stronger with time. The aluminum face retains its attractive appearance for years and can be painted.

Handy 20-foot rolls of Flashband come in widths of 2, 3, 6, 9 and 18 inches. The product is available at major farm supply stores, including Agway, Farm King and Tractor Supply Co. Additional information is available from: Flashband, 403 Kennedy Blvd., Somerdale, N.J. 08083.



WORLD FOOD SITUATION

Continued from Page 12

Since the World Food Conference, the United States has joined discussions in the International Wheat Council (IWC) on measures to improve the world's food security system. The first of several meetings of an IWC preparatory group was held in London during March as a followup to Secretary Kissinger's proposal at the Conference to establish an international system of nationally held grain reserves.

The United States notified the Food and Agriculture Organization (FAO) of the United Nations on March 25 that this country is ready to adopt the objectives, policies, and guidelines contained in the International Undertaking on World Food Security that was proposed

by Director-General Boerma. On May 19-23, at an FAO Ad Hoc Consultation in Rome, the progress toward worldwide adoption and implementation of the food security undertaking was discussed.

An imported world grain outlook for 1975-76 points toward some easing of the tight supply-demand situation. World grain production is expected to exceed worldwide consumption and allow a moderate recovery from the recent downward trend in grain stock levels.

In part as a consequence of the World Food Conference, the Department of Agriculture has been marshaling its own capabilities in the agricultural area. A working conference to develop new priorities for food research is scheduled to be held in Kansas City, Missouri July 9-11. Delegates representing

producers and processors of agricultural products, marketing firms, national farm organizations, farm labor groups, consumers, environmental and conservation groups, nutritionists, and Government agencies will help identify the most pressing problems of food production, processing, and distribution that require research during the next 10 to 15 years.

The conference is being co-sponsored by the Department and the National Association of State Universities and Land Grant Colleges. Output of the conference will be used by planners, administrators and scientists in shaping programs to help solve the U.S. and world food problems.

Based on statement before the Senate Subcommittee on Foreign Agricultural Policy, May 1, 1975



In a year, according to USDA figures, the average American family consumes 5,288 pounds of food, including 694 pounds of meat and fish, 598 pounds of fruit, 1,136 pounds of dairy products, 1,154 pounds of vegetables, 592 pounds

of grain products, and 349 pounds of poultry. The statistics reflect the ability of American farmers to maximize yields with new technology, including crop protection chemicals needed to control insects, plant disease and weeds.

The photo shows a 2½-ton display of food with an average family of four, the Randy Carters of San Jose, California.

_____ featured in the May-June issue of the DU PONT MAGAZINE.

BE BATTERY WISE

A storage battery is a group of cells. A cell is a group of positive and negative plates; separators keep the plates from touching. Electrolyte, usually dilute sulfuric acid, makes the whole thing come alive with energy. Batteries store chemical energy and release electrical energy.

When batteries discharge, the sulfuric acid combines chemically with the plates, creating a drop in the specific gravity of the remaining electrolyte. Upon recharging, the sulfuric acid is released again, allowing the specific gravity of the electrolyte solution to return to its original value. The specific gravity in a fully-charged battery should be 1.260 whereas that of a fully discharged or "dead" battery is 1.130.

These are the basics of "batteryology" as far as the inner workings are concerned, but there are other basics you should know, or if you already know, review them. You have to know how to buy batteries and how to maintain them if you are to keep equipment running well and avoid those cold-morning "energy crises."

Buy only the battery-power that you need. Seasonal equipment involving short-term use may not require the expensive, higher-quality battery your truck does. Your tractor won't require the same battery as your car, either.

Most people know that they buy batteries on the basis of guarantee

period, and that a 12-month battery costs less than a 36-month model. But there is more to it than that.

Batteries are rated on the basis of several qualities. In addition to checking the guarantee period, and whether you need a 6- or 12-volt battery, you should know the ratings and what they mean. Two batteries with the same price tag and identical guarantee periods may have different ratings.

The rating that evaluates a battery's ability to provide a surge of cranking power is generally referred to as zero-weather starting power. This is the number of minutes it takes a battery to discharge to 3 volts when a 300-ampere load is applied at a temperature of zero degrees Fahrenheit. Six-volt batteries will range from 3 to 11.5 minutes zero starting capacity and twelve-volt types only go from 1.2 to 3.5 minutes. Unfortunately, this rating is seldom posted on the battery itself and will have to be asked for at the store.

The other, and most widely used numerical rating is slow-drain or reserve capacity and measures a battery's ability to provide electricity over a long period. Measured in ampere-hours at a 20-hour rate, 6-volt batteries will have slow-drain capacities of from 90 to 240 ampere-hours and twelves will run from 35 to 95 ampere-hours. This rating is usually posted on the battery.

There are other ratings which are newer and more complicated, but don't seem to be widely used.

When comparing ratings, the higher the number of ampere-hours or minutes, the better the battery. Generally, price and guarantee period will rise with the other rating levels, but "let the buyer be aware."

Other common sense tips on buying most anything also apply to battery purchase. Avoid emergency buying. Don't wait for your battery

to go dead. With the newer dry-charge batteries, you can have your new battery stored on the shelf and ready to go when the old one fizzles out. Just put in the electrolyte and you're set. Advance buying lets you shop around and compare values.

In some situations, a less-expensive battery may be the best buy. But for continuous, year-round use, such as a farm tractor, batteries with a higher initial cost usually give the most economical service. Your goal should be one of obtaining the best service in terms of cost per month of battery life.

Batteries are often taken for granted. That is, until the day they quit delivering power! By then, generally the only solution to the problem is a new battery. Yet a few minutes spent periodically will pay off handsomely by prolonging battery life.

The most important single item in lengthening battery life is keeping the liquid at the proper level. This level should be checked regularly; at least once a week. The charging process has a tendency to evaporate the water portion of the electrolyte, but not the acid. So more water must be added at intervals to maintain the correct level. Unless some solution is accidentally spilled, it is not necessary to add acid.

What kind of water is required? The best is distilled water. This can generally be purchased from a battery shop or at the local supermarket. Softened well water is next in preference, and ordinary well water is a last resort.

If the battery requires frequent addition of water, it may be an indication that the charging system is out of adjustment and that the battery is being subjected to damaging effects of overcharging. You'll need to call on your dealer's service department to check out the charging system.

Continued on Page 20

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The pleasures of summer are brightened by the lightness of menus which are quick and easy to prepare. Certainly tasteful salads take the lead in choosing a main course whether it be for a sun-lit lunch or dining by starlight.

"Cranberry Sweet 'N Sour Seafood Salad" is a scrumptious treat. It combines a variety of seafoods with diced potatoes, celery, scallions, and carrots mixed with a piquant dressing of sour cream and cranberry cocktail. For a super look, serve your seafood salad in a giant sea shell or in individual, smaller shells. Extra dressing can be handy in another shell. To round out your menu, bake some pre-prepared biscuits and serve an icy-bright drink. "Cucumber Cool Cranapple Punch" served in a pitcher subtly coordinates in taste with this salad. It combines cranberry apple drink with chopped cucumber, orange juice, and quinine water over ice. For a pretty, edible garnish place a cucumber spear in each glass.

"Chinaberry Salad" has an exotic flair, and makes practical use of either poultry or meat leftovers. It combines diced ham or chicken, pineapple tidbits, Chinese vegetables, celery and scallions. Just before serving, mix these ingredients with a tangy combination of Italian salad dressing and jellied cranberry sauce. A basket of soft rolls or sesame breadsticks will round out this course nicely.

No repertoire of salad making would be complete without one made with fresh fruits. A real winner is "Fruitful Creamberry Salad" which combines oranges, grapefruit, strawberries, cantaloupe, and grapes. It is gently mixed with a dressing of cream, grated orange rind, frozen lemonade and cranberry-orange relish. This salad would be handsome in a glass or plastic bowl, or even better in a scooped out watermelon, or individually served in small melon shells. Accompany your fruit salad with "Raisin Cranwiches" made with raisin bread, butter and whole berry cranberry sauce.

A flavorsome dessert-drink to serve after any of these salads is chilled "Cranberry Creme Cafe" which mixes cranberry juice cocktail, coffee, and sugar and is topped with whipped cream. This drink can be served in a pitcher accompanied by a bowl of whipped cream so that everyone can easily help themselves.

Recipes courtesy of Ocean Spray Cranberries, Inc.

FRUITFUL CREAMBERRY SALAD AND RAISIN CRANWICHES (Serves 8)

- | | |
|--|--|
| 4 navel oranges, peeled and sliced | 1 can (8 ounces) whole berry cranberry sauce |
| 1 grapefruit, peeled and sectioned | |
| 1 pint strawberries, hulled and halved | |
| 1 cantaloupe, peeled, seeded and cut into 1 inch cubes | |
| 2 cups seedless green grapes | |
| Lettuce leaves | |
| 1 cup (1/2 pint) heavy cream, whipped | |
| 1 teaspoon grated orange rind | |
| 1/4 cup frozen concentrated lemonade, undiluted | |
| 1/2 cup cranberry-orange relish | |
| Sandwiches: | |
| 16 slices raisin bread | |
| Soft butter or margarine | |
- Mix all fruits gently and spoon into a salad bowl lined with lettuce leaves. Chill until ready to serve. In a bowl mix whipped cream, orange rind, lemonade and relish, for dressing. Serve fruit salad on serving plates and top with salad dressing. Spread one side of all bread slices with butter. Spread 8 of the bread slices with cranberry sauce and top with remaining slices buttered side down. Cut sandwiches into triangles and serve with salad.



CUCUMBER COOL CRANAPPLE PUNCH (Serves 8)

- 8 cups (2 quarts) cranberry apple drink, chilled
- 1/2 cup chopped, peeled cucumber
- 1 cup orange juice
- 2 cups quinine water, chilled
- Ice cubes, cucumber spears

In a bowl mix cranberry drink and chopped cucumber. Let stand for hour. Strain cranberry juice into large pitcher. Stir in orange juice and quinine water. Pour into glass and add ice cubes. Serve each garnished with a thin cucumber spear.

CRANBERRY CREME CAFE (Serves 8)

- 6 cups cranberry juice cocktail, chilled
- 2 cups strong coffee, chilled
- Sugar to taste
- Sweetened whipped cream

In a pitcher mix cranberry juice and coffee. Stir in sugar to taste. Serve in glasses, topped with whipped cream.

CHINABERRY SALAD (Serves 8)

- 4 cups diced cooked chicken ham
- 1 cup chopped celery
- 1 cup pineapple tidbits, drained
- 1 can (1 pound) Chinese vegetable, drained
- 1 bunch scallions, sliced
- Lettuce or cabbage leaves
- 1 can (8 ounces) jellied cranberry sauce

cup prepared Italian salad dressing

In a large bowl mix chicken, celery, pineapple, Chinese vegetables and scallions. Spoon mixture into a salad bowl lined with lettuce leaves. In a small bowl combine cranberry sauce and salad dressing until smooth and well blended. Pour dressing over salad and toss gently to coat all particles.

CRANBERRY SWEET 'N SOUR SEAFOOD SALAD

(Serves 8)

- 4 cups cooked flaked fish or diced shellfish, flounder, haddock, halibut, salmon, crab, lobster, scallops or shrimp
- 5 cups cooked cubed potatoes
- 1 cup thinly sliced celery
- 1 bunch scallions, sliced
- 1 carrot, shredded
- 1 cup (1/2 pint) sour cream
- 1/2 cup cranberry juice cocktail
- Salt and pepper
- 1 can (8 ounces) jellied cranberry sauce, cut into 1/2 inch cubes

In a large bowl mix fish, potatoes, celery, scallions, and carrots. Combine sour cream and cranberry juice in another bowl until smooth. Chill until ready to serve. When ready to serve mix salad with salad dressing. Season to taste with salt and pepper. Top each serving with a few cubes of cranberry jellied sauce.



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Most batteries have a marker to indicate the proper liquid level. Filling above this mark may cause solution to overflow when the battery is charging, thus losing some acid.

When adding water, or doing other work on a battery, do not smoke or have an open flame nearby. Hydrogen gas is given off when a battery charges. This gas is highly flammable or even explosive when mixed with air.

Cleanliness of the terminals is also important. If your battery has a lot of "fuzz" around the posts, you probably aren't getting full "juice" from your battery. Remove the cable clamps and clean up the posts and cable ends with a wire brush. Then wash the top of the battery with a soft brush and a solution of baking soda and water. Rinse with clear water and dry. Finish off the posts and cable ends with steel wool. Reinstall the cables, and tighten the clamps carefully. Then coat the posts and clamps lightly with vaseline.

When reinstalling, check the holddown arrangement. This should hold the battery firmly, but not injure it. If the battery isn't securely fastened, the case will be damaged when the equipment is operated over rough ground.

Remember that even if fully charged, your battery has only 40 percent of the capacity at 0 degrees F. that it has at 70 degrees F. However, it takes at least twice as much power to start the engine at this low temperature. This need for extra cold weather capacity is one of the reasons tractor manufacturers adopted the 12-volt system. But any system, whether 6-volt or 12-volt, is only as good as its maintenance.

So it's important to keep it fully charged. For checking this, use a hydrometer. Be sure to follow the directions for use and temperature compensation of the readings obtained.

A "trickle-charger" that operates on 110 volts AC can be used to keep a battery fully charged. These charge rather slowly, so they must be left attached for several hours. If your battery needs frequent recharging, check on generator and regulator performance.

The battery should be removed from seasonally-used machines when the engine is prepared for storage. Add water to the proper level, fully charge, and store the battery in a cool place. Since batteries discharge slowly even if not used, check it about once a month with a hydrometer, and recharge when necessary.

MASS. NOTES

Continued from Page 4

half of the month was cold and wet and the last half hot and dry. We are now almost exactly normal for the half-year and about two inches ahead of 1974 for the same period.

Crop Prospects

Reports and observations show a heavy bloom, with no winter kill, oxygen deficiency damage or frost injury this year. The pollination weather has been exceptional and bees, both wild and domestic are plentiful. The berries appear to be setting fast and the only worry at the moment is dry weather which is not too serious a problem at this time because water supplies for irrigation are plentiful. It appears now that we have the prospect of a larger crop than last year and perhaps even a shot at the record.

Insects and Weeds

Sparganothis moth flights are heavy again this year. Controls for this pest are rather limited but parathion combined with either Sevin or Sevimol does the best job.

Girdler moths have been flying in large numbers, and this means trouble later in the summer. Bill Tomlinson advises that the diazinon treatments listed on the Insect Control Chart give good control of the girdler worms. The granular

formulation is better than the liquid or wettable powder. This treatment should be applied about July 20 or shortly after when most of the bloom is gone.

Bogs infested with fairy ring disease will show the effects to a greater extent when the bog is dry. Affected areas should be fertilized and kept moist to minimize the damage and then treated with ferbam after harvest as recommended on the Insect and Disease Control Chart.

Shores and dikes may be sprayed with a solution of silvex and water, to control broad leaved weeds; this is especially good on poison ivy. Salt solution, one pound of salt to a gallon of water applied as a fine spray at not over 200 gallons per acre, will burn off wild bean and other tender weeds. Sulfate of ammonia or nitrate of soda at about three to four pounds per square rod applied to patches of haircap moss will burn it and give weak vines in these spots a real boost. Nitrate of soda with a little spreader-sticker in water and sprayed as a fine mist will do as well as anything in burning of dodder. Do not use before the end of July.

WISCONSIN

Continued from Page 1

The warm, humid, wet weather in the second half of June was good for crop growth but created difficult conditions to dry hay. Only one-third of the first crop hay has been harvested compared with 64 percent last year. Some hay that was cut and out in the fields during prolonged wet weather had no feed value and was chopped back into the fields.

WETLAND STUDY REPORT ISSUED

A report, entitled, "Institutional Framework Affecting the Use of Inland Wetlands in Massachusetts," is available from: Cooperative Extension Service, University of Massachusetts, Amherst Massachusetts 01002.

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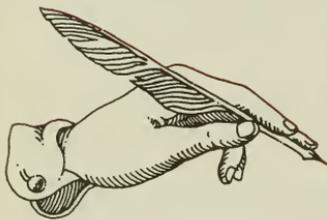
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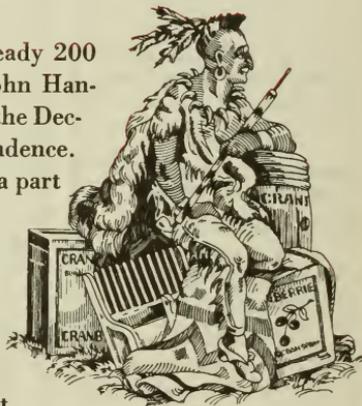
Cranberries were already 200 years old when John Hancock was signing the Declaration of Independence. They are definitely a part

of our country's heritage, for they have the distinction of being a berry native to North America. The American Indian made use of the cranberry not only as a fruit, but also for dyeing their blankets and rugs. Cranberries were originally called "Crane-berries" because



the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-

berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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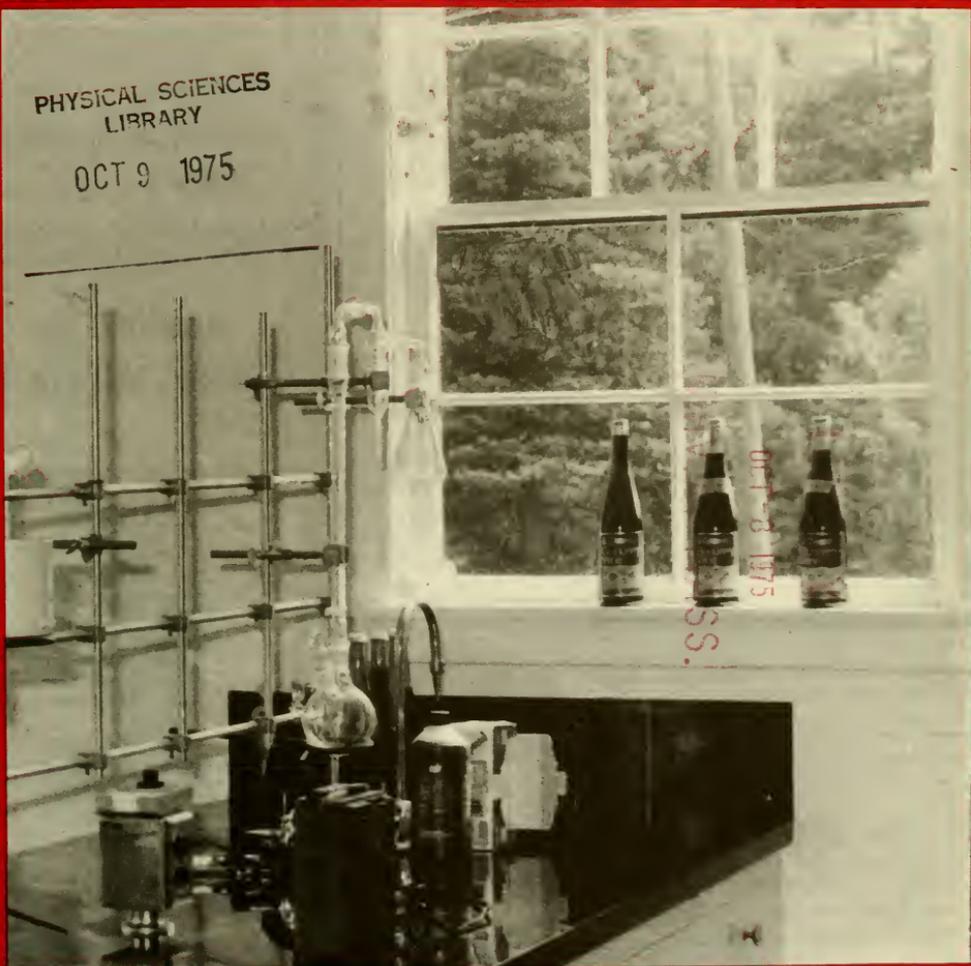


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Bottled wine placed in the sun to discover what effect
light has on cranberry wine

Story on page 9.

AUGUST 1975

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REGIONAL NEWS NOTES**WISCONSIN**

Rainfall in July was below normal in all areas of Wisconsin except the south central which received locally heavy rains on July 3 and 23. Temperatures for July averaged normal or above in all but the second week. Several days had readings of 90 degrees or higher. The hot, dry weather was hard on soil moisture supplies which by the end of July were reported at 95 percent short and 5 percent adequate. This was the highest percentage reporting short soil moisture supplies since late August 1970.

Hot, dry weather put Wisconsin's corn crop under severe moisture stress, particularly on sandy or light soils. Some corn on the lighter soils was fired beyond recovery for grain and is now being chopped for silage to salvage the remaining food value. Harvesting of oats and other small grains in Wisconsin has been progressing good in dry weather. Dry weather in July reduced the yields of second crop hay but resulted in excellent quality. Farmers who cut first crop hay in early June had enough soil moisture for good regrowth but late cuttings did not come back much as sufficient rainfall was lacking. Soybeans look good where moisture has been more adequate but beans on light soils have suffered from lack of rain. Potatoes are in good condition on irrigated land but are in need of moisture where irrigation is not available.

NEW JERSEY

Excessive rains brought disastrous results to New Jersey during July. Flood damage to homes and to agriculture was so great that several counties in the state were officially declared disaster areas. The cranberry region of New Jersey fortunately escaped the main thrust

of the storms but losses to the blueberry crop in this area were still great. Intense rains occurred on seven of the ten-day period from July 6th to July 16th, right at the peak of blueberry harvest. This caused a loss of about two million dollars as farmers were unable to manipulate harvesting equipment in fields and overripe berries either dropped to the ground or deteriorated in marketing quality. To the south and north of the blueberry and cranberry area agricultural losses were estimated to be over twenty million dollars.

At our New Lisbon weather station rainfall measured only about 60% of the more severely hit areas. Even with a dry period at the beginning and another at the end of the month the total was 6.78 inches or 2.33 inches more than normal. For the first seven months of the year our accumulated rainfall stands at 33.90 inches or about 9 inches above normal for this period and only about nine inches shy of the total precipitation for an entire year.

The month was about normal in regard to temperature. The average temperature was 74.1°F or about 0.7 below normal. There were five ninety degree days during the month. Extremes were 93 degrees on the 31st and 49 degrees on the first.

The outlook for the cranberry crop is very good. A good set, about as good as last year's record crop, resulted from almost ideal pollinating weather and lack of spring frosts. As of the end of July the size of berries is larger than normal. The main obstacle to an excellent crop appears to be the amount of fruit rot. An unusually large percentage of rot for so early in the season has been observed as of August 5th.

Continued on Page 20

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LAND USE PLANNING COMMITTEE FORMED IN OREGON

A Citizens Advisory Committee for Comprehensive Planning in the Bandon, Oregon Region has been one of four committees appointed by the Coos County Board of Commissioners to assist the County Planning Commission in the preparation of a Coos County Comprehensive Plan and to assist in a program of citizen involvement in land use planning.

The overall goal of the county planning program is "To complete a comprehensive plan which will guide the development of five governmental services and programs to encourage efficient and desirable land use patterns which maximize and promote the health, safety and welfare of the people of Coos County and protect the county's resources for the future."

Objectives of the planning program are:

1. To identify the needs and problems facing the County;

2. To develop a consensus of goals for the County to achieve in the fields of Social and Human Needs, Economy, Environment, Public Facilities, Transportation, Housing and Land Use;

3. To identify and recommend ways to achieve these goals;

4. To develop a plan of land uses and public facilities within the County that will assist in achieving those goals.

Secondary objectives are:

1. *To accomplish these objectives with a maximum of citizen participation and input;*

2. To coordinate the process with the planning of other governmental agencies and organizations within the county;

3. To meet the requirements of Oregon State Law;

4. To clearly outline a program of planning which identifies the responsibilities of each planning body.

The first step in the local committee's approach to the objectives will be to begin an assessment of the character and nature of the Bandon Region, starting with a study of statistical and other data already gathered by the County Planning Department and then attention will be directed to problems and needs confronting this area.

Local citizen involvement in Land Use Planning is a logical step. We hope there will be some local cranberry growers and other farmers involved. If such an opportunity is not available for direct input in your area's Land Use plan, you, as a concerned grower, might have to make the initial move in making yourself heard. It is important that people who are involved in agriculture give their local planners plenty of input so that they can act in your behalf. The Bandon committee provides for this opportunity in a very organized and what we hope will be a successful manner.

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WHAT'S HAPPENING

An interview with A. E. Conroy II, Director, Pesticides Enforcement Division, U.S. Environmental Protection Agency

Q. What is the Agency doing to detect unsafe or ineffective products?

A. The first line of defense is the pre-marketing clearance or the registration process, whereby a manufacturer or producer submits his data to the Agency, and the Agency makes a determination as to the safety and efficacy of that product. The second line of defense is the regional pesticide enforcement safety officer who visits the users, the sellers, and the producers, looking for products that are not registered. Products that are regis-

tered are collected and sent to the EPA enforcement laboratories where they are analyzed. If it is determined that the product is unsafe or ineffective, EPA has the authority to stop sale and use of that product. We have the power of seizure, under the U.S. Attorney, to remove the product from the market place. But it is our policy to request a manufacturer to voluntarily recall any product that is deemed unsafe or ineffective. We have used this policy over 400 times in the past three years, and in all but two instances, the manu-

facturers have complied with our request. In those two instances, the Agency then went through the court proceeding of getting authority to go in and examine books and records, and issuing multiple seizures around the country.

Q. One of the major provisions of the amended Pesticides Act makes misuse of a pesticide illegal. What constitutes a misuse?

A. There has been some confusion within the industry and by pesticide users as to the meaning of the words "Inconsistent with the label." The Enforcement Division is now developing policies that will be published in the *Federal Register* and made available to the public to clarify some of this confusion. We hope to issue statements concerning the meaning of label language, and other issues that are brought to our attention.

Q. What is the Agency doing to detect incidents of misuse?

A. The Enforcement Division has developed a program, a response-oriented program, to receive reports of pesticide misuse and respond to them on a case-by-case basis within the regions. The primary way we hope to receive this information is through the establishment of a toll-free telephone that will be available, nationwide, to those who are affected by pesticide misuse. We are also entering into a series of cooperative agreements with other federal agencies to share information re-

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Continued on Page 12

Mass. Cranberry Station & Field Notes

by **IRVING E. DEMORANVILLE**
extension cranberry specialist

year, but 3-1/8 inches ahead of 1974.

Frost Warning Service

The Frost Warning Service sponsored by the Cape Cod Cranberry Growers Association is in operation this fall. Weather information relating to frost is recorded daily on the answering service and growers may telephone 295-2696 in the afternoon and evening for the latest reports. There are 180 subscribers to the frost warning service and 137 contributing to the answering service.

The following radio schedule also supplements the answering and relay services.

Station	Place	A.M.	P.M.	Afternoon	Evening
WCOD	Hyannis	106	1 mg	2:00	9:00
WEI	Boston	590 k	103.3 mg	2:00	9:00
WBZ	Boston	1030 k	92.9 mg	2:30	9:00
WFLM	Plymouth	1390 k	99.1 mg	2:30	9:30
WOCB	W. Yarmouth	1240 k	94.3 mg	3:00	9:30
WBSH	New Bedford	1420 k	97.3 mg	3:30	9:00

July was just plain hot, averaging 2.8 degrees a day above the normal. This was the warmest July in 20 years and the 4th warmest in our records. It was surpassed by 1952 (our record), 1955 and 1949. Interestingly, the quality of cranberries left something to be desired in all of those years and the 1949 crop was a real mess. Maximum temperature was 93 degrees on the 31st and minimum 48 degrees on the 2nd. For a month that was so hot, there were surprisingly few warmer than average days, these occurred on the 4th, 23rd, 30th and 31st. The only cooler than

average day was on the 1st. Actually, the primary reason for the very hot average was the night time minimums which averaged more than 4 degrees daily on the warm side.

Rainfall totalled 2.27 inches which is about 0.6 inch below normal. However, there was measurable precipitation on only six days and only two rainy days for the entire month. Largest storm was 1.23 inches on the 12th. This made for a month with considerable use of irrigation systems. We are 1/2 inch below normal for the

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UCGA ALTERS LOCAL CRANBERRY SCENE

New cranberry company will market their own crop; Freezing facility to be completed in time for 1975 crop

By J.B. Presler

The acquisition by Cumberland Farms, one of the East Coast's largest dairy store chains, of the second-largest cranberry company in the United States, the United Cape Cod Cranberry Co. (UCCC), is a development expected to significantly change the cranberry marketing situation in Massachusetts. The sale of UCCC was completed on May 1, but it did not become generally known to the public until the latter part of this summer.

Dimetrios Haseotes, chief executive officer and general manager of Cumberland Farms, said in a telephone interview with *Cranberries* that the purchase amounted to roughly 700 acres of bog-land in the towns of Halifax, Hanson, Pembroke, Plympton, Bridgewater and Plymouth.

A portion of last year's crop was purchased along with the company and part of that crop is now being sold in Cumberland Farms stores as juice. It is marketed under the Cumberland Farms label at 69 cents per half-gallon, a very competitive price.

The newly-named company, United Cranberry Growers Associates, Inc., (UCGA) will not market its berries through the Ocean Spray cooperative, although

the berries from these bogs had previously been marketed through Ocean Spray by the UCCC Co. Instead, some berries will be processed in Cumberland Farms' already existing food processing plants, while Ocean Spray will put up some canned goods for United Cranberry Growers Associates which will be marketed under the new (1975 trademark) "Seaberry Farms" label.

UCGA is presently constructing "the largest freezer set-up anywhere," in Hanson, Mass., according to Haseotes. The freezer, equipped with ultra-modern equipment which will freeze berries "rock-hard" within minutes, is expected to be finished by the end of September, in time for the 1975 crop.

The new company will be marketing all the berries it grows this year, as well as actively involving itself in new product development. Haseotes commented that it is a "good possibility" that UCGA will offer its marketing services to other growers if and when it establishes successful outlets for all its own berries first.

"It will give the industry a stimulation that it has long needed," said Haseotes in reference to the competition that his company will be injecting into the field.

UCGA was discouraged from remaining a member of Ocean Spray because of what Haseotes referred to as the low pay-out on last year's crop which was part of the company's original purchase.

"We took a \$200,000 loss because of Ocean Spray's low pay-out last year," Haseotes said. "Ocean Spray owed the company (UCCC) certain sums for berries. We expected \$14 per barrel and they paid \$10.36, so we had to make up the difference."

This was a fate that befell all growers who marketed their berries through Ocean Spray last year. The pool estimate was \$14 in February of last year, but a subsequent change in policy dropped that figure to \$10.36.

Whether or not Haseotes was discouraged by Ocean Spray's returns became a minor point when, after applying for membership in the cooperative, the United Cranberry Growers Associates was rejected by the Board of Directors of Ocean Spray. Grounds for the rejection was a resolution recently passed by the board stating that Ocean Spray will not enter into a cooperative agreement with companies engaged in the business of food processing, wholesale marketing or retail marketing.

Continued on Page 6

UCGA

This resolution is part of an effort of Ocean Spray "to keep itself straight with the federal authorities in regards to cooperatives and conglomerates," according to President Hal Thorkilsen. "I am speaking on behalf of the board now: we feel that membership should be limited to farmers only and not to companies involved in things other than growing cranberries."

However, Willard Rhodes, consultant to UCGA and a former Ocean Spray director, points out that at the time of its application for membership, UCGA was not legally associated with Cumberland Farms, although Haseotes was a stockholder in the firm. On this basis Rhodes contends that the rejection of UCGA was unjustified.

Thorkilsen said that the decision was a straightforward one, based simply on existing regulations.

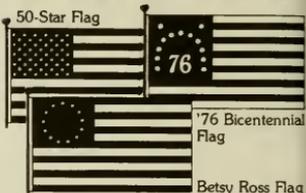
Though Thorkilsen feels that it is premature to reflect on what effect the new company will have

on the cranberry industry, he does recognize Cumberland Farms as "an aggressive marketer." "It will be interesting to see how the industry in the northeast settles down," he reflected.

Cranberries may be the most recent diversification of Cumberland Farms, but it is certainly not the only one. In addition to dairy products, the company is involved in citrus fruit, bakery products, apple juice, ice cream, non-carbonated beverages, gasoline (150 outlets) and even oil. The company is currently working on plans for oil refineries in Rhode Island and Massachusetts. Though plans have not been finalized for southeastern Massachusetts, a 4 million-barrel capacity plant is before the town boards in Portsmouth, Rhode Island.

It is clear that a very enterprising group has just entered the cranberry industry. As Thorkilsen noted, it will indeed be very interesting to see how the industry "settles down."

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ABOUT THE PROBLEM WITH HINCKLEY'S POND

by Dr. Carl H. Deubert

Hinckley's Pond in Harwich, Massachusetts, has become the subject of controversies during the last three years. A discoloration was brought to the author's attention for the first time in 1973. In 1974 a small and unconfirmed fishkill was observed early in June 1975, and the formation of a white opalescent substance in association with an algal bloom (but no fishkill) caused the Board of Health of the Town of Harwich to close the pond to the public on August 3, 1975, as a precautionary measure.

Two cranberry bogs drain into Hinckley's Pond, and chemicals from these bogs were suspected to have caused the problems. In 1973 an eyewitness saw from the nearby Route 124 "the chemical" turning the water yellow. An analysis of the

water did not show more insecticide residues than in any other pond. The yellow color was caused by a tremendous amount of pine pollen.

In 1974 it was too late to take water samples.

On June 4, 1975, about 500 fish were found floating dead on the water surface, but no discoloration of the water was recognizable. Analyses of two fish and five mussels (mussels were alive when sampled) did not show any above average amounts of DDT, DDE, dieldrin, Methoxychlor, casoron or parathion.

On August 3, 1975, an opalescent white discoloration could be seen next to an area of a thick brownish-green algal bloom. Algae and an unknown white sub-

stance were washed into the sand about 200 feet along the shore and had a typical odor which is often found in sediments of streams and ponds. A total of two dead fish was found. One fish and three water samples were analyzed for parathion and did not show more residues than expected.

What caused the problems?

The occurrence of pine pollen needs no further explanation. The two fishkills, however, are a little more difficult to explain. They happened on the second and third day after the first really warm weather of each year, which suggests oxygen deficiency due to high water temperatures as a possible cause. Yet, it takes a fairly high

Continued on Page 8

HINCKLEYS POND

Continued from Page 7

temperature (about 100°F) to produce oxygen levels low enough to kill fish even at 3/4 saturation. Therefore, the possibility of another factor was taken into consideration.

A number of ponds on Cape Cod show signs of eutrophication. Plant nutrients accumulate in these ponds over periods of centuries, increased plant growth (including algae) form more bottom sediments, and gradually the pond becomes shallow. The process starts slowly and after a certain time its speed increases.

Presently we seem to be in a period in which eutrophication in a number of ponds (and only very few of them receive drainage from cranberry bogs) is progressing more rapidly.

Approximately five acres of the southern part of Hinckley's Pond are shallow (2-3 feet according to various residents), and the problem area is located at the southernmost end of the pond. Steady breezes drive surface water (and everything floating on the surface) into this area, and it is difficult to determine where the problem really started. However, conditions for the



Bogs Drain into Hickley's Pond



Point at which drainage water enters Hinkley's Pond

development of eutrophic symptoms are favorable, and it is quite possible that varying degrees of eutrophication in conjunction with high temperatures cause the oxygen content of the water to drop below the level critical to fish.

In favor of this opinion is the observation that problems have started on the second or third day of the first continuously high temperatures (May and June) or on a day of high temperatures (85-90°F) under cloudless sky.

Similar observations have been made in other ponds in southeastern Massachusetts not receiving drainage from cranberry bogs.

It is certain that things are more complicated than described here. However, after the publicity given to the occurrence by a newspaper it appeared necessary to inform growers about the real situation.

We expect that a monitoring study next year will let us discover the cause of the problem.

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"CRANBERRIES" VISITS

THE KENTVILLE STATION

Story by Ivan Hall
Photos by Mel Gagnon



Ivan Hall in his office at the Kentville Research Station, Nova Scotia.

I had just dropped on the kitchen floor the last haversack from our family camping trip to Cape Breton Island when the phone

rang and a voice said, "This is Mel Gagnon of Cranberries." Mel was on a short busman's holiday and he also hoped to visit some relatives on

Cape Breton Island. Incidentally the weather in Nova Scotia has been unusually dry and warm with pastures and hayfields pretty well parched, but the tourist business is booming.

I journeyed out to Allen's Motel on the edge of Kentville where Mel and his lovely wife were staying. We talked about the cranberry business in Canada and we had to agree that cranberry growing in Eastern Canada was on a small scale compared with Massachusetts and Wisconsin. Since we were only a stone's throw from Chipman's plant, Mel naturally was interested in their attempts to develop a cranberry wine and I assured him that their cranberry juice was on a par or possibly better than that produced by their chief competitor.

On the following day we drove up to the Kentville Research Station where Mel wanted to meet some of the staff and take some pictures. We didn't really get past the entrance before Mel wanted to take a picture of the sign announcing our Station. We have a nice entrance that passes by a



Mr. Balcomb with his cranberry wine which he promises to have on the table before Nov. 1.



A processing laboratory in the research station.

valuable collection of rhododendrons and azaleas as well as an old willow that grows beside a pond of water lilies.

We then set out to meet the staff. The first scientist we met was

Chesley Lockhart who looks after disease control of cranberries and Mel was so intrigued with all the bottles of stain in his lab that he just couldn't help taking another picture. We then journeyed to the

food technology section where Bob Stark, the section head, welcomed us. His staff was busy installing a bleaching for peas and beans, but he was able to show us some sophisticated apparatus such as the

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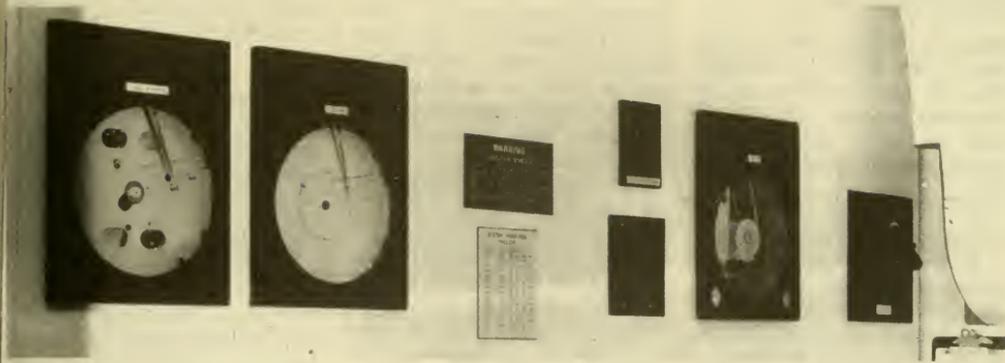
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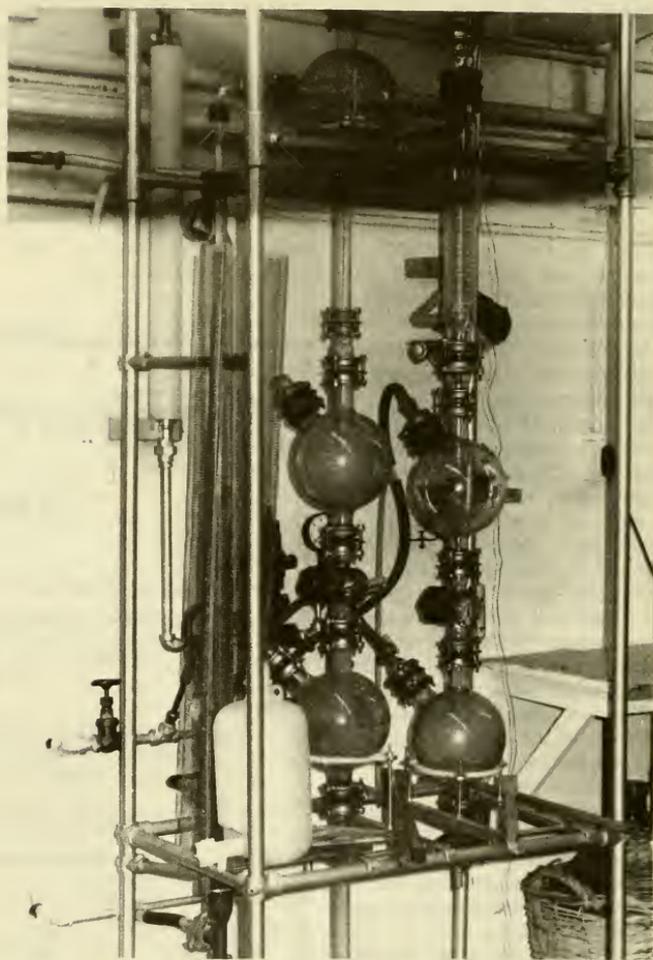


Bottles of stain in Chesley Lockhart's disease control lab.



Some controls involved in the freezer plant.

freeze dryer for quick freezing of fruits and vegetables, a distillation apparatus where they had prepared cranberry juice concentrate, and the laboratory where the texture of foods is determined. Finally we descended two stories to the wine room where we viewed several stills fermenting various wines. It was in this room that research was begun on a cranberry wine but unfortunately no samples were available that day. Since we have carried out several studies at Kentville on the maturity of berries and the volatile substances that berries give off as they mature we dropped in to see Frank Forsyth who explained the use of a gas chromatogram. Yes, a small blip on a chart indicates how much ethylene or ethyl alcohol is being produced by a cranberry and this is a fair measure of the maturity. Last, but not least, we dropped in to see Dr. Wright the director of the Kentville Station and his stenographer, Mrs. Beker. As a parting gesture, we gave Mel some of our cranberry bulletins and wished "Bon Voyage."



One of the many pieces of laboratory apparatus in the station.

I would like to express my gratitude to all of the men in the research station at Kentville, Nova Scotia, to Ivan Hall, and to Mr. Balcomb of the Chipman Bottling Co. in Kentville.

—Mel Gagnon

INTERVIEW

Continued from Page 3

lating to incidents of pesticide misuse. We hope to investigate these, to gather evidence for enforcement actions, and also to make the public more aware of their responsibilities under the new law.

Q. How many enforcement actions are taken during the year?

A. First, let me go back in the history of pesticide enforcement. Our predecessor agency took only three enforcement actions in some fifteen years before the functions were transferred to EPA in 1970. John Quarles, then Assistant Administrator for Enforcement, gave us a mandate to stop writing warning letters and to proceed with criminal prosecution, whenever such action was warranted. In less than two and a half years, we initiated more than 500 criminal actions. With the 1972 amendments to our basic Act, the civil penalty procedure was instituted, and we have initiated another 500 civil actions and collected over \$1.5 million in penalties. That's a lot of numbers and a lot of money, but it doesn't really tell the story. Our real objective was to *increase industry compliance with the law*. In this regard, EPA's aggressive pesticide enforcement attitude, dictated by Mr. Quarles, has been an unqualified success. The first people we prosecuted were people who had shipped non-registered pesticides. Some 30 percent of the products that we picked up were not registered. They hadn't come to the Agency for determination of safety and efficacy. As a result of prosecuting those 500 criminal cases and publishing the results in notices of judgment, and in newspapers and press releases around the country, the detection rate of non-registration violations has dropped 70 percent in the current fiscal year.

Q. What penalties can be imposed if a violation is discovered?

A. The punitive sanctions under the statute are a notice of warning under Section 9(c), a civil penalty

procedure under Section 14, or a criminal penalty procedure. Notices of warning are sent out for minor violations. Criminal penalties are used in the most egregious violations, where we cannot bring about compliance either by warnings or by civil penalty procedures.

The civil penalty program, instituted in May of 1972, is now the backbone of the enforcement effort. The size of the penalty ranges up to \$5,000 per violation, depending upon the size of the business, the seriousness of the violation, and the ability of the firm to stay in business. The civil penalty procedure is an educational type of enforcement; we say a firm is "paying its tuition" to learn the ropes. Criminal penalties are the most serious sanction, and we have only used them twice since the '72 amendments started. One was a case where misuse of a pesticide by an operator who should have known better resulted in the death of a three-year-old boy. The criminal penalty was not only a fine, but thirty days in jail.

Q. Does EPA do anything to make sure we don't eat food contaminated with pesticides?

A. Under the cooperative agreement between EPA and the Food and Drug Administration that was signed in April, we give them any evidence we have of a pesticide misuse that may have contaminated food or feed products for their follow-up investigation and possible seizure of violative foods.

Q. Does EPA work with the states in enforcement of pesticide laws?

A. The thrust of our enforcement program for fiscal 1976 is to establish agreements, whereby EPA and the states would work together to enforce state laws and the federal laws.

(Reprinted from the EPA Journal, a magazine for employees of the Environmental Protection Agency.)

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AGRICULTURE NOTES

STUDIES SHOW

Gene E. Likens, one of the first American ecologists to report on increasing acidity in rain and snow, and a professor of ecology and systematics at Cornell University in New York, documented the intensification of acid precipitation over the past decade at Hubbard Brook, New Hampshire, during the first International Symposium on Acid Rain, recently held at the Ohio State University. Cornell post-doctoral associate James Galloway, and master's degree candidate Charles Cogbill, who have been working with Likens, also presented papers at the

Symposium. The conference, organized by the U.S. Forest Service, is designed to review what is known about acid precipitation and its effect on forests, lakes and streams, and land. Workshop sessions following the Symposium outlined areas where more research is needed and attempted to assign priorities to the work.

Likens explained that acid precipitation, which may be an off-shoot of fossil fuel combustion, has existed within the Northeast for the last 25 years or so, and has now spread over much of the eastern

United States. Acid precipitation has been shown to have detrimental effects on the chemical composition and fish populations of lakes and on buildings and cars, Likens said, but its effects on vegetation and soil have not yet been demonstrated conclusively. Likens' data, gathered on a forest ecosystem at Hubbard Brook, New Hampshire, where he and other researchers have worked for more than a decade, show an increase of 36 percent in the hydrogen ion input [a measure of acidity] into the ecosystem from precipitation over that time.

DISEASE WARNING

Lophodermium pinastri, a needle cast disease of Scotch pine has been identified on a plantation in the Rochdale section of Leicester, Mass. this May. Approximately 1½ acres of 5'-7' trees have been severely damaged.

This needle cast disease is characterized by brown spots, often with yellow margins (or halos) produced on needles in the spring as a result of the *previous* year's infection. These infected needles begin yellowing and turning brown in late April, May, and June. The damage is more severe on the lower parts of trees, but it is not unusual for all the foliage to be infected.

Infected plantations should be sprayed three times; about July 25 (when new foliage is fully elongated), about August 15 and about September 10. An additional spray in late September or early October may be required if there is unusually wet weather during this period.

Two main fungicides appear to provide reasonable control. These

are Chlorothalonil¹ (*tetrachloroisophthalonitrile*) (*Bravo W-75, Daconil 2787, Bravo 6F*) and Maneb¹ (*Manganese ethylene bisdithio carbamate*) (*Manzate 200, Manzate D, Dithane M-22, Dithane M-45*). Both are relatively safe and easy to handle. Follow directions on label.²

A proper spray program should reduce or eliminate infestation of the current year's new growth. This means that smaller trees may recover sufficiently to produce merchantable quality stock.

For more complete descriptions of this disease you may wish to obtain copies of the following publications from their origin.

Nicholls, Thomas H. and Darroll D. Skilling 1974. Control of *Lophodermium* needlecast disease in nurseries and Christmas tree plantations. North Cent. For. Exp. Stn., St. Paul, Minn. 55101

Nicholls, Thomas H., and H. Daniel Brown, 1972. How to identify *Lophodermium* and brown

spot diseases on pine. North Cent. For. Exp. Stn., St. Paul, Minn. 55101

Blanchard, Robert O., Terry A. Tatter, and William E. MacHardy. 1975. Identification and control of Christmas tree diseases in New Hampshire. Coop. Ext. Serv., Univ. of N.H., Durham, N. H. 03824.

1. Mention of trade names does not constitute endorsement of the products by the Cooperative Extension Service.

2. Warnings: most pesticides are poisonous! Spray only when pest control is essential and when the pesticide used will not harm people or other useful forms of life in the vicinity! Read and follow all directions and safety precautions on labels! Handle carefully and store in original containers with complete labels, out of the reach of children, pets and livestock! Chemicals should be applied in a manner that precludes contamination of any agricultural commodity, food, or feed product!

A recently completed statewide aerial survey has shown many forested areas of central and south New Jersey are suffering from severe gypsy moth defoliation, according to John D. Kegg, entomologist, division of plant industry, N. J. Department of Agriculture.

Forested acres attacked by the leaf-feeding caterpillars nearly doubled in size from 28,102 acres in 1974 to 55,430 acres this summer.

In Burlington county alone, a total of 2,500 acres were damaged

in Pemberton, Southampton, Springfield, Woodland, New Hanover, North Hanover, Shamong, Chesterfield, Evesham, Florence, Mansfield and Washington townships.

Aerial surveys to determine the size and location of gypsy moth defoliated woodlands have been conducted since 1967. According to Kegg: "this survey is the first step taken by the Department to alert municipalities of the status of the gypsy moth problem within their boundaries and is followed up

this fall by an egg mass inspection to determine the proposed treatment areas for next season."

This year, severe defoliation damage (61 to 100%) occurred on 48,870 acres, moderate to heavy damage (31 to 60%) occurred on 6,165 acres and light (less than 30%) occurred on 405 acres.

At present, the female moth, which is about 1-1/2 inches long, stout bodied, and with white wings crossed with dark lines, has nearly completed egg laying.

USDA Issues Pamphlet on Inspection of Processed Fruits and Vegetables

How inspection and grading of canned and frozen fruits and vegetables can aid in marketing is explained in a pamphlet released by the U.S. Department of Agriculture (USDA).

"Inspection and Grading Services for Processed Fruits and Vegetables," Marketing Bulletin No. 56, describes how federal inspection can help processors and sellers meet buyers' requirements and aid in quality control. Official inspection can also help buyers, including institutional food buyers, determine whether the terms of their contracts or purchase orders have been met. Products inspected in

USDA-approved plants may be labeled with the U.S. grade.

Inspection and grading services for canned, frozen, dried, or dehydrated fruits and vegetables are provided on request and for a fee to processors, buyers, sellers, or anyone with a financial interest in the product. The services are provided by employees of the Fruit and Vegetable Division of USDA's Agricultural Marketing Service.

The pamphlet describes the U.S. grade standards for processed fruits and vegetables and how to obtain official inspection.

Products may be inspected for quality according to the U.S. grade standards or other specifications. Official inspection certificates describing the quality, quantity, and condition of products can help settle claims for damage incurred in transit or storage, and may also be used as aids in obtaining loans for products posted as collateral.

Single free copies of "Inspection and Grading Services for Processed Fruits and Vegetables," (MB-56), are available on postcard request to: Office of Communication, U.S. Department of Agriculture, Washington, D.C. 20250.

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ways and landscaped lawns of every size and description.

New WaterWatcher II, built for heavy duty use, provides a quick, easy way to automate conventional sprinkling irrigation systems. All you need do is remove existing

sprinkler valves with a wrench, replace them with battery-powered WaterWatcher II units, and set the timers for precise, fully automatic sprinkling in one, two or four day cycles.

The economical WaterWatcher II is powered by an ordinary size-D battery that needs to be replaced only once a year. The unit's highly reliable timing mechanism utilizes the same kind of accurate tuning fork device used on expensive electronic watches.

In addition to general sprinkling operations, WaterWatcher II can be used for automatic drip irrigation sprinkling that produces a "gentle rain" effect and for metering water flow to livestock tanks.

Once installed, you can set into operation a water conservation program suited to your individual needs. WaterWatcher will turn on your sprinklers at any time of day or night you select. It can be set to operate every single day, or every second or fourth day if desired. Sprinklers can be timed to run for five minutes or as long as an hour, in cycles that are best for your lawn's own peculiar needs. You can turn your sprinkler on and off and go to manual operation at any time you choose.

Horticulturists say that over-watering can drown a lawn, and that under-watering can parch it to death. A consistent, moderate watering program, such as the WaterWatcher provides, is not only beneficial but also cuts down on water bills.

The unit itself is extremely economical to operate, requiring flashlight battery replacement only about once a year.

WaterWatcher is manufactured by Tyme Valve Corporation, a subsidiary of Monogram Industries, and sold through hardware, garden supply, and do-it-yourself centers. Additional information may be obtained by writing to 12100 East Park Street, Cerritos, California 90701.

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There may be a ceramic engine in your automobiling future. Substituting the newest variety of pottery-like parts for metals holds a key to lower costs and greater economy in tomorrow's cars, once remaining technical problems are overcome. And so, Ford, Chrysler, General Motors, and the new Energy Research and Development Administration (ERDA), have research programs on the subject looking for answers.

Ford announced at a meeting of the Advanced Automotive Propulsion Systems Programs that it has built the first all-ceramic auto gas-turbine engine. Ford engineers say they hope to run the engine for 200 hours by 1977. Most ceramic

work centers on the gas-turbine engine. Ceramics can withstand higher temperature than all but the most exotic alloys. If turbines could run at higher temperatures, they could get as much as 50 miles per gallon, says George M. Thur of ERDA; and give off very little pollution. Once the technology is perfected, researchers say, ceramic piston heads and cylinder walls could increase the efficiency of diesel engines. Although making complicated engine parts is a far cry from throwing pots and baking them in a kiln, the automotive engineers are cautiously optimistic. "It looks good so far," says Art McLean, in charge of Ford's ceramic research. "We don't see any insurmountable obstacles."

Brittleness is one problem, but parts can be protected from external shock, and with the aid of computer programs, they can be designed so they do not shatter. Thus far, engineers have not found a satisfactory method for molding ceramic materials into the intricate shapes required. Perhaps the biggest unknown is what will happen to different ceramics after spending thousands of hours inside an automobile engine. But the shortages of natural resources, not just oil, but also steel and other metals, are making ceramics ever more attractive. Not only might they increase the mileage of cars, but their main ingredient is inexpensive silica (sand).

NEW BACTERIAL COMPLEX IMPROVES CROP YIELDS AT LOWER COST THAN CHEMICAL FERTILIZERS

In the face of rising costs for chemical fertilizers, a new product is now available that improves crop yields at far lower cost, according to the maker, Worne Biochemicals, Inc., of Berlin, N. J.

Called AGRIBAC, the material is composed of selected bacteria plus essential nutrients—no chemicals. It is completely harmless to human, animal or plant life. But it is said to be capable of improving crop yields as much as 100%.

The action of AGRIBAC is to decompose animal and plant residues in the soil, thus bringing about their mineralization. Bound nutrients needed for plant growth such as carbon dioxide, nitrates, phosphates, sulfates and trace elements are solubilized and made available for absorption by crop plants. It especially favors higher plants over weeds through the promotion of specific growth stimulating substances such as auxins and phytohormones.

In addition, AGRIBAC is capable of the enzymatic fixation of nitrogen from the atmosphere at a rate of 20 to 50 pounds of nitrogen per acre annually. This substantially reduces or eliminates the amount of nitrogen which must be added in the form of chemical fertilizers.

The bacteria used in AGRIBAC are not merely isolated from those found wild in farm soils. They are specially selected, mutated and adapted to totally unique forms for a far higher level of activity against the animal and plant residues found in these soils. The result therefore is a substantially greater rate of organic waste degradation and conversion to plant nutrients. These bacteria are combined into an appropriate complex developed in the Worne laboratories to which essential nutrients are added to speed their rate of action.

Worne advises that as little as four pounds of AGRIBAC can treat

one acre of soil. The material is supplied as a dehydrated, free flowing powder. To use, it is mixed in water and sprayed over the desired area.

For information on specific applications or the name of a local distributor, contact Dr. Howard E. Worne, Worne Biochemicals, Inc., Lyon Industrial Park, Berlin, N. J. 08009. Phone 609-767-8553.

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OBITUARY

RS. JOHN D. REZIN

Mrs. John D. (Jean) Rezin, 52, Rt. 2, Tomah, Wisconsin, died July 3 in her home. Cause of death as not given.

She was born at Rudolph, Wis., July 22, 1922 to Mr. and Mrs. Ernest Buschbon. She married John D. Rezin April 6, 1940. They owned and operated the North Tomah Cranberry Co. She was a member of the Eastern Star.

Survivors are her husband; three sons, John L., James and Fred, all of Tomah; six grandchildren; her father; and a brother, Floyd of Long Lake, Minn.

VERETT JOHNSON

Everett Johnson, 71, R. 1, Tomah, Wisconsin, died June 24 in Tomah Memorial Hospital.

He was born Oct. 12, 1903, in Mabel, Ill. He married Gertrude Davis March 14, 1928. He managed cranberry marshes in the Spooner, Three Lakes, and Warrens areas.

Survivors include his widow; four daughters, Mrs. Elbert (Donneita) Alexander of Mather, Mrs. Audrey (Carla) Winston of Warrens, Mrs. Kenneth (Gwendolyn) Organ of Minong and Mrs. James (Harriet) Yeazole of Spooner; two brothers, Charles of Warrens and William of Merrillan; two sisters, Mrs. Elmer (Nettie) Rochester of Black River Falls and Mrs. Sam (Esther) Hahn of New Paris, Ind.; and 18 grandchildren and five great-grandchildren. A son preceded him in death.

ROBERT W. CASE

Robert W. Case, 61, Warrens, Wisconsin, died June 25 in Tiajuana, Mexico.

He was born March 3, 1914, in Rice Lake. He married Jean Steele in 1967. He operated Case Cranberry Marsh near Warrens and Case Machine Co. in Warrens. He invented and manufactured cranberry growing and harvesting equipment, designing the first mechanical

picker as well as a pruner and a clipper. When the Village of Warrens was incorporated several years ago, he became its first president.

Survivors include his widow; two sons, Larry of Warrens and Allan of Denver, Colo.; a daughter, Mrs. F. F. (Betty) Anderson of Turtle Lake; three sisters, Mrs. R. O. (Helen) Cannon of Las Vegas, Mrs. Charles (Alice) Ream of Ridge Crest, Calif., and Mrs. Caryl Showkes of Los Angeles; and four grandchildren.

GORDON WILLIAM BAKER

Gordon William Baker, 68, died on August 2, in the Soldiers' Memorial Hospital, Middleton, Nova Scotia. He had been a resident of Victoria Vale, Annapolis County.

Born in Middleton, he was a son of Mrs. Elizabeth (Phinney) and the late Norman Baker.

He was a retired mining engineer of the Canadian Industries, Limited, a president of Newfoundland Agencies and at the time of his death, owner of the Fundy Cranberry operation near Victoria Vale. He was working on his cranberry bog just a few hours before he died.

Throughout his life, Mr. Baker was keenly interested in sports, fishing and the promotion and improvement of this activity for the public as a recreation.

One of his most noticeable achievements in his work for communities was the initiation of the agreement with the MacDonald-Stewart Foundation which resulted in many improvements being made to the MacDonald School and the construction of the MacDonald School Greenhouse by the Foundation.

Surviving are his wife, the former Alethea Doucet, his mother, and one sister, Mrs. Duncan Ross (Mireva) of Middleton.

The fifteenth chapter of the Gospel of John assures Christians that part of their heritage of the Christian faith is the experience of joy. John 15:11 reads: "These things I have spoken to you, that My joy be in you, and that your joy may be full." The announcement of Christ's birth begins, "Behold, I bring you tidings of great joy."

Our Lord must have been a source of joy or people would not have welcomed His presence and seemed to enjoy His companionship. Rich and poor were pleased to be with Him. He was a welcome guest at a wedding feast, even before they knew He could turn water into wine.

The joy He brought to people was not a superficial silliness, a withdrawal from the serious aspects of life. Rather it was joy born of the sense of partnership with God himself, through His son Jesus Christ. It was the joy of having confidence that the ultimate issues of life were in the hands of Him "who doeth all things well."

It was also a joyful acceptance of all the good experiences of life . . . to be accepted and enjoyed to the full. The Pharisees, who were critical of Christ, wanted Him to forbid His disciples their laughter and their enjoyment of life itself. Jesus refused to deprive them of their simple good pleasure and sense of well-being. Their laughter must have been music to His ears.

The early Christians, as austere as they were sometimes pictured, were also men and women of a deep and abiding joy. One of the early Christian writers wrote, "Ploughing we praise, and sailing we sing."

The late Halford Luccock told people that descendant notes were sometimes called joy notes. These are the tiny notes that appear in songbooks above the theme . . . notes to be sung as a counter melody.

So often, too often, we sing our songs of faith and leave out the joy notes. The authentic Christian song of faith includes the notes of joy.



Would you believe the cranberry was there when the west was won? Well it was. In 1805, in fact, long before the wagon trains rolled across the continent, members of the historic Lewis and Clark expedition reached the land now known as Oregon. They bartered there with the Indians for cranberries which they used during their long winter encampment! Today, 170 years later, both Washington and Oregon are two of our great cranberry growing states.

As America's settlers moved westward, they took along barrels of native east coast cranberries as a scurvy preventative, as did the sailors of early ships embarking on long voyages. Later, cranberries were used for the same reason in the great western mining and logging camps.

Americans' love of barbecuing today seems natural since cooking on the trail was both expedient and necessary to our pioneer forefathers. For a truly bang-up, Western-style barbecue menu here are some recipes you can enjoy whether you live in Maine, Wisconsin or Montana.

"Rodeo Ribs with Berry Sauce" is a hearty main course. While grilling, the ribs are seasoned with a sauce mixture combining chili powder, sweet green chilies, whole berry cranberry sauce, and tomato puree. The sauce can be prepared ahead of time, reheated on the grill, and used for dipping after the ribs are served.

Along with your ribs, "Cranberry Stuffed Onions" are great. The shells of large onions are filled with a tasty mix of bread crumbs, whole berry cranberry sauce, egg, orange juice and seasonings. They're not only good eating but will add a handsome look to your rib platter.

Round off your menu with a season-bright vegetable such as corn-on-the-cob, a salad of crisp greens, cucumbers and tomatoes, and a basket full of crusty bread.

For a snappy drink to serve before or with your meal, "Texas Cranato Cups" will spur on even the most listless palates. This is a quick and zippy mix of cranberry juice cocktail, tomato juice, beer and Worcestershire sauce with lemon slices. For the children, simply prepare the mixture without beer.

Recipes courtesy of Ocean Spray Cranberries, Inc.

TEXAS CRANATO CUPS (Makes 2½ quarts)

- 4 cups (1 quart) cranberry juice cocktail, chilled
- 4 cups (1 quart) tomato juice, chilled
- 2 cups (1 pint) beer, chilled
- 1 tablespoon Worcestershire sauce
- Salt and pepper
- Lemon slices, if desired

Just before serving mix in a large pitcher cranberry juice, tomato juice and beer. Stir in Worcestershire sauce, salt and pepper to taste. Pour mixture into cups and add lemon slices, if desired.

RODEO RIBS WITH BERRY CHILI BARBECUE SAUCE

(Serves 6 to 8)

- 12 pounds beef rib bones or short ribs
- Salt and pepper
- 2 cloves garlic, mashed
- 1 can (1 pound, 13 ounces) tomato puree
- 1 tablespoon chili powder
- 1 can (4 ounces) sweet green chilies, drained and minced
- 1 can (8 ounces) whole cranberry sauce
- 1 cup water

Sprinkle ribs on all sides with salt and pepper. Rub bones on all

sides with garlic. Place bones on grill 8 inches above gray coals and grill 1 hour. Turn meat every 10 minutes to prevent burning. In a bowl combine remaining ingredients, adding salt and pepper to taste. Beat until well blended. Brush ribs with cranberry-chili sauce mixture. Turn spread side down and grill for 10 minutes. Spread with more of the cranberry mixture, turn and grill another 10 minutes. Reserve remaining cranberry-chili sauce mixture and serve with ribs. Serve with "Cranberry Stuffed Onions," corn-on-the-cob, and a salad.

CRANBERRY STUFFED ONIONS (Serves 6)

- 6 large Spanish or Bermuda onion
- Boiling salted water
- ¼ cup butter or margarine
- 4 cups soft bread crumbs
- 1 can (8 ounces) whole berry cranberry sauce
- 1 egg
- 1 teaspoon salt
- ¼ teaspoon pepper
- ½ cup orange juice

Peel onions and slice off 1/3 from top of each onion. Cut a thin slice from bottom of each onion to allow it to stand straight. Scoop out each onion leaving a shell about 3/4 inch thick. Chop sliced and scooped out parts of onions. Should have at least 2 cups of chopped onion. If not, chop some more for this



measured amount. Drop onion shells into boiling salted water and cook for 10 minutes or until almost tender but still holding their shape. Drain onion shells on absorbent paper towel. Place onion shells side by side in a greased 12x8x2-inch baking pan. In a large skillet heat butter and saute chopped onions until wilted, about 5 minutes. Stir in remaining ingredients. Spoon cranberry stuffing mixture into onion shells. Bake stuffed onions in a preheated moderate oven (350°F.) for 30 to 35 minutes or until onion shells are easily pierced and stuffing is hot.

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Agricultural interests in the state were shocked by action taken by Governor Byrne as a result of a fiscal crisis. Massive budget cuts proposed by the Governor would have included elimination of the Agricultural Experiment Station. For a short period during early July this institution was in limbo until the state legislature in emergency session restored most of the cuts by enacting new taxes.

WASHINGTON

The Quarterly Cranberry Vine was mailed August 1. A view of the physiological activities on Washington bogs shows growth to be about two weeks later than normal. There was a heavy bloom period with fruit set looking very good. The berries will compete for nutrients as well as water and perhaps be small in size due to the late set. Frost and insect damage has been minimal.

July temperature was about normal, but many overcast days with only a few hours of clearing some days has kept the overall temperature down. Maximum temperature was 75 degrees on the 24th and the minimum 43 degrees on the 22nd.

Precipitation totaled only 0.50 inch which is 0.69 inch below normal. There were measurable amounts on 10 days but the largest storm was only 0.22 inch on the 28th. We are just 0.29 inch below normal for the 3 month total for 1974. Many ponds on the Long Beach Peninsula are already getting low due to the need for daily irrigation of about 1 hour to maintain needed moisture.

CRANBERRY FESTIVAL, Saturday September 13 and Sunday September 14, sponsored by the Peninsula Chamber of Commerce: Flea Market & Arts and Crafts Show; Cranberry Tour & Movie; Oyster Farm Tour; Golf Tournament; Salmon Bake and much more.

Settlements totaling \$100,000 in damage suits brought by several Wisconsin cranberry growers against the Oakdale Rural Electric Cooperative, Dairyland Power of La Crosse and several insurance companies have been awarded in Monroe County Circuit Court in Wisconsin.

The plaintiffs in the suits sought damages for losses suffered by frost as a result of a power failure that occurred on May 26, 1971. The failure effected the shut-off of the electric pumps which pump water through the sprinkler systems used to protect the bogs against frost.

Plaintiffs whose suits were settled included Frank Ellis and Margaret Volz, doing business as Ellis and Volz company; Charles G. Hoffman, the Charles G. Hoffman Company; Harold and Walter Stebbins, the Stebbins Cranberry Marsh; Scott Cranberry Marsh, Inc.; Olson Bros. Cranberry Co., Inc.;

Lloyd A. Wolfe, Keith Bennet and Sons, Inc.; Union Cranberry Company; Wetherby Cranberry Marsh and M. J. Stage.

In a related case in June 1974 the Cutler Cranberry Company of Camp Douglas, Wisconsin, was awarded \$6,200 from the same defendant for partial loss of 26 acres of cranberries. The firm had sought \$11,830.

Another court case still pending is that of the Clinton Potter Cranberry Company of Warrens, Wisconsin. The firm seeks damages totaling \$89,321.70, also from the Oakdale Rural Electric Cooperative and its parent company, Dairyland Power of La Crosse.

This firm has alleged that on May 27, 1971, its water sprinkling systems became inoperative because of an electrical power outage.

Potter claims a loss of 8,047 barrels of cranberries valued at \$11.00 per barrel.

RULES FOR WITHDRAWAL OF GRADING AND INSPECTION

The U.S. Department of Agriculture (USDA) announced changes in its rules concerning withdrawal of food inspection and grading services provided under authority of the Agricultural Marketing Act of 1964.

The major change made in the administrative procedure shifts the responsibility for deciding whether to withdraw grading or inspection from the administrator of the U.S. Department of Agriculture's Agricultural Marketing Service (AMS) to a USDA administrative law judge.

Other changes involve filing of papers, use of depositions and affidavits, oral arguments on appeal to the Secretary of Agriculture, and deletions of certain sections of the procedures no longer relevant.

Inspection and grading are made available on a voluntary basis by AMS. Users pay for the cost of the service.

The revised rules of practice governing withdrawal of inspection and grading services are scheduled to be published in the Aug. 19 Federal Register. The revisions will become effective on the day of publication.

Copies of the revised rules can be obtained from the Administrator, AMS, USDA, Washington, D.C. 20250.

MID-AUGUST CRANBERRY FORECAST

The mid-August forecast of 1975 cranberry production in Wisconsin indicates a crop of 850,000 barrels, 2 percent less than the record 1974 crop of 870,000 barrels. Vines wintered well with little damage. There has been very little frost or hail damage. Development of the crops is about a week ahead of last year under generally good growing conditions. Hot weather during July caused some stress and

lowered the water supply to below normal levels.

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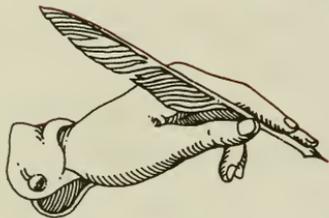
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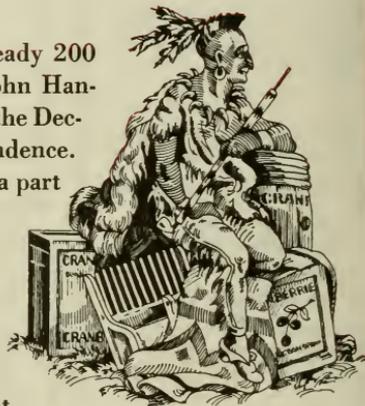
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the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-



berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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SEPTEMBER 1975



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— Our 39th Year of Publication —

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WISCONSIN

The first week in August was warm with high temperatures in the upper 80's and low 90's. Cooler readings occurred at mid-week with overnight lows in the 40's. Isolated areas received over an inch of rain but much of the State continued very dry, particularly northern and central areas.

Very warm temperatures prevailed on the 11th and 12th along with partly cloudy skies. There were a few showers and thunderstorms on Monday, the 11th, but more widespread activity occurred Tuesday night across the northern part of the state ahead of the cold front. Cooler air overspread the state on Wednesday and remained throughout the weekend. The third week in August began cool with low temperatures in the upper 30's and 40's over the north and central areas. Temperatures became very warm later in the week with readings of 90 degrees or higher in the south and west. Rainfall was heavy as showers occurred daily somewhere in the State. The rains were much needed to replenish short soil moisture supplies but came too late to help some of the drought stricken crops. The State's corn crop is very uneven, with excellent corn in places and poor corn elsewhere. According to a report from the Plant Industry Division of the Wisconsin Department of Agriculture, activity by such insects as the European corn borer and corn rootworms has been intense.

WASHINGTON

Rainfall totaled 4.60 inches in the Grayland area and 3.89 inches at the Long Beach Unit. A deluge came on the 29th, with 1.35 inches measured at Whiffle Tree Farm in Grayland, and only .83 inch at the

Research Station. This total is the largest amount for August since 1968 when 5.50 inches was recorded.

The cranberry areas of Washington recorded a high of 72 degrees at Grayland on the 4th and 70 degrees on the 27th at Grayland and Long Beach. A low of 39 degrees was recorded on the 9th and 10th at Grayland, 46 degrees recorded for low at Long Beach on the 9th.

Gail Dunn, a February 1973 graduate of Washington State University and Experimental Aide at the Coastal Unit since March 1973 has resigned her position as of September 5, 1975. She plans to travel and do some work throughout the United States to become better acquainted with her country. During Gail's more than two years at the Research Unit, she has compiled the extensive data collected, to allow for full evaluation, and also assisted with the many projects underway.

NEW JERSEY

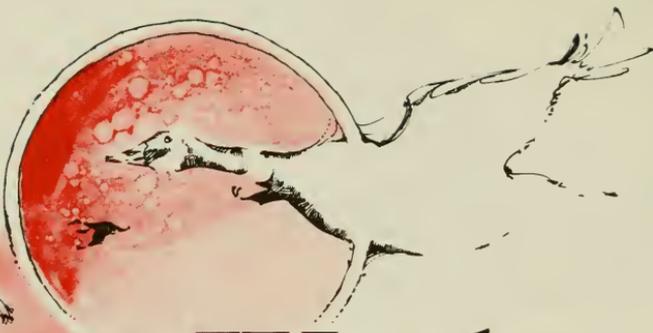
Sultry hot days in early August were succeeded by more moderate temperatures and some outrightly cool nights later. Nine days of ninety degree temperatures were counterbalanced by ten nights with temperatures in the 50's. The net result was an average temperature of 74.3 degrees F, about 0.7 below normal. Extremes were 98 degrees on the 2nd and 3rd and 53 degrees on the 21st and 23rd.

Reversing the recent trend of wet weather, the month was drier than normal. The total at New Lisbon was only 2.94 inches or 2.12 inches below normal. However, in the main cranberry area around Chatsworth heavy thunder-showers occurred and more than five inches of rain fell there. At

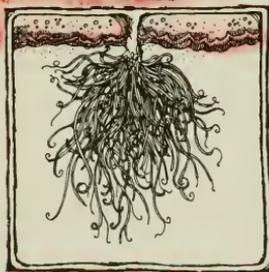
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Continued on Page 20



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DDT BAN JUSTIFIED ACCORDING TO NEW EPA REPORT

EPA sticks to its original findings concerning DDT despite long-term opposition to that decision from many scientists and agriculturalists

by John A. S. McGlennon
Regional Administrator
U. S. Environmental Protection Agency

Most uses of DDT, including all food applications, were banned by our Agency three years ago because of unreasonable adverse effects on man and the environment. Since the implementation of this ban, there have been those that have criticized our action. There are those who implied that we did not have adequate data to support the ban, and that we were pushed into

taking action by environmental activists.

Our Agency has prepared a new report to Congress, which reviews the scientific and economic aspects of the decision to ban the use of DDT. This report, prepared at the request of the House Appropriations Committee, generally confirms EPA's 1972 findings. It also shows that risks are declining since

the ban, that alternative pesticides are available, and that economic impacts have been nominal, well within the range of those projected in 1972.

The report cites studies showing that human dietary intake of DDT in the United States has declined from 13.8 milligrams per day in 1970, to 1.88 milligrams per day in 1973. Residues in human fatty tissues have declined from nearly eight parts per million (ppm) in 1971, to 5.9 ppm in 1973, based on large-scale samplings of more than 1,000 people. Health and environmental risks may be associated with even these lower levels, but the decline is encouraging.

The report shows that the ban has contributed to the decline of DDT levels in fish. For example, one federal study of Lake Michigan lake trout showed DDT levels decreased from 19.19 ppm in 1970, to 9.96 in 1973. DDT levels in coho salmon declined from 11.82 ppm in 1969, to 4.48 ppm in 1973. Residues of the pesticide have declined in some birds, such as songbirds and ospreys, but are still high enough to adversely affect other birds, especially birds of prey.

As for the economic impact of the ban, the report concludes that for most crops, including cotton which in the past accounted for eighty percent of DDT use, produc-

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tion has been maintained. However, costs have increased in some cases. The report says that nationally, switching to alternative pesticides has cost cotton farmers slightly more than \$1.00 per acre per year. In the southeastern United States, however, this figure increases to an additional \$6.00 per acre per year. For the consumer, the cost of buying cotton goods produced with other pesticides increased 2.2 cents per person per year.

In reviewing studies conducted since the ban, the report concludes that DDT should still be considered a potential human cancer agent, based on the results of animal studies. In addition, the report confirms that DDT is stored in human fatty tissue, wildlife and fish; DDT is toxic to fish and birds, and interferes with the reproduction of some species; and DDT persists in soil and water for years.

A number of alternate pesticides were available to substitute for DDT at the time of the ban. Since then, others have been identified. Together, these substitutes include methyl parathion, parathion, mala-

thion, guthion, axodrim, crotoxphos, methomyl, diazinon, methoxychlor, and others. In most cases, they have been effective in controlling pests and economical to use.

Our Agency has attempted to administer the ban with flexibility,

paying special attention to emergency use situations. For example usés of DDT were granted by EPA in 1974 to safeguard timber in the northwestern United States from the tussock moth, and to control the pea leaf weevil on the dry pe-

crop in Idaho and Washington. This past fall, in a separate action substantial amounts of Maine timber were saved from spruce bud worm damage by EPA's rapid registration of two DDT substitutes.

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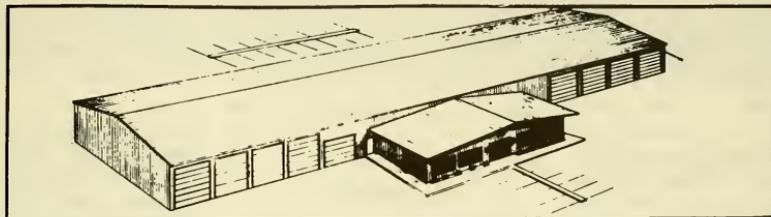
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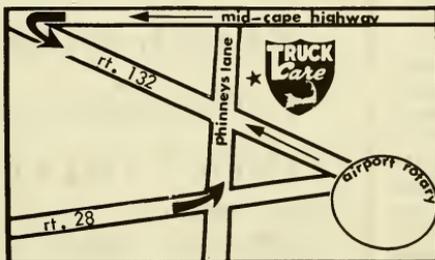
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PARTS



SERVICE



Mass. Cranberry Station & Field Notes

by **IRVING E. DEMORANVILLE**
extension cranberry specialist

Personals

Dr. Robert Devlin attended a meeting of the Plant Growth Regulator Working Group held in Chicago, Ill. from August 26-31. Bob was president of this group and was in charge of the meeting. He also presented a paper on some of the growth regulator work in cranberries.

Annual Meeting

The 88th Annual Meeting of the Cape Cod Cranberry Growers Association was held at the Cranberry Station on August 19. The crowd was estimated at 200. Guest speaker was Dr. Evelyn Murphy, Secretary of the Department of Environmental Affairs, Commonwealth of Massachusetts. Her topic was "A Food Policy for Massachusetts." There was also a brief ceremony honoring retired Extension Director and former cranberry specialist J. Richard Beattie. Dick was presented a scroll in recognition of his long service to the cranberry industry.

Officers of the Association elected for the coming year were Kenneth Beaton, President; David Mann, 1st Vice-President; John C. Decas, 2nd Vice-President and Irving E. Demoranville, Secretary-Treasurer.

Weather

August was a hot, humid month, averaging 1.5 degrees a day above normal. This continues a series of warmer than normal months from May through August and we must go back to 1949 to find a warmer spring-summer period than this. Maximum temperature was 100 degrees on the 2nd. This is only the second time in 50 years that we

have recorded a temperature of 100 degrees. The other came on August 11, 1949. Minimum temperature of 49 degrees occurred on the 21st. Warmer than average periods were 1-3rd, 10th, 12-14th, 22nd and 27th. Cooler than average days were 7th, 8th, 17th, 24th, 30th and 31st.

Rainfall totalled 4.12 inches which is less than 1/4 inch below average. There was measurable precipitation on nine days with 2.65 inches on the 7-9th as the largest storm. We are 2/3 inch below normal for the 8-month period, but nearly 6 inches ahead of 1974 for the period.

Crop Estimate

The official crop estimate released by the New England Crop

Reporting Service indicates Massachusetts with a prospective crop of 950,000 barrels, up 2 percent from last year. Water supplies are good for the first time in some years. Berry size is generally good and coloring appears to be on schedule. Quality will not be nearly as good as last year and may even be a problem. There seems to be a fair amount of opinions that we will not make the preliminary estimate but unless something unforeseen happens, we should equal or surpass it. For the other areas, New Jersey is estimated at 235,000 barrel down 6 percent, Wisconsin 850,000, down 2 percent, Washington 126,000, up 37 percent and Oregon 95,000, up 3 percent. The national crop is estimated at 2,256,000 barrels, up 1 percent from 1974.

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Cape Cod Cranberry Growers Association ANNUAL MEETING

It was an ideal day under the spreading oaks at the Experimental Station in Wareham; not hot, not cold, just clear, crisp, sunshine. Growers gathered around the equipment exhibits which are annually hauled to the site for grower perusal. Attracting the most attention were experimental floating sanders introduced by David Mann and Stan Norton. These sanders were designed to enable the job to be done despite the lack of ice. Although they would be slower than dry sanding or ice sanding, the sanders would not damage the plants and sanding could be done as needed rather than waiting for the occasional onset of enough succes-

sively cold days to produce a good ice cover.

A tour of the Station grounds preceded a hearty chicken barbecue lunch (with cranberry sauce). The sit-down lunch affords growers with a rare opportunity to discuss prospects leisurely with one another. The annual affair regularly occurs in that pregnant lull of the season just before the harvest begins. It is a generally relaxed occasion.

The business meeting began in a low key; committee reports were read, and officers were elected. There were some changes in the slate this year: Kenneth D. Beaton succeeded long-time chairman Willard A. Rhodes. David B. Mann

(Buzzards Bay) was elected first vice-president; John C. Decas (Wareham) second vice-president; and Irving E. DeMoranville (Wareham), secretary-treasurer.

Dr. Chester E. Cross gave a run-down of the accomplishments and investigations going on at the Station. His comments were climaxed by the presentation of a framed scroll to Mr. J. Richard Beattie, long-time associate of the Station. The scroll was signed by Mr. Beattie's associates at the Station.

John Decas, representing Decas Sales, opened the market prospects on an encouraging note.



Beattie receives scroll.

"There is no carry-over in fresh fruit so we anticipate a strong opening," said Decas. Decas Sales expects a larger handle than last year, approximately 50,000 to 80,000 barrels. Some additional growers have joined his market. Decas claimed to have markets for the total tonnage. 60% will go to the fresh fruit market and the remaining 40% is slated to go to foreign markets, the New Jersey canners, and other markets.

"Will returns be profitable?" Decas asked rhetorically. "That is difficult to answer. Another independent has joined the scene. They will provide something that the industry sorely needs and that is competition." Decas was referring to the recent purchase of the United Cape Cod Cranberry Company by Cumberland Farms. Under the name "United Cranberry Growers Associated, Inc.," the new company will handle a tonnage roughly equal to that handled by Decas.

Bob Hiller from Peter LeSage was less optimistic. He said that the '74 season was better than the '73 season, but not as great as had been hoped.

"We all know the problems confronting the industry as a whole . . ." but, Hiller continued, "we foresee no problem in moving all of the berries." LeSage is looking for a larger handle this year also. Overseas buyers seem to think that there will be more opportunities to sell berries over there than last year despite the poor economy abroad.

In closing, Hiller remarked that it "doesn't look that good, but with a little luck and a little perseverance . . ."

Gilbert Beaton, representing Ocean Spray, was openly pessimistic.

"We're in for two or three years of tough sledding," said Beaton. Though Beaton offered a mildly encouraging anecdote concerning the amount of cranberry sauce

consumed by the astronauts on the recent Soviet/U.S. space flight, the majority of his remarks were sobering.

"What are we facing that is different? Recession, depression, inflation and consumers reaction against the high price of food. But food is still one of the cheapest items in this country!"

Beaton did note that the projected increase in Ocean Spray's advertising budget, from \$7 million last year to a projected \$11 million for 1975, reflects some hope.

Beaton projected that over 400,000 barrels of cranberries will not be sold this year. He urged that growers consider urging the allotment system into effect for next year's crop.

"It is sheer stupidity to go out and, because returns are down, produce more cranberries. You could work on bogs not under production. Everyone is trying to get every last berry. It's a waste! Speak to your representatives on



John Decas addresses growers

the marketing committee and get them to try the allotment program to see how it works. If it doesn't work, we'll throw it out."

Robert Fitzsimmons from Foreign Market Development gave the growers an up-to-date report on activities of his organization.

The purpose of the organization is to develop and expand markets overseas for U.S. products.

"We operate the largest agricultural intelligence system in the world. We get right into market promotion."

Fitzsimmons reported that not too much was accomplished in Europe last year in the way of actual sales, but a very important discovery was made. Europeans market daily and like small containers. A 6 ounce glass package was found to be the most successful.

The major problem overseas is an educational one; Europeans don't know what a cranberry is, nor do they know what to do with them.

"We must educate as to how to use and we must adapt our product to the desires of the foreign consumers."

"The small package is the key," Fitzsimmons continued. Partly for this reason they now ship frozen cranberries to England and package them there. They are presently having success in England and are now methodically moving into five other countries. They have conducted extensive market research programs in these countries in cooperation with Ocean Spray. Fitzsimmons said that the data is in and the marketing policies will now be developed on the basis of the data.

"We hope to have it going for this crop, but results must still be analyzed (as of August)."

Dr. Evelyn Murphy, Secretary of the Executive Office for Environmental Affairs, spoke briefly about the "Food Policy for Massachusetts," a project discussed in some depth at a meeting at the Cranberry



Dr. Evelyn Murphy

Experimental Station earlier in the month when cranberry growers were invited to inspect the policy outline with Commissioner Frederick Winthrop.

Murphy pointed out that Massachusetts imports 85% of its food. This dependency on imported food puts Mass. in a vulnerable position, according to Dr. Murphy. It results in higher prices for food than in other states.

Since World War II, the number of farms in this state has declined from 85,000 to 6,000 and the number of acres of land under agricultural production has declined from 2,000,000 to 700,000, Murphy reported.

The food policy being drafted seeks to preserve land, make use of more of our technology, provide jobs, and generally optimize on the agricultural possibilities in the state.

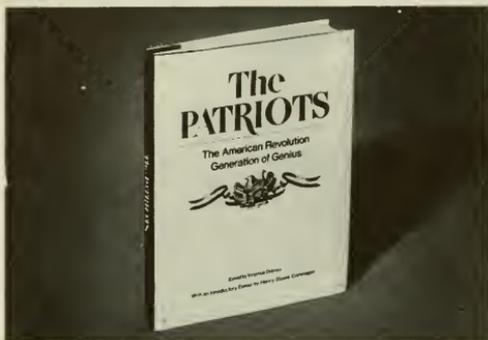
Murphy encouraged the growers to become involved with the effort, particularly in areas of development rights, and the Farmland Assessment Act.

The meeting was closed with the announcement of the 1975 Crop Release from USDA Agricultural Statistician, Byron S. Peterson. That report was reproduced in last month's issue of *Cranberries*.



Gilbert T. Beaton, from Ocean Spray, addresses the group.

George. Tom. John. Sam. Patrick. Abigail. Ben



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APPLE GROWERS ARE UP A TREE

New York State apple growers will leave an estimated six and a quarter million bushels of apples on the trees this year. That's one fourth of the total crop. The reason is that New York apple processors have indicated an overall reduction in pack plans of more than 50 percent from last year's 13 million-plus bushels processed.

Reduced consumption of applesauce, slices and juice during the last year have left warehouses with a record carryover pack, particularly in canned applesauce. High sugar prices last year aggravated already increased costs of labor, fuel and containers. Applesauce became less of a buy than it used to be.

When Duffy-Mott announced the closing of their Hamlin, New York plant, more than two million

bushels of this year's bumper crop became homeless. Then word came that Seneca Foods, the second-biggest apple processors in the state, would only take 56 percent of the number of apples they took last year. Add another couple million bushels of homeless apples. Then a small plant at Clyde, New York (H.C. Hemingway & Co.) closed down. And it's reported that Widmer's juice plant is being actively put on the auction block because of Environmental Protection Agency regulations that would require costly investments in the waste-disposal system.

While processed-fruit carryover... and a national apple crop 20 million bushels larger in 1975 than '74... is chiefly to blame for the apple farmer's blues, it is not the only reason the mood across

the biggest processing apple belt in the country is so glum. As Albion, New York grower George LaMont puts it, "We didn't need this crunch to tell us something is wrong."

What he is alluding to is what a lot of producers have said for a long time... Duffy-Mott has dominated the New York State industry too long. Starting with the construction of the plant in Hamlin, New York in 1913, Duffy-Mott became *the* word in processing apples. There were a few other operations over the years, but nothing big enough to worry Mott's.

When it came time for reaching an apple price, Duffy-Mott announced a price and the rest of the industry followed. Allegations that the operation of the Hamlin plant was extremely inefficient are common in grower circles. That inefficiencies were allowed to continue unchecked is understandable when you consider the tremendous franchise they had. Until recently, Mott's was synonymous with applesauce.

But times have changed. George LaMont points out that many small, well-run companies, particularly in Michigan and Pennsylvania "have proven they can whip Duffy-Mott in the marketplace." If Mott's carryover pack is greater than the already-excessive ones possessed by other processors, we were unable to find out about it. I stopped at the Hamlin plant to ask Duffy-Mott executive Bernard Luskey precisely that question. He made it quite clear he didn't intend to answer that or any other questions regarding apples. Concludes LaMont, "We've let our industry become dependent on one old, stodgy company."

In one way, the apple producers have nobody to blame but themselves. Rather than unite behind one apple-marketing organization, a significant number of operators have always gone their own way, dealing one-on-one with the big outfits. Ironically, they thought that they were protecting their market. During good times, few

growers care whether production is fragmented or not, but a bear market brings calls for unity. Predictably, there has been some talk of forming a new co-op this year.

"We don't need any new co-ops," declares Jim Austin, grower from Hamlin. "all we need is some support for the Farm Bureau Marketing Cooperative we already have." Austin believes that strong organizations would stabilize the New York fruit industry. He points out that in Pennsylvania, growers have gotten behind brand-name advertising (Lucky Leaf) and, as he puts it, "They're one of the giants of the industry today."

What can be done to salvage some of the six million bushels currently destined for abandonment? There are many things being proposed, but their impact on total volume is not likely to make a big dent in the surplus.

Women for the Survival of Agriculture, an organization dedicated to the long-run economic health of farming, is pursuing several objectives. These include

such things as pushing the Federal Trade Commission in prying loose canning-jar covers (for home-canning of applesauce), locating more outlets for fresh apples across the state, and providing personnel at supermarket checkout counters

to distribute apple-promotion material. The Western New York Apple Growers Association, New York State Farm Bureau, the Extension Service, and other organizations are all working hard to meet the challenge of oversupply.

"Why," you might ask, "can't the apple farmers band together and, by leasing one of the facilities slated to close, go ahead and put up their own pack of sauce?"

"Nothing doing," grimaces George LaMont, "... we've been through that number before." He explains that in the late 1950's this

was done. "After the pack was up," he explains, "it became a matter of praying for somebody to buy it, and we lost." In fact, the venture's last gasp was getting Seneca Grape to run it and that's how they got into the apple business. As Max Brunk, professor of agricultural economics at Cornell, has said, "Growers cannot be processors and processors cannot be growers... each has enough to do to keep fully occupied."

Fresh marketing of excess processing apples is a limited concept. The fresh market depends on the processing market for price. Not only that, but of the 25,000,000-bushel crop in New York State this year (the largest since 1926), only 9,000,000 bushels are expected to go fresh. Put another way, a full two-thirds as many apples will be left on the trees as will go for fresh consumption in New York State if the Farm Bureau Marketing Cooperative's predictions are correct.

Pick-your-own will likely be of help to some growers. But Neil Elliott, grower from Hamlin who sends about half of his crop fresh and the other half processed, points out that location is the key here. He doesn't think it will help him because he's too rural. "Besides," he cautions, "you've got to realize

that most of our trees are 12 feet tall or so, and require ladders." Elliott was more than a little reluctant to allow great numbers of non-farmers to go scaling ladders on his property.

Perhaps there is some consolation in the fact that carryover stocks of apple slices and juice are not nearly as burdensome as fo sauce. More apples may be processed in this form than usual. Apples that do find a market cautions extension specialist Dick Pease, should be only the best. Severe grading policies by all growers will be mutually beneficial.

With picking time but three weeks away, government and grower organizations are hard at it trying to come up with some answers. According to New York State Commissioner of Agriculture and Markets John Dyson, attempts

are being made to sell applesauce to the federal government for the school lunch program. Problem is, the emphasis on food programs lately stresses giving away stamps rather than food. Yet the USDA did help bail out the beef people recently.

Meanwhile, producers are already resigned to the fact that they'll in all likelihood leave a lot of apples—and profits—on the trees this year.

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AGRICULTURE NOTES

United States, Romania Sign Farm Pacts

Secretary of Agriculture Earl L. Butz announced the signing on September 11 of two protocols with Romania that will provide exchanges of agricultural economic information, including anticipated Romanian imports of U.S. agricultural products, and cooperative activities in technical agricultural areas. Both nations agreed to establish a permanent Working Group on Agricultural Cooperation and Trade within the framework of the U.S.-Romanian Joint Economic Commission.

Romania took \$155 million in U.S. farm products last year—second highest of all East European countries.

Under the protocol on development of agricultural trade, the United States and Romania agreed to exchange agricultural economic information on a regular basis. This would include stocks and forward estimates on supply and demand, and trade in major agricultural commodities for their countries and for world trade in these commodities.

By November of each year, the Romanian Ministry of Agriculture will provide the U.S. Department of Agriculture with a list of agricultural commodities and their quanti-

ties which intends to import for its own needs from the United States for the following year, and will keep the Department of Agriculture informed of significant changes in this list should they occur. In return, the U.S. Department of Agriculture will keep the Romanian Ministry informed of both U.S. and world market demand export availabilities for agricultural commodities.

Under this protocol, a permanent Working Group on Agricultural Cooperation and Trade will be established, with commitments to meet not less than once a year.

In a second protocol on cooperation in agriculture, the United States and Romania agreed to develop and carry out a program of cooperation in agriculture in the fields of plant, animal and soil science and mechanization, such as exchanges of germplasm, cooperation in methods of application of agricultural chemicals, and use of mathematical models in agriculture.

Both nations will encourage the development of direct contacts between the governments, universities, research organizations, firms, enterprises, and individuals in the two countries.

Projects will be approved by both the U.S. Department of Agriculture and the Romanian Ministry of Agriculture as being mutually beneficial and advantageous. For calendar 1976, the designated fields of cooperation are: Production of corn, wheat, soybeans, sunflowers, including their resistance to insects and disease; increasing the production and sugar content of sugarbeets; animal diseases, including foot-and-mouth disease and transmissible gastroenteritis; methods of developing hybrid hogs for meat; and irrigation of plants and desalinization of soils.

USSR Grain Harvest Progress

The grain harvest in the Soviet Union is progressing satisfactorily but is behind the pace of last year. The grain area cut as of September 15 totaled 99.8 million hectares or 81 percent of the area sown, compared with 88 percent on that date last year. Threshing had been completed on 95.5 million hectares.

Meanwhile, seeding of winter grains in the Soviet Union moved ahead of last year's pace, with 22.6 million hectares sown as of September 15—about 3 million hectares more than a year ago.

This year's Soviet target for winter grains is 35 million hectares, about the same as the target in 1974, when only 33.7 million hectares were actually sown.

World Weather

Drought eased in Western Europe and Central America, lingered on in parts of the USSR, and intensified in much of Brazil and some of Argentina. Good rains fell in Africa's Sahel and in major crop areas of Australia. There is favorable moisture in most areas of the People's Republic of China (PRC), though some flooding and serious crop losses occurred in central regions and conditions are drier than usual in the northeast. Summer monsoon rains were generally good in India, Pakistan, and Bangladesh though some parts of northern India were hit with flooding. Wet weather slowed farm activities and early frosts caused minor losses in a few places in North America, but conditions on the whole have improved.

Rainfall has increased and temperatures have been more seasonable in most of Western Europe since the mid-August heat wave. In

Continued on Page 20

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PROPOSED PESTICIDE BAN COULD RAISE FOOD PRICES

EPA's plans to ban chlordane and heptachlor would escalate farmer's cost.

A proposed U.S. ban on two farm pesticides could cause a sharper rise in food prices than the wheat sales to the Soviet Union, agriculture experts warn.

Plans by the Environmental Protection Agency (EPA) to ban the widespread use of chlordane and heptachlor would escalate the farmers' costs of eliminating pests tenfold—and to a small degree boost prices for shoppers.

But the pesticide ban is not expected until next year and Congress may move before then to restrict the powers of the EPA in controlling pesticides.

The EPA has not determined the economic impact on chlordane and heptachlor, a pesticide used in home gardening and in agriculture—mainly on grains and corn—which in turn is used as an animal feed.

But Dr. L. S. Pope, associate dean of agriculture at Texas A&M University, calculates that use of alternative pesticides would cost \$5.80 to \$12 an acre, compared with the 11 to 43 cents per acre cost of treating seeds with chlordane or heptachlor. These other pesticides are short-lived and must often be applied twice, says Dr. Pope, and are far less effective in pest control.

But EPA Deputy Administrator John Quarles says the danger to public health of chlordane and heptachlor outweigh the economic impact of the ban on their use.

Protests by farmers and chemical companies against EPA's ban on such chemicals as DDT, aldrin, and dieldrin, and the proposed ban on heptachlor and chlordane already have brought House action which would dilute the Federal Pesticide Act.

Funding for the pesticide program runs out Sept. 30. Shortly Congress is to consider provisions by the House Agriculture Committee to weaken EPA's authority by allowing farmers to certify themselves in using hazardous pesticides.

"The EPA is pushing American agriculture back to the 19th century," said a member of the House Agriculture Committee. Farmers complain that alternate pesticides are less effective, cost more, and will accelerate food shortages.

Environmentalists, waving the same flag that Rachel Carson bore in her 1962 best-seller *Silent Spring* are moving swiftly to nip the committee's move in the bud and retain the strong pesticide law.

"Essentially, very little would be achieved in controlling pesticides if farmers are allowed to regulate their use," warns EPA's Mr. Quarles.

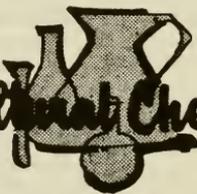
EPA took over authority of pesticide control in 1970 from the Agriculture Department which has since represented the interests of farmers and chemical companies before EPA hearings on pesticide bans.

Agriculture and industry critics charge the EPA has not always acted with regard to the economic impact on farmers and consumers and with all available scientific evidence.

The agency's job is to come up with a system of registration of all pesticides, to be in full swing by October, 1976, as mandated by strong 1972 amendments to the 1970 pesticide law.

As more and more pesticides come under EPA scrutiny and control, farmers have begun to mobilize their frustration and irritation. Now Congress is reacting to that concern.

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INVESTMENT TAX CREDIT MAY BE LOWERED

farmers would be effected by increase of 3% in cost of buying machinery

The nation's farmers have an important direct stake in the current Congressional consideration of investment tax credits, states Emmett Barker, executive secretary of the Farm and Industrial Equipment Institute.

The investment tax credit on farm machinery currently is ten percent. But it will revert back to seven percent at the end of 1976 unless Congress decides to continue it at the present level or even increase it to 12 percent as some have proposed.

"I'm afraid too many people think of the investment tax credit only as some benefit to big business and overlook the fact it is of major importance to farmers, contractors, and others," Barker said. "If it is allowed to revert back to seven percent it would have the effect of increasing the farmer's cost of buying machinery more than three percent."

Reduces Farmer Cost

The investment tax credit reduces the net cost of farm machinery to farmers.

If a farmer buys a \$10,000 piece of machinery, he currently receives an investment tax credit of \$1,000. This reduces his income tax by \$1,000 and has the effect of reducing the cost of the piece of machinery to \$9,000.

If the credit reverts back to seven percent, the tax credit on a \$10,000 machine would be reduced to \$700 and the net result would be that the cost of the piece of machinery would go up \$300 from \$9,000 to \$9,300.

However, if the investment tax credit is increased to 12 percent from the present ten percent, the credit on a \$10,000 machine would be increased to \$1,200, and the effect would be to reduce the cost to \$8,800 from the present net cost of \$9,000.

"At a time when the government is encouraging farmers to increase their production it is important that government encourages farmers by at least continuing the ten percent credit on the new and more productive machinery they need to up food production," Barker said.

FAST BUCK IN PESTICIDES LURES THIEVES

The nation's newest crime wave is not in the streets but down on the farm. Thieves are making fast money stealing pesticides, the chemicals used to kill insects and weeds.

Skyrocketing costs and periodic shortages have made such obscure mixtures as Treflan and Fundal almost as valuable as precious metals. And they are much easier to steal.

A thief can walk out of a farmer's barn with a five gallon can of Treflan in each hand and, selling the booty on the black market at half price, collect as much as \$125 for a minutes' work.

"It sells for near about as much as whiskey, to tell you the truth," Sheriff Wilbur Robin Pridgen of Wilson, N. C., said of a substance called MH-30, which is used on tobacco plants.

A serious shortage of pesticides last year created an easy outlet for thieves and black marketeers. Farmers faced with losing their crops to boll worms or Johnson grass were willing to pay any price—and ask no questions—to get the chemicals.

Sheriff Harvey Tackett of Greenville, Miss., said there was a chance that several alleged buyers of stolen pesticides would be indicted, including members of a prominent Delta family.

Tackett's office a few weeks ago broke what might have been the nation's largest pesticide theft ring. He said the ring, which operated in Mississippi and Arkansas, had stolen about \$500,000 worth of farm chemicals in the last two years.

Supplies of pesticides have increased this year, and that has caused the thievery to decline a little. But the continued high prices have tempted many thieves to keep the illegal operations going.

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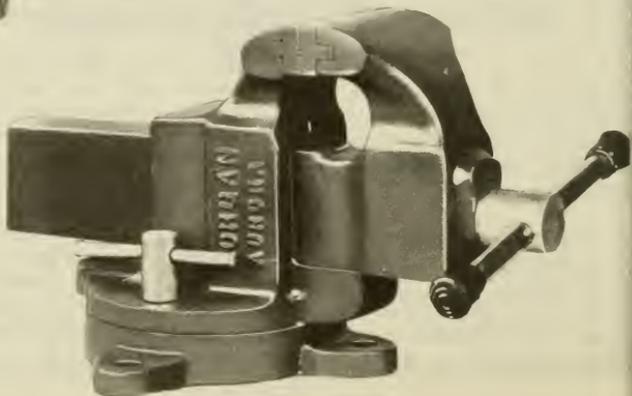
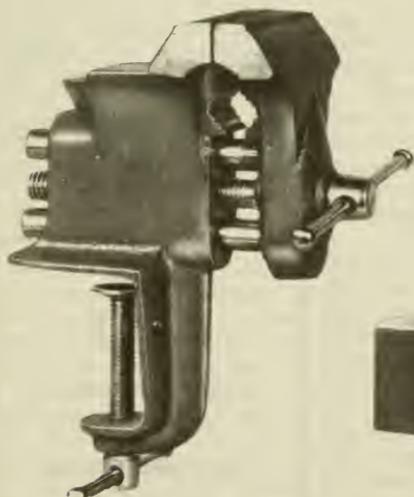
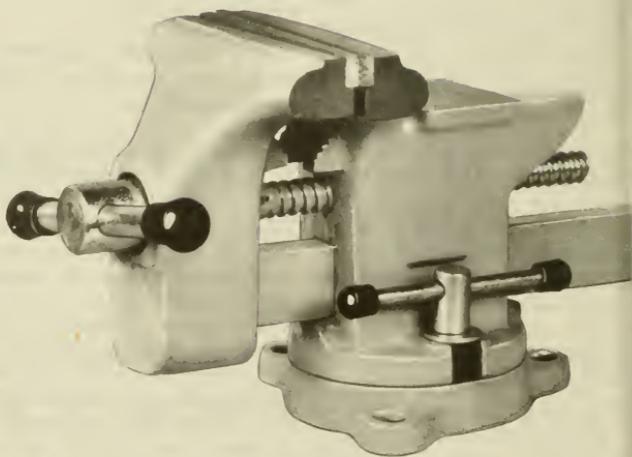
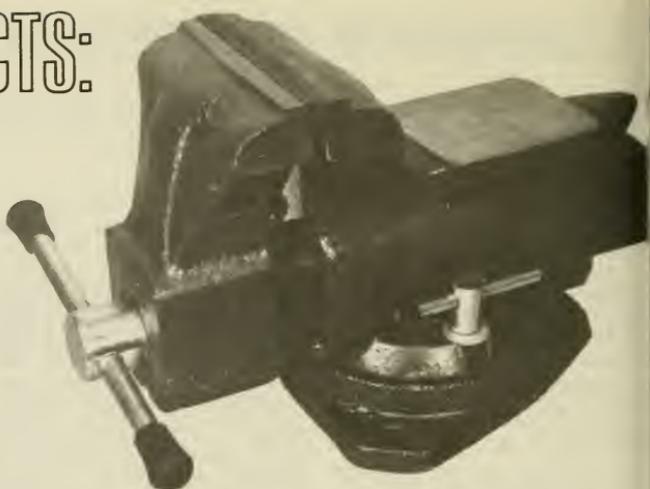
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For additional information, contact the Allis-Chalmers Corp. Agricultural Equipment Divisions, Parts Merchandising, Box 14329, West Allis, Wis. 53214.



Food For The Spirit



by Robert L. Clingan

A young minister looked at the huge crane at work demolishing the church in which he had once led his congregation in the worship of God. The building had been sold for an urban-renewal project, and the congregation had moved to a new church in the suburbs.

Watching the walls of the old church come tumbling down into heaps of debris was a soul-wrenching and heart-searching experience for the young man. He cried out within himself, almost in prayer. "What have I done? It was my leadership that made all this possible. Did I do the right thing? There are so many experiences wrapped up in that old building that is now tumbling down."

Yet a deeper insight might have made that young minister aware

that the forward-looking dreams and hopes of his congregation were included in the new life that was continuing to take shape. Perhaps then he could better understand some of the words and stories from the Bible. For example, the book of Hebrews in the New Testament, speaking of Abraham, says, "He sought a city without foundation whose builder and maker is God."

Or again, he might better understand the thinking of Stephen, who, before his martyrdom, stood before the temple-obsessed religious leaders of Jerusalem and said that God did not require a building made by human hands.

He might even have begun to understand those who criticize so much that is religious in American life by saying, "We have an edifice complex." He could then recognize that in rural communities, which so often are overchurched and underserved, the various congregations could get together and have a far more effective church life if they were not so attached to the separate buildings and the ancient memories.

Somehow, forward-looking hopes and dreams take priority over memories . . . and the kind of associations that relate to old steeples, brick walls, and mortar and stone.

Like Abraham of old, religious people of today must look for a city and church without the earthly foundations we know, but whose builder and maker is God. Old walls may fall, but the work of God . . . to which all people who acknowledge Him are called . . . goes forward. It finds new or different buildings to house its work and its worship.

If people will listen, they will hear Jesus say, "Behold, I make all things new."

OBITUARY

OTTO SALMI

A funeral service for Otto Salmi, 82, of Tremont St., South Carver, Mass., a retired cranberry grower, was conducted on October 7 at a Wareham funeral home. The Rev. Mariano Valkio, pastor of the West Wareham Finnish Congregational Church officiated. Burial was in Center Cemetery, Wareham.

Mr. Salmi died at his home after being in failing health for some time. He was a native of Finland and the son of the late Karl and Ida Wacker) Salmi. He had lived in Carver for 60 years.

Mr. Salmi leaves his widow, Anna H. (Palm) Salmi of Carver; three daughters, Miss Elsi Salmi of Wakeville and Mrs. Mary Korpinen and Mrs. Edna Bishop, both of Middleboro; three grandchildren and three sisters in Finland.

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Fresh, plump and tangy cranberries, in plentiful supply in markets right now, are just the perfect ingredient for a variety of delectable pies. And surely there is nothing more exciting to serve than a real home-made pie!

Pies are fun and easy to make, and if you haven't ever tried one, you're in for a happy experience. It really is a pleasure to create a special treat such as this for your family or friends. In fact, during the holidays, it might be a nice idea to make more than one. Think what a pleasure it would be to receive a perky pie as a Christmas gift, gaily wrapped of course. And, if you like, include a special card, with the secret recipe written on it.

"Cranberry Pecan Pie" is a tantalizing, sweet treat combining piquant cranberries and pecans. This pie is just as good when it's served warm as when it has been chilled. Have a bowl of whipped cream standing by so that everyone can top their own serving.

For flavor effervescence, the combination of fresh cranberries and pumpkin is a rare treat—and one all will relish. After a fine dinner whether it be beef, turkey, or pheasant, "Cranberry Pumpkin Pie" is a superb idea. It too can be enjoyed warm or chilled, and a topping of whipped cream sprinkled with cinnamon will add to its autumnal glow.

And, last but not least, "Cranberry Pie-Lets" are a super idea. Consider what fun it would be to serve each person with their very own miniature pie—as easy done as said. Simply use small 4-inch tart pans. This very pie-perfect recipe combines fresh cranberries with nuts and chocolate for a dessert with finesse. Your pie-lets are equally delectable served warm or chilled.

Recipes courtesy of Ocean Spray Cranberries Inc.

CRANBERRY PIE-LETS

(Makes 6 - 4 inch tarts)

- 1/4 cup melted butter or margarine
- 3 cups fresh cranberries, rinsed and drained
- 1/2 cup chopped nuts
- 6 tablespoons sugar
- 2 squares (2 ounces) unsweetened baking chocolate
- 1/3 cup vegetable shortening
- 2 eggs
- 1 cup sugar
- 1 cup unsifted all-purpose flour
- 1/2 teaspoon baking powder

CRANBERRY PUMPKIN PIE

(Makes 1 - 9 inch pie)

- 2 cups canned or cooked mashed pumpkin
- 1/2 teaspoon salt
- 2 cups milk
- 2 eggs
- 1/2 cup sugar
- 1 teaspoon each cinnamon and nutmeg
- 1-9 inch unbaked pie shell, with high fluted edge
- 1/2 cup finely ground fresh cranberries (use a blender)
- 1/4 cup sugar
- 1 cup (1/2 pint) heavy cream, whipped

In a bowl mix pumpkin, salt, milk, eggs, 1/2 cup sugar and spices until well blended and smooth. Pour mixture into pie shell. Bake in a preheated hot oven (425°F.) for 40

to 45 minutes or until a knife when inserted in center comes out clean. Cool pie on a rack. When ready to serve, in a bowl mix cranberries and 1/4 cup sugar and let stand 10

minutes. In a bowl whip cream until stiff. Drain cranberry mixture and fold into cream. Spoon mounds of cream over the top of the pie. Serve at once or chill until ready to serve.

Divide butter equally between 6 tart pans. Top each with 1/2 cup cranberries, some nuts and 1 table-

spoon sugar, then level mixture. In a saucepan melt chocolate and shortening. Remove from heat and stir in eggs and 1 cup sugar. When

well blended, stir in flour and baking powder. Spoon chocolate mixture evenly over cranberry mixture dividing the dough between

the 6 tart pans. Place tart pans on large cookie sheet for easier handling. Bake in a preheated moderate oven (350°F.) for 30 to 35 minutes

or until puffed and firm. Serve warm or cold topped with small scoops of vanilla ice cream or whipped cream.

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CRANBERRY PECAN PIE

(Makes 1 - 9 inch pie)

3 cups fresh cranberries, rinsed and drained
1-1/2 cups sugar
1/2 cup water
1/3 melted butter or margarine
4 eggs, well beaten

1 can (8 ounces) pecans
1 unbaked 9 inch pie shell with a high fluted edge

In a bowl mix cranberries, sugar, water, butter and eggs. Stir until well blended. Stir in pecans. Pour

mixture into pie shell. Bake in a preheated moderate oven (375°F) for 45 to 50 minutes or until firm to the touch in the center. Serve warm or cold. Can be served with whipped cream, if desired.



New Lisbon it was the first month of the past six which was not wetter than normal. For the year the accumulated total precipitation as of August 30th stands at 36.84 inches which is about six inches more than normal for the first 8-month period.

Temperatures of 105 to 110 degrees on sandy bogs in early August caused severe sun scalding in some localized areas. Most growers are reporting much more rot damage than normal and this may appreciably reduce the New Jersey crop this year.

MAINE BLUEBERRIES

Persistent hot, dry conditions during July and August lowered prospects for the 1975 blueberry crop to the smallest crop since 1970. Growers currently anticipate the Maine crop to total only 64 percent of 1974 or approximately 11,900,000 pounds.

Over the entire state berries average medium size and good quality; however moisture stress has reduced both plant vigor and yields. Harvest began August 8 in southern areas, while raking became general in Washington county by August 10.



AGRICULTURE NOTES

Continued from Page 13

Eastern Europe drought has eased, but not yet ended, in Albania, East Germany, and Poland.

Good harvest weather has prevailed as a rule in the USSR, but some spotty crop damage resulted from early frosts. Summer rains continued in Africa's Sahel and, although variable, they were mostly adequate.

The majority of oil and gas deposits that are still untapped are on U.S. Government owned land. Therefore, each month the Government holds monthly drawings on parcels in many states. Anyone can submit a ten dollar entry fee and participate in these monthly lease drawings and perhaps, become a millionaire literally overnight. Others already have.

"While most people have never heard of this great opportunity to reap a fortune," asserts Jonathan Stevens, assistant to the Director of Research Sciences, Inc., a firm headquartered in Washington, D.C. with affiliated offices in New York and Santa Fe, New Mexico, "many Americans with little money, and little or no knowledge of the oil and gas industries have won valuable leases on rich mineral lands for which large energy companies have paid considerable advance cash plus royalties."

These legal lotteries are conducted monthly by Uncle Sam, and any U.S. citizen 21 years of age or older can enter as many times as he or she wants. Some citizens file 20, 30—as many as 50 cards a month.

"What's beautiful is the fact that an ordinary citizen has as great a chance to win the lease as any major oil company. Everyone must file entries for drawings with the U.S. Interior Department's Bureau of Land Management. And no one can file more than one entry for each land parcel offered. Indicative of our faith in specific lands recommended by our consultants," adds Stevens, "is that we offer to purchase any such lease won by our subscribers at a specific price, and even advance the first year's rental whether sold to us or to an oil company."

The drawings have been conducted by the U.S. Government since 1960 and many average citizens have won the rights to valuable leases that were then sold to major oil companies for substantial pay-offs.

While some people have become millionaires, many have received up

to \$20,000 and even \$200,000 and more... it all depends on the particular properties won. Generally, they're worth much over \$5,000.

Because these drawings are little known, the chances of winning lease rights are as high as 1 in 200 compared to 1 in 25,000; often, a poor as 1 in a million for many state lotteries offering much smaller payoffs.

Since much of the lands offered by the U.S. Government for leasing have little salable oil value, the firm's affiliates recommends to subscribers a list of mineral lands which have the greatest potential for profit. They're so sure of their recommendations that they agree to purchase any leases subscribers win. "In this way," says Stevens, "our people are kept informed of properties whose leases are salable, and their chances for making money increases considerably."

Who have been some of the winners in this U.S. Government Lottery? A man in El Paso sold his lease rights to an oil company for \$100,000 cash advance plus overrides, which to date has brought a return in excess of \$1,000,000. A couple in Jacksonville, Florida netted \$2,000 on a lease on a smaller property, while a Reno, Nevada couple hit the jackpot on a gas producing lease to the tune of \$200,000.

Stevens emphasized that this is basically a lottery... winners based on drawings supervised by the Government... rather than a sure-fire scheme to become an instant millionaire. However, the odds are very favorable for the small investor, and the potential winnings can be substantial. To further explain this system, Mr. Stevens' firm has published an information packed booklet which it intends to sell for \$2.00, but they'll send a copy free to readers who are interested. Simply send a postcard or letter requesting it to Research Sciences, Inc., Dept. E, 422 Washington Building, Washington, D.C. 20005

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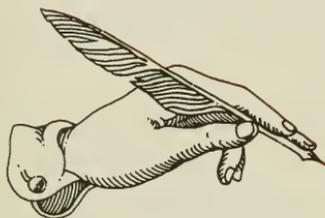
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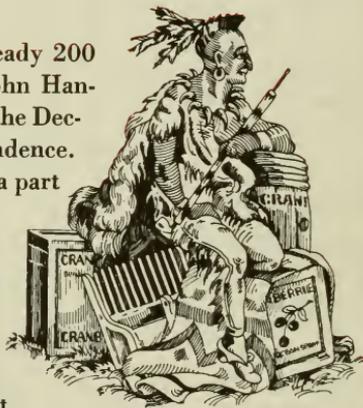
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The 400 year old cranberry



Cranberries were already 200 years old when John Hancock was signing the Declaration of Independence. They are definitely a part

of our country's heritage, for they have the distinction of being a berry native to North America. The American Indian made use of the cranberry not only as a fruit, but also for dyeing their blankets and rugs. Cranberries were originally called "Crane-berries" because



the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-



berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



OCEAN SPRAY—the cranberry people.

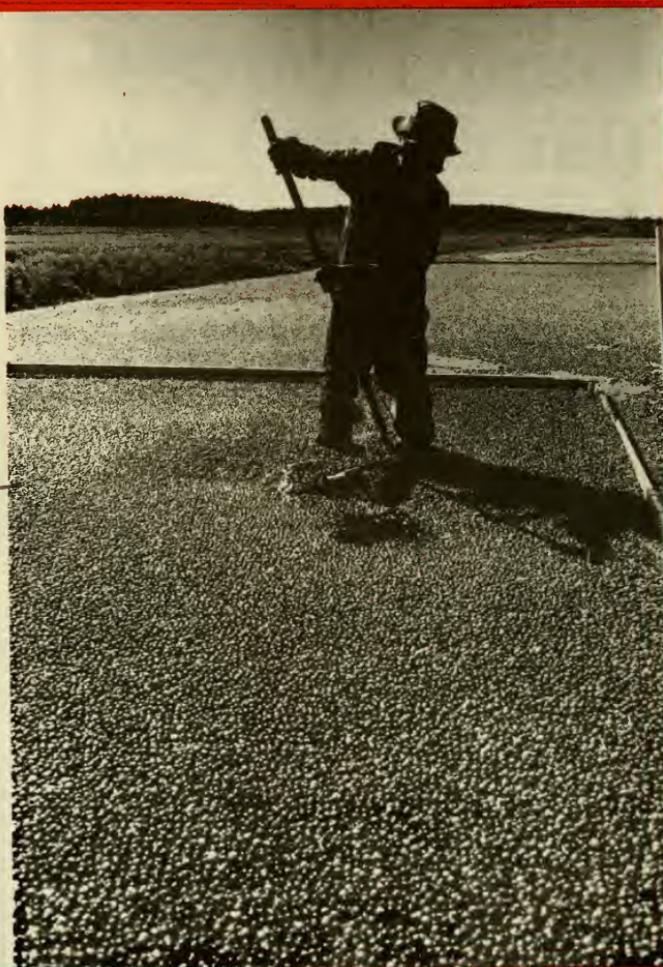
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REGIONAL NEWS NOTES**WASHINGTON**

Azmi Shawa attended the Ameri-
can Society for Horticultural Sci-
ence Meeting in Honolulu, Hawaii,
from September 8 to 14. Azmi
presented a paper on the response
of cranberry bogs to Sulfur-coated
Urea.

General harvest in the Grayland
area began September 29. The
weather has cooperated for dry
picking with no rain except a very
small amount on the 28th. Harvest
in the Long Beach area will not get
underway until October 13 with a
few starting the week previous.
Right up to the 2nd of October it
looked like a short water harvest,
but the 3rd brought a deluge of .92
inches.

September temperature was very
near normal. Maximum tempera-
ture was 89 degrees on the 13th at
Grayland and 92 degrees on the 6th
at Long Beach. Minimum recorded
on the 29th at Grayland was 39
degrees, and 40 degrees minimum
recorded at Long Beach on the
26th and 27th.

Precipitation totalled .22 inches
at Whiffletree Farm and .27 inches
at Long Beach Experiment Station.
There was measurable rain on only
2 days at the Station, and 4 days at
Grayland with .08 on the 28th as
the largest at Grayland and .20 on
the same date at Long Beach. The
Long Beach area is 18.22 inches
behind 1974 for the same period.

mm and attained the amount of
101.9 mm. Heavy rains in early
October have also helped to reduce
the effects of the long summer
drought.

Local and imported fresh berries
are both available in all supermar-
kets.

Our publication *Growing Cran-
berries* Publication 1282 is now
available in French under the title
La culture des canneberges and
copies may be obtained by writing
Agriculture Canada, Information
Division, Sir John Carling Building,
930 Carling Avenue, Ottawa, Onta-
rio, K1A 0C7.

August was very dry in Nova
Scotia with only 18.3 mm of rain
compared with the 50-year average
of 90.4. Some of our smaller
growers lost their crop during this
prolonged dry spell which carried
on into September. We had light
frosts on the nights of Sept. 15 and
16. Berries are of good color as of
Sept. 18 and harvesting should
commence within a few days.

NEW JERSEY

September was cool and very
wet. Five consecutive days of
excessive rain from the 23rd to the
27th caused damaging floods in
some areas of New Jersey. Ironi-
cally the rain replenished the cran-
berry reservoir water shortage
brought about by a dry August and
early September while it induced
suffering of our neighbors to the
north.

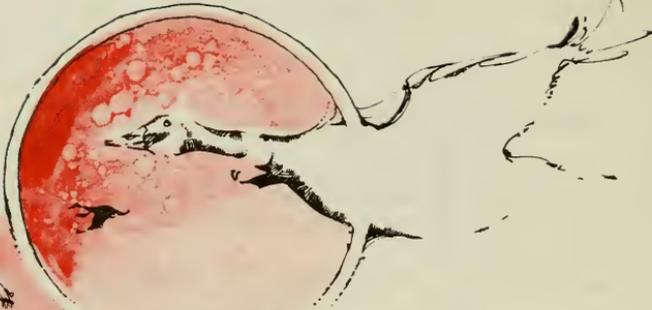
The average temperature was
64.2, well below the normal of
68.7. There were some unusually
early frosts on cranberry bogs. Bog
temperatures below freezing oc-
curred at Whitesbog on September
3rd, 10th, 14th, 15th. The low was
26 degrees F on September 15th.

*Continued on Page 20***NOVA SCOTIA**

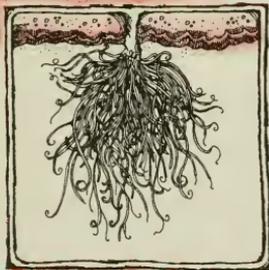
September weather was close to
the 50-year average so far as
temperature was concerned. The
mean for the month was 14.5 C
compared with the 50-year average
of 14.3. Rainfall fortunately ex-
ceeded the 50-year average of 87.6

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Mass. Cranberry Station Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Chester Cross attended an Environmental Protection Agency Workshop on registration and labeling of agricultural chemicals held at Philadelphia on Sept. 3rd and ct. 1.

Harvest

General harvest began on September 12, with some growers starting as early as the 9th. Berry color was very good from the beginning this year and we must go back to 1964 to find any year as good so early in the season. Quality has been fairly good overall but waxy from bog to bog. Size was small for the first week or ten days but then improved. We lost nearly a week from rain late in September, but had some long picking days before and after to keep us on schedule. Early Blacks were about all harvested by early October and some Howes were being harvested as early as September 30. There was only one frost warning in September—on the 14th, with temperatures ranging from 25 degrees on; no damage. Many growers are complaining of not meeting their estimates, some as much as 10 to 20% off. Crop may be down 50,000 barrels or more from the August estimate.

Market Report

The first cranberry market report for fresh fruit was released on September 22 from the U.S.D.A. Agricultural Marketing Service under the direction of John O'Neil in Boston. This will be the 22nd season that these weekly reports are prepared for growers and

shippers. The reports include current information on the movement of fresh cranberries by rail and truck, price and terminal market conditions in the leading cities in the United States. Those who wish to continue receiving this report should return the necessary form to Mr. O'Neil. Anyone interested in the report may receive it by writing to the United States Department of Agriculture, Agricultural Marketing Service, 34 Market St., Room 10, Everett, MA 02149, requesting that his name be added to the cranberry mailing list.

Weather

September temperatures were cool, averaging 1.8 degrees a day below normal. This was the coolest since 1967. Maximum temperature was 79 degrees on both the 5th and 26th and the minimum was 37 degrees on the 15th. The only warmer than average days were on the 5th and 26th. Cool periods occurred on the 3rd, 13-16th, 18th, 23-25th and 27-28th.

Rainfall totalled 7.24 inches which was 3.4 inches above normal. There was measurable rain on 13 days with 2.68 inches on the 23rd as the largest storm. Rainfall from the 23-26th was 4.93 inches. This was only the 6th wettest September in our records. We are now about 2-3/4 inches above normal for the year to date and nearly 8-1/2 inches ahead of 1974 for the period.

Late Fall Management

The following suggestions on late fall management are offered to the growers for their consideration.

1) Woody plants such as hardhack, meadow sweet and bayberry should be pulled out after harvest, this will greatly improve the picking operation next season. 2) A potato digger can be used in the shore ditches to pull out runners of small bramble, Virginia creeper or morning glory which may be crossing the ditch from shore. 3) Casoron can be applied at the rate of 75-100 pounds per acre for control of loosestrife, aster, mud rush, needle grass, summer grass, cut grass, nut grass, marsh St. Johns Wort, ragweed, blue joint, sphagnum moss and wool grass. Casoron should be used in cold weather (after November 15) preferably just before a rain. It is less likely to harm vines that are healthy and vigorous. 4) This is an excellent time to rake and/or prune the bog, also do not forget the trash flood on dry harvested bogs where water supplies are available. These are very valuable practices that will keep the bog in shape for peak production next year. 5) Any bog that has not received sand for the past three years or more, should be sanded as soon as possible, preferably this winter. Sanding, pruning and raking should be postponed until next spring on those bogs that do not have water for winter protection because the vines are more susceptible to winter injury following these operations. 6) Areas with fairy rings should be treated with ferbam as recommended in the Insect and Disease Control Chart. 7) The fall casoron treatment followed by an application of kerosene-stoddard solvent in the spring is very good for control of blackberry and fresh meadow grass and is quite helpful in controlling running bramble.

BUTZ FEARS BIG CO-OPS SUCH AS OCEAN SPRAY

Agriculture Secretary Earl L. Butz says "If you want to sell cranberries in Massachusetts, then you go through Ocean Spray. There is no other way to do it."

Butz was speaking about monopolistic farm cooperatives recently to an agribusiness class at Harvard's Graduate School of Business, noting that "the co-ops have gotten pretty big.

"They've abused this power, most recently as we saw in the case of the American Milk Producers Inc. I personally feel a cooperative monopoly can be just as bad if not worse than a proprietary monopoly."

Butz said there are places in North Dakota where if a farmer wants to sell his wheat he almost has to sell it to the Farmer's Union National Grain Terminal Association in St. Paul. . . . "for they have gobbled up all the private elevators along the Milwaukee and Northwestern railroads.

And, if you want to sell cranberries in Massachusetts, then you go to Ocean Spray. There is no other way to do it."

But Ray A. Goldberg, Harvard agribusiness professor, pointed out to Butz that Cumberland Farms recently purchased a number of cranberry holdings on the South Shore.

Butz noted the remark and continued.

"Ocean Spray got 85 per cent of the cranberries. I don't think they've abused it . . . but the opportunity for abuse is there. I've told cooperative people the best way to keep them honest and keep their competitive is a good proprietary business on the next block.

"To the extent (cooperative monopoly) abuses have happened they should be investigated. don't mean all cooperatives as a class though, because they've been very useful."

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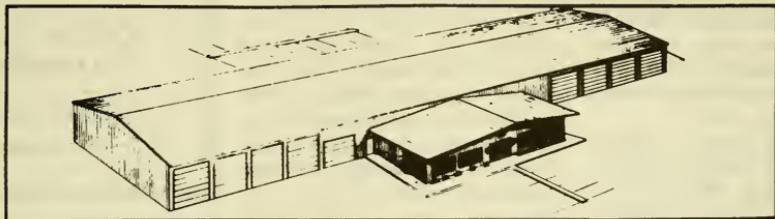
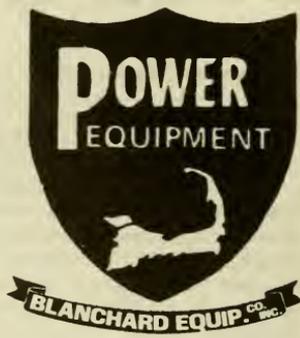


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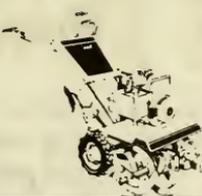
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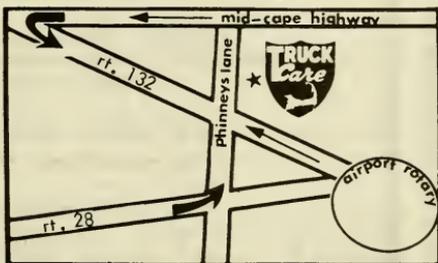
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Food For The Spirit



by Robert L. Clingan

The Communication of Faith

Jesus once said, "When the Son of Man comes, will He find faith?"

A popular writer of the thirties once said that religious faith is always two generations from extinction. Unless that faith is shared with and communicated to the children and grandchildren of this generation, there will be no faith in the third generation.

It is no wonder that the Israelites who were welcomed into Egypt by Joseph were made into slaves by—in the words of the scripture—"a generation that knew not Joseph."

Two of the primary means of communicating faith are symbols and story-telling. Symbolic acts communicate our understanding of ourselves, of what we believe and what we understand life is all about. For the Buddhist, the central symbol is the lotus flower; for the Muslim, the crescent; for the Jew, the Star of David; and for the Christian, the cross.

A symbolic act that has the power to move the congregation in the synagogue is removal of the Torah from the Ark of the Covenant. For the Christian, it is receiving the bread or wine . . . the eucharist, or Lord's Supper.

Sensible Rules

The symbols and symbolic acts derive their meaning from the sacred stories from which they come. The Ten Commandments make sense as rules for living together for people in any society. They come to us with power . . . not just as practical rules but as the requirements of God, as reported in the story of Moses bringing his tablets of stone from the mountain-top where he had talked with God.

For the Christian, the Lord's Supper finds its power as the story of Jesus' last supper with His disciples the night before His death on the cross. The bread not only represents His body broken for mankind, but the words He said at that meal: "As often as you do this, do it in memory of Me." To remember Him is to remember His story . . . His life, death and resurrection.

The primary communicator of faith is the person and the life he lives, and how well his life reflects his understanding of himself and what life is about. To be our best selves, as communicators of the faith, we need to constantly renew our faith through attention to symbols, symbolic acts, and reading and listening to the sacred stories from which our faith has come.

The focal point of symbols, symbolic acts, sacred stories and personal commitment is the worship of that community of faith that means the most to each of us. How long has it been since you joined in the worship of your community of faith?

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DRAINAGE DITCHES: A BATTLEFIELD

Farmers want no part of drainage ditch rules

by Richard C. Kienitz
Journal Madison Bureau



Nothing riles a farmer more than someone telling him how to use his land, especially if it's the Department of Natural Resources.

Such an irritant cropped up last fall when two opinions by the attorney general's office declared that most farm drainage ditches to be navigable waters and subject to DNR regulation and shoreland zoning ordinances.

In central Wisconsin where some of the larger drainage districts are, this generated reactions like that of Wisconsin Rapids cranberry grower and cattle man Mel Potter. "We don't need anyone from down at Madison to tell us what is best for us," he said.

Portage County zoning authorities forced the issue by deciding to apply their shoreland zoning ordinance to the 53,000 acre Portage County Drainage District. The public hearing in May was a hornet's nest.

Having the ditches declared navigable "is not in the public interest," declared State Rep. Tommy Thompson (R-Elroy), responding to concern by members of the Little Yellow Drainage District in Juneau County.

So Thompson joined State Rep. Leonard Groshek (D-Stevens Point) and others in drawing up two bills to get farmers off the hook.

Exemptions Urged

One (A-797) would provide that a ditch in a drainage district would not be considered navigable if there was no navigable stream involved in the first place. The other (A-635) would exempt lands along ditches from floodplain zoning if they were not in the floodplain of a natural stream.

A hearing of the bills last week before the Assembly Natural Resources Committee filled the Assembly chamber with more than 100 farmers. Another co-author, State Rep. Laurence Day (D-Eland), declared that if the DNR was going to control land use along ditches, "they'd better start paying the damned taxes on it."

Farmers who paraded to the witness stand pointed out that some districts were 75 years old and had district commissioners making management decisions and collecting money to keep them clean.

"Why spoil a good thing?" asked Robert Steinke, chairman of the Town of Plover.

Louis Wysocki, Custer, argued that farmers often had to make drainage decisions in a hurry and that the DNR was not usually

equipped to issue permits in much less than 30 days.

Saved a Crop

Once, Wysocki said, he and his brother had to quickly dig a channel with shovels to move out some water. "It saved the crop, but if we had to wait for DNR we wouldn't have a crop."

"Give us back ownership of our land," said Mahlon Kirk, a Marquette County vegetable grower and director of the Wisconsin Muck Farmers Association. He proposed that the bills be amended to include all drainage ditches, whether in a district or not, because some large farms or groups of farmers built their own ditches without forming districts.

Robert Sweet, Stevens Point, who raises vegetables in the 17,600 acre Leola Drainage District, said 40 other states had drainage districts but that the only one other than Wisconsin that recognized navigability was the Dismal Swamp Canal Co. set up in 1737 by George Washington.

Sweet brought photographs showing ditches fully grown over and obviously not navigable.

Cecil Bender, Bancroft, chairman of the town of Pine Grove, reported that the Portage County district was started 70 years ago by Bradley Polytechnic Institute (now University), Peoria, Ill. Later, he said, depression era WPA crews put in 54 control dams on the 110 miles of ditch to help regulate drainage.

Nine Step Process

Dr. Douglas Rambach, a Wisconsin Rapids dentist who raises cattle in the district, said that if ditches were to remain in "navigable" status, it would take nine steps to get a permit to clean one, including approval of the county planning and zoning committee. He also said he would not be able to move his cattle across a ditch without building a bridge.

With floodplain zoning along ditches, said William Alexander, Necedah, Juneau County drainage commissioner, "you'd have farmers who couldn't build buildings."

James Kurtz, a DNR attorney, said the Legislature might exempt farms as a class from the shoreland rules on some ditches but he questioned if it could exempt those that actually were navigable because of the state's public trust over navigable waters.

But, he said, the Legislature might change the definition of navigability or set some simple alternative procedure for getting ditch dredging permits.

Asst. Atty. Gen. Theodore Priebe explained that navigability has never been defined by the Legislature, but that the Supreme Court had held that it would require being able to float a canoe or skiff during high waters in spring, a period estimated at 26 days.

Many farmers are worried that the DNR will be more concerned about fishing quality of the ditches than their drainage value when considering permits.

Kurtz said there was a difference of opinion in the agency over whether dredging hurt or helped fishing, but that the University of Wisconsin-Stevens Point was making a study of it.

William W. Russell, lobbyist for the State Association of Soil and Water Conservation Districts, said there was a great deal of mystery about how the DNR determined navigability. He said he wondered if the DNR ever let the landowners be

present when the test was being made.

Kurtz said the skiff rule made more waters navigable than a previous rule using a floating sawlog because most of a log submerged

—Milwaukee Journal



ACCENT AGRICULTURE

by Gail Hamilton

Wisconsin Farm Bureau Federation

What about the idea of a permit to plow? Or a permit to widen a ditch, or enlarge or drain a pond down on the farm?

This may not mean much to the urban dweller, but to farmers, who are the most independent businessmen in America, the idea is appalling.

But this could happen if a proposed federal regulation to expand the authority of the Army Corps of Engineers goes into effect. Early this year, in response to a lawsuit filed by a group of environmentalists, the U.S. District Court of the District of Columbia ordered the Corps to expand its authority to regulate the disposal of dredged or fill material in the waters of the United States.

Up until the lawsuit, the Corps of Engineers exercised authority only over navigable waters under the Federal Water Pollution Control Act of 1972. The proposed regulation would put the Corps smack in the middle of every pond and puddle in the country.

Perhaps not intended, the result of the regulation would keep a weather eye on anyone contributing to drainage water flowing into a stream. The theory is probably good, but the result is too

far-reaching, according to agriculturalists who have examined the proposal.

Farmers say the court has misinterpreted the meaning of the Water Act. When the lawsuit indicated a lack of vigilance in regulating the developers and builders use of wetlands, contained in the Act, the Corps responded by announcing "federal permits may be required by the rancher who wants to enlarge his stock pond or the farmer who wants to deepen an irrigation ditch or plow a field."

Violation of the Act carries a fine of up to \$25 thousand per day and imprisonment.

Secretary of Agriculture Earl Butz called the action "a dangerous extension of the long hand of the federal government into the affairs of private citizens." He also mentioned "harassment" of farmers and ranchers trying to grow our nation's food supply.

This is just another example of over-zealous application, the limitless expansion of the courts and bureaucratic officiousness. Now, if you think these are strong words, you should have heard some of my farmer friends.

So load your muskets, men, the 'feds' are coming!

New Source of Ethylene Discovered From Cattle Manure



Beef cattle manure, long a major pollution problem for the animal feedlot industry, has been discovered to yield significant amounts of ethylene, an important product derived from petroleum or natural gas. This discovery was made at Texas Tech University while the researchers were working on a research project supported by the U.S. Environmental Protection Agency's agricultural waste research program at the Robert S. Kerr Environmental Research Laboratory, Ada, Oklahoma. EPA provided 73 percent of the \$108,000 project. Additional funding was supplied by Pioneer Natural Gas Company of Amarillo, Texas, and the Texas Cattle Feeders Association.

Ethylene is the backbone of the plastics industry, which provides a large variety of conveniences and necessities for the American people, such as easy-care fabrics, toys, food wraps, and parts of automobiles. The process, which with minor adjustments can be made to produce anhydrous ammonia synthesis gas, also produces quantities of methane and ethane along with the ethylene. Synthesis gas is used in the manufacture of fertilizers, while methane and ethane are major components of natural gas used for fuel. The researchers, Dr. James E. Halligan, Chairman of the Texas Tech Department of Chemical Engineering, Dr. William J. Huffman, also of the Department of Chemical Engineering, and Roger Paterson, a

graduate student, advise that the process is still in the developmental stage, and that additional data collection and analysis are necessary to establish its commercial feasibility.

Dr. Halligan began his research with the intention of showing that feedlot waste could be converted into synthetic gas used for the production of anhydrous ammonia fertilizer. "It was a pleasant surprise to me when we discovered we were getting significant amounts of ethylene," he said, "and I knew it was important to repeat the lab tests on a larger scale to be sure." R. Douglas Kreis, EPA project officer from Ada, said he sees possible future adaption of the process to include other animal wastes, municipal refuse, and other organic solid wastes as feedstock for the production of ethylene.

Assuming a realistic value of ten cents per pound for ethylene, a conservative estimate of the value of the ethylene production from manure produced from a 100,000-head feedlot in the Texas high plains alone is around \$1.8 million per year, Kreis said. There are an estimated four million beef cattle in the Texas high plains. Each

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beef animal in this area will produce about one ton of dry manure per year, he explained. Ethylene could be produced at the rate of 180 pounds per ton on the basis of data collected by the Texas Tech researchers. A commercial operation capable of processing manure from 100,000 head could produce about eighteen million pounds of the gas per year. There are an estimated twelve to fourteen million tons of cattle manure produced in feedlots annually in the United States. The objective of continuing research, he added, is to improve the process to increase the yield of ethylene.

Dr. Halligan said that evidence, to date, indicates that the process appears to be economically feasible for large concentrations of feedlots, and the engineers said their recommendation would be to place the ethylene production plants at the feedlot, because it is easier to ship the gas by pipeline rather than transport the manure. The most attractive option, he said, would be for the operator to feed the gas directly into a pipeline already in existence for ethylene transport. Dr. Huffman explained that the production of ethylene depends upon a time-temperature factor put into the reactor. "In the reactor, we have achieved a different time-temperature history of both solids and gas—different from that of others who have experimented with similar processes. This allows us to generate significant quantities of useful petro-chemical intermediates."

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Record World Sugar Crop to Exceed Consumption

Encouraged by high returns last season, the world's sugar-producing countries mustered all their forces this season to produce what could be the biggest outturn in history. World sugar production in the 1975/76 sugar year, which ends May 1 and includes all harvests started by that date, is targeted at 84 million metric tons—5 million over the 79 million produced in 1974/75.

Despite the almost-assured record, however, no oversupply of sugar is in prospect. Sugar consumption, depressed by high prices last season, has bounced back and in some cases is again on the uptrend. At about 82 million tons, world consumption could run about 2 million tons below production, thereby allowing some buildup in world carryover stocks, which stood at a rather low 15 million tons at the end of last season.

As the supply-demand situation eased and other market pressures relaxed, sugar prices in 1975 have fallen sharply below last season's sky-high levels. As a result, farmers are not likely to be nearly as enthusiastic about increasing their plantings in 1976. In coming months some further price fluctuations and market adjustments are likely, but all in all the world's sugar situation should again be reasonably stable.

One unknown still remains in the equation, however. Crop estimates still depend on favorable weather for sugar-beet harvests this fall and for cane harvests, which begin about the first of 1976. If weather cooperates, both beet and cane sugar production are slated to rise substantially in 1975/76, since acreage has been expanded in virtually all producing areas.

With only two exceptions, countries producing more than a million tons of sugar annually will chalk up outturns at least as large as last year. The exceptions are Argentina

and Brazil—both hard hit by damaging frosts in July. The Brazilian States of Parana and Sao Paula, especially, suffered severe crop injury, so that Brazil's sugar output could decline to 7 million tons, compared with 7.4 million in 1974/75.

The United States was one of the countries reacting to last year's sugar shortages and high prices by increasing plantings. Harvested acreage of sugarbeets seems headed for a dramatic gain of 24 percent, while harvested sugarcane acreage could be 6 percent above last year's. Cane acreage expansion was particularly notable in Florida, Hawaii and Texas, while Louisiana showed little change. U.S. sugarcane yields are also apt to be sharply higher than those of 1974, when frost that swept across Florida and Texas lowered yield there.

Following suit, U.S. beet sugar output is likely to record a healthy 700,000-ton increase over the 2.7 million tons produced in 1974/75. The advance is expected despite floods that dampened production prospects in the Red River Valley in early July. Some 28,000 acres in Minnesota and 6,000 acres in North Dakota were flooded at a time too late for farmers to replant.

Early reports from U.S. agricultural attaches and other sources point to sizable acreage and production advances in most major sugar-producing countries this season. In Europe, sugarbeet acreage expanded by 9 percent with the lion's share—17 percent—occurring in Western Europe, mostly in European Community countries. In Eastern Europe, a 5 percent rise in acreage occurred, about a third of this in the USSR.

Leading the Common Market's substantial advance in sugar output are France and West Germany, which expect to boost their production by 500,000 tons and 400,000

Continued on Page 12

Pesticide Products Cited as Human Health Hazards

EPA has issued a "notice of intent to suspend" the registration of pesticide products containing chlordane and heptachlor. The action, authorized by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), was taken to protect public health. These chemicals have been found to pose an imminent human cancer hazard. Chlordane and heptachlor are commonly used for home, lawn, and garden pest control. The only uses that have been exempted from the suspension order are termite control by ground insertion and the dipping of roots and tops of non-food plants. Use of both these chemicals had already been prohibited or severely restricted by state laws in all six New England states.

In November of last year, EPA issued a "notice of intent to cancel" the registration of these chemicals. At that time, the Agency cited data confirming the persistence of these chemicals in human tissues, including stillborn infant tissues and human milk. EPA also cited studies showing that chlordane and heptachlor caused cancer

in test animals. Under procedures prescribed by FIFRA, Velsicol Chemical Corporation of Chicago, Illinois, the sole United States manufacturer, representing itself and numerous formulators, who formulate, package, and sell the chemicals under various brand names, requested public hearings to contest the cancellation notice.

As part of the recent suspension action, EPA Administrator Russell E. Train noted that during the eighteen months required to complete the cancellation hearings, more than 38 million pounds of heptachlor and chlordane are likely to be released into the environment. In view of the potential hazard of such a release, and of the new evidence which confirms and heightens the cancer hazard posed by these chemicals, the Administrator determined that these pesticides constitute an imminent public health hazard and suspended their registrations. In announcing the suspension, Mr. Train also cited the following findings regarding chlordane and heptachlor and human health: (1) new human tissue

studies show that heptachlor epoxide and oxychlordane—metabolites formed when heptachlor and chlordane enter the human body—were present in 97 and 98 percent, respectively, of people sampled; (2) the Food and Drug Administration's market basket survey reports measurable amounts of heptachlor and chlordane found in 73 percent of all dairy products, and 77 percent of all meat, fish, and poultry products sampled; (3) in 1974, more than 7.5 million pounds of these pesticides were applied in and around the home by homeowners who may expose themselves, their families, and neighbors to these chemicals by direct contact with the skin, by inhalation, by contamination of clothing, and by ingestion; and (4) results of a number of new studies uphold previous findings that these chemicals do induce cancer in test animals.

There are approximately twenty formulators of chlordane/heptachlor products in New England, most of which are expected to appeal the suspension. Under procedures prescribed by FIFRA, the formulators will receive expedited hearings and a final ruling will be made before the end of this year. If the suspension order is upheld, there are a number of substances that can be used in place of chlordane and heptachlor for pest control. For lawns and shrubbery, acceptable substitutes which are widely available include carbaryl,

lindane, and malathion. For ticks on pets, substitutes include carbaryl, DDVP, and lindane. For ants in houses, substitutes include baygon, DDVP, and methoxychlor; for flies, DDVP and lindane; for roaches, baygon and malathion. The best way to find an acceptable substitute is to read the labels on

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SUGAR CROP

Continued from Page 10

tons, respectively. France's gain comes on top of drought in July and early August, which reduced the crop below earlier expectations. Italy and the United Kingdom will also show sizable production increases, and the other five EC countries, without exception, are all likely to increase their output of sugar.

As in other areas, the EC's larger sugar output is mostly a result of acreage expansion. EC countries, considered together, expanded acreage by 15 percent, with the surge led by Italy, which enlarged its sugarbeet area by a whopping 32 percent.

On the other hand, Soviet sugarbeet area edged up by only 2 percent this year. As a result of generally favorable weather, however, production could be an outstanding 12 percent above last season's. All in all, Soviet sugar production could swell by a million tons this season. Even so, imports are in prospect, which may originate from countries other than Cuba—in many years the sole Soviet supplier.

Weather conditions in Eastern Europe affected beet outturns there, and imports are likely to fill production gaps. Summer flooding in Romania reportedly destroyed about 75,000 acres, so that the 1975 crop will be some 90,000 tons below last season's, with total output only a half million tons. Consequently, higher sugar imports are in view for 1975/76.

Conversely, in Yugoslavia, conditions were good for the record 279,000 acres planted to sugarbeets. Planted area, however, was 15 percent below the Government's plan, so imports are still likely to be needed. Yugoslav sugar purchases in calendar 1975 could rise to about 150,000 tons, compared with the 111,577 tons imported in 1974.

Drought was a major scourge affecting cane crops in many areas this season. Since most occurred rather early in the growing period,



Photo by Wesley Ennis

the hardy cane plants often recovered or farmers were able to replant damaged crops. Drought was particularly severe in South Africa, Cuba and the Dominican Republic.

Sugar production in Asia and Oceania will show an increase this year, India had a very favorable 1974/75 season and a very large crop. Conditions continued good in 1975/76, so that the industry

intends to keep output at the same high level.

The Philippines will undoubtedly record a larger outturn than the typhoon-reduced 1974/75 crop. Prospects are also excellent in Australia. Australian sugar output for 1975/76 has been officially estimated at just over 3 million tons—an all-time record—but the final figure could go well above this.

EARLY CRANBERRY INDUSTRY THREATENED BY BLIGHT

CROWLEY SENT TO INVESTIGATE



by Rita Rega

The cranberry industry braved a very shaky beginning on the Long Beach peninsula in Washington. If Daniel Crowley hadn't been summoned by a group of discouraged growers back in 1922 to cure a mysterious "disease" that was wiping out the crop, there might be no agriculture of any consequence on the peninsula today.

The cranberry growers petitioned Washington State College in Pullman to rid them of a "terrible disease that was turning full blossoms black." At Pullman, the general consensus was that it probably wasn't a disease at all but just the wrong climate for cranberries. The dean of WSC sent D. J. Crowley, a plant pathology senior, to the peninsula to make a survey of the cranberry industry.

From June to September Crowley carefully scrutinized the situation and in his report he stated that the mild climate and peaty soil were well suited for cranberry cultivation and that he felt "we could help" the troubled growers.

At the time state senator, Percy Sinclair, who also was a banker in Ilwaco, introduced a bill requesting an appropriation for a man from the college to be sent to do research in cranberries and blueberries. The legislation passed and the governor signed the bill in 1923 and D. J. Crowley was appointed director of the new experiment station.

Dean Johnson accompanied Crowley in order to assist him in choosing the proper location for the Agricultural Experiment Station. They decided on the present site on Pioneer Road. Crowley reflected, "At the time there was no cleared land, and the road was

just a peat dike with planks on it to keep the automobiles from bogging down."

Pacific County purchased the land and \$8,000 was allotted for setting up the station, including Crowley's salary, for two years. Dr. Crowley was expected to write a bulletin every year to explain his work, the conditions he found and the results obtained. He had started experimenting in 1923 and by 1925 Dr. Crowley had discovered the huge cranberry losses weren't caused by a disease at all but by a frost.

Dr. Crowley said he had to do experiments at night with anything he could think of to find a remedy for the killing frost. He tried smudge pots to no avail because their rising smoke warmed the air high above the low lying vines and

Continued on Page 15

AGRICULTURE NOTES

Agriculture and Land Use Study Gets Underway in Massachusetts

A grant for the study of Massachusetts agriculture and land use has been awarded jointly to the Land Use Advisory Service of the Connecticut Watershed Council, Inc. in Easthampton, and the Conservation Law Foundation in Boston. The grant, totaling \$16,000, has been made by the Society for the Promotion of Massachusetts Agriculture, a private organization

founded in 1972. According to Frederic Winthrop, Jr., State Commissioner of Agriculture, and a Trustee of the Society, this award represents a first step towards

closer cooperation between agriculturists and environmentalists. A major goal of the project will be to identify possible areas of conflict between agriculture and current zoning law practices. It is anticipated that the study will yield recommendations for changes in certain state and local laws.

The research program will proceed in two parallel phases. In Boston, the Conservation Law Foundation will analyze the statutory and case law of Massachusetts and elsewhere concerning agricultural land protection and encouragement of farming activities. Alex-

andra Dawson of the Conservation Law Foundation staff will direct this phase of the research. Meanwhile, the Land Use Advisory Service will conduct an intensive survey of Connecticut Valley agricultural patterns and trends in the light of local zoning, floodplain

restrictions, and other legal constraints. This portion of the study will be directed by Rutherford H. Platt, Assistant Professor of Geography and Planning Law at the University of Massachusetts, and founder of the Land Use Advisory Service.

WORLD WEATHER

Farmers in North America took advantage of abundant sunny and mild days in September and October, and rapidly wrapped up harvest of many crops. Areas of drought are more limited than usual and unlike last year, frosts have caused only minimal damage to crops.

The lingering dry area of the southwestern U.S. Great Plains may portend the trend of weather for the Great Plains next season.

Southern Brazil received heavy rains in September, but the rainy season in central Brazil, where moisture is badly needed, is off to a slow start.

Good rains fell in interior sections of Argentina in September, but much of the eastern region remained dry.

Europe, for the most part, has had the type of fall weather it needed—adequate rain interspersed with dry, sunny periods. The rains, generally well above normal, eased the summer-long drought in Western Europe, while the dry periods favored harvesting and fall soil preparations.

September and early October have been exceptionally mild in Eastern Europe and much of the USSR, with temperatures above normal. Mid-October saw the first widespread freezes of the season in European USSR and the first sub-zero readings in Siberia.

Rainfall in Eastern Europe has been sparse. Some precipitation, including the first major snowfalls

of the season, was reported in mid-October.

Soil moisture remains critically low in much of the USSR. Soils will be freezing in a few weeks, so there is little time for improvement before next spring.

Dry weather in northeastern parts of the People's Republic of China (PRC) and adjacent Hoph Province has been beneficial for harvesting, but soil moisture is well below normal.

Grains. Northern Hemisphere harvests have proceeded under mostly favorable conditions. Frosts have caused little damage. Though there have been wet weather delays, particularly in the Canadian prairies, northern United States, and parts of the PRC, these have been

followed by extended dry periods.

There are no serious lags in planting winter grains although low soil moisture is a problem in much of the USSR, Poland, and East Germany, the western portion of the U.S. winter wheat region, and the PRC's Hopeh Province.

Soil moisture or water storage is exceptionally good, on the other hand, in Pakistan, India, and most of the PRC's winter wheat region. Moisture is also improved in Western Europe.

In the Southern Hemisphere, Australia continued to have the timely rains that have virtually assured good production of winter grains. These rains have also provided a good starting point for summer cereals.

The same is true for southern Brazil. Plantings have progressed slowly in central Brazil due to the late arrival of fall rains.

Rainfall has been insufficient for good growth and development of winter wheat in much of Argentina,

though Argentina's corn belt received much needed rain in September.

Oilseeds. Weather has been generally favorable for harvest of oilseeds throughout the Northern Hemisphere, though heavy rains have delayed progress in parts of the southern United States. Dry soil has held up planting of soybeans in central Brazil. The long, active monsoon rains have enhanced peanut prospects in India and West Africa.

Forage. Early fall rains improved forage prospects in Western Europe, though some Mediterranean areas remain dry. Eastern Europe has tended to be dry with little apparent harm to Yugoslavia, Hungary and Romania, where summer rainfall was generous.

Other crops. Weather has been mostly favorable in sugarcane areas, except for the droughts of central Brazil and the southern Caribbean. It has been an almost ideal fall in sugarbeet regions.

Northeast Leads Gas Savings

So far this year, New England leads the nation in conserving gasoline, according to a recent report by the Federal Energy Administration (FEA). The report says that gasoline consumption increased 2.5 percent, nationwide, during the first three months of 1975, compared with the same period in 1973. But in all New England states, consumption was down 4.7 percent.

According to the report, Rhode Island led the region with an 8.4 percent decrease in use of gasoline, and Maine was at the bottom with a 2.4 percent decrease in gas use during the first quarter of 1975, compared with the same time period in 1973. In between were: Vermont, with a 6.7 percent decrease; New Hampshire, with a 5.9 percent decrease; Massachusetts, with a 4.9 percent decrease; and Connecticut, with a 3.4 percent decrease.



EARLY INDUSTRY

Continued from Page 13

also the danger of fire to the highly combustible peat soil was too great to risk. For a time airplane propellers were employed to blow air over the bogs to prevent the heavy cold air from settling down but this was not always effective.

Then Dr. Crowley recalled the principle of latent heat he'd learned in physics class which proves that when water freezes heat is released. He decided to try it out on his experimental bog. With sprinkler can in hand he ventured out one

chilly night and wet down a small plot of cranberry vines. The next day he discovered the iced bog contained flourishing blossoms and the menacing frost had been tamed at last.

A major breakthrough in agricultural research, the sprinkler system for frost control was mentioned in Dr. Crowley's 1925 report for the first time anywhere. Today that system is standard equipment for commercial bogs all over the country.

Now that the sprinkler system had been invented the next step

was to increase the water supply since thousands of gallons were needed to protect the vast number of planted acres. Back in those days there were more cranberries planted than today because of the higher yield afforded by modern technology. Dr. Crowley contrived that if you dig a pond two feet deep adjacent to the bog and pump out the sand you could have a large enough water supply for frost control and irrigation. Dr. Crowley's concept is still in use today and

Continued on Page 20

NEW PRODUCTS:

11 Pin Stab Transistorized Timer Developed for Process Equipment Control

A new 11 pin stab base timer designed to meet the precision control and long term reliability demands of modern processing equipment is now available from Syracuse Electronics.

Designated Series TER-9, this delay-on-energization time delay relay features a high repeat accuracy of +1%, fast reset time of 100 milliseconds during timing and after time-out, and a wide range of time delays from 100 milliseconds to 8 minutes. Its 11 pin stab plug-in mounting insures durability in rugged usage and offers standardization for socket mounts. Reliability measured in mechanical output is 10 million operations.

Series TER-9 is suited to a variety of process equipment timing operations including controlling warm-up time, cooling and dissipating heat in systems using high intensity photo processing lamps, and turning motors on and off for program sequencing.

Input voltage is from 24 VAC to 230 VAC and from 12 VDC to 110 VDC. Allowable variation is 10% of nominal voltage. Series TER-9 operates at 50/60 Hertz and consumes a maximum of 2 watts power. Designed for DPDT use, the new timer has a contact rating of 10 amperes resistive at 115 VAC or 28 VDC. All units operate at -10° to $+60^{\circ}\text{C}$, and store at -20° to 85°C .

Special built-in circuitry protects the devices against transients up to double the line voltage for one full line cycle (repetitive), against surges up to 15 amps for one-half cycle (repetitive), and against inverse voltages. It also has a patented no-false-transfer-circuit that permits reset during the timing period without false transfer.

Series TER-9 comes either in adjustable (local or remote) or factory-fixed versions. It is in the \$32 to \$23 price range, and available on a normal 4 week delivery. TER-9 timers are recog-

nized under the Underwriters Laboratories Recognized Component Program.

Series TER-9 is a product of Syracuse Electronics Corp., P.O. Box 566, Syracuse, N. Y. 13201.



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Bulldog Model 260 Trencher

The Bulldog model 260 trencher for light construction work has been approved for application to the System 9020 tractor made by the Simplicity Manufacturing Co., a division of the Allis-Chalmers Corp.

Custom built to match capabilities of the 19½ hp System 9020, the trencher will dig three basic

trenches: 5 ft. deep and 4 in. wide, 3 ft. deep and 6 in. wide, and 3 ft. deep and 8 in. wide.

The equipment is fastened to the tractor by 10 bolts and can be mounted or removed in less than 10 minutes. The same hydraulic arrangements as used for other attachments are suitable for the

trencher. The trencher can be used in conjunction with such attachments as the Simplicity 60 in. front dozer blade and the new System 9000 front end loader and roll bar.

Three foot trencher booms are standard on the Bulldog units, and 1 and 2 foot extension booms are optional.



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LAND-USE PUBLICATION

A new publication entitled, *Land Use and New England's Environment*, is available from EPA. The publication recognizes that land use decisions we make today will have far-reaching environmental consequences in the future. It explains EPA's land use policy and the implementation of that policy. Free copies are available from: Public Affairs Division, U.S. Environmental Protection Agency, Room 2203, John F. Kennedy Federal Building, Boston, MA 02203.

Berry Bedazzling Victorian Style Thanksgiving

In 1864, over 200 years after the first Thanksgiving was observed by the Pilgrims, President Lincoln officially proclaimed this special day a national holiday. By then many states already celebrated the occasion, and turkey and cranberries were the heritage foods in recipes handed down in families from preceding generations.

When Lincoln set this date, the American lifestyle was very different from the austere character of the early settlers of Plymouth and other colonies. Victoriana was the key to fashion in dress, furnishings and in the culinary realm. Opulence reigned with rich brocades and velvets, silk tassels, rosettes, and swags appearing on everything from a lady's gown to her table setting. Elaboration carried over to dining. It wasn't at all rare for a dinner menu to offer up to fifteen courses, each elegantly garnished and presented.

Fortunately for our waistlines and our contemporary lifestyle, the Victorian era is past, but we still can recreate and partake of some of its enticing delights in a more modified manner. Here are some recipes, enhanced by cranberries, which might have been served at a Victorian Thanksgiving and can be as delectable today as then.

Recipes courtesy of Ocean Spray Cranberries

CRANBERRY STUFFED VICTORIANA

(Serves 10 to 12)

- 1 turkey, about 15 pounds
- Salt, pepper, poultry seasoning
- 1 loaf (1 pound) firm type white bread, cut into 1/2 inch cubes
- 1 package (8 ounces) brown and serve sausages, cut into 1/2 inch thick slices
- 1/2 cup butter or margarine, melted
- 1 large onion, chopped
- 2 apples, peeled, cored and diced
- 2 cups fresh or frozen-fresh cranberries, rinsed and drained or 1 cup cranberry-orange relish
- 1 can (13-3/4 ounces) chicken broth
- 1 cup orange juice
- 2 teaspoons salt
- Green grape bunches, parsley sprigs
- 2 cups fresh cranberries for garlands

Thaw turkey, if frozen and remove giblets. Sprinkle turkey inside and out with salt, pepper and poultry seasoning. In a large bowl mix bread, sausages, butter, onion, apples, cranberries, chicken broth, orange juice and salt. Mix to blend well and use mixture to stuff neck and body cavity of turkey. Sew or skewer openings closed. Place turkey in a shallow open roasting pan and roast in a preheated moderate oven (350°F.) for 4 to 4-1/2 hours or until drumstick can be moved un-

and down easily. If turkey becomes too brown cover parts as they brown with foil. Place turkey on a platter and surround with green grape bunches. Place cranberry garlands crisscross over turkey and around bunches of grape. To make cranberry garlands, simply use strong sewing thread and a needle. String cranberries through stem and string as you would beads. Make 2 strands up to two to three feet long. Keep cranberry garlands in refrigerator until ready to place on turkey. Add parsley sprigs.



CRANBERRY ELDERBERRY SAUCE

(Serves 10 to 12)

- 1/4 cup cornstarch
- 2 cups elderberry wine
- 1 can (1 pound) whole berry cranberry sauce
- Grated rind and juice of 1 orange
- Sugar to taste, about 1/4 cup

In a large saucepan mix cornstarch with elderberry wine. Stir in cranberry sauce, orange rind and juice. Stir over low heat until sauce bubbles and thickens. Stir in sugar to taste. Serve hot spooned over sliced turkey.

MOLDED BERRY BLANC MANGE

(Makes 1 - 2-1/2 quart mold)

- 1 package (3 ounces) lemon gelatin
- 1-1/2 cups cranberry juice cocktail, heated to boiling

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INTERNATIONAL CONSTRUCTION EQUIPMENT

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Home-tested, family-approved recipes like this one submitted by Mrs. Garretson, are particularly valuable, we feel. We hope Mrs. Garretson has started a new tradition in Cranberries that will be carried on by other cranberry families who are willing to share private cranberry recipes. We at Cranberries have tried this recipe and found it delicious indeed. Thank you, Ellen Garretson!

- 1 cup cranberry-orange relish
- 2 packages (3-1/4 ounces each) vanilla pudding and pie filling mix
- 3 cups milk
- 2 envelopes unflavored gelatin
- 1/2 cup water
- 2 cups (1 pint) heavy cream, whipped

Dissolve lemon gelatin in cranberry juice and stir in cranberry-orange relish. Pour mixture into a 2-1/2 quart mold and chill until almost set. Cook vanilla pudding according to package directions but use only 3 cups milk. In a bowl mix unflavored gelatin and water. When pudding is thick, stir in gelatin mixture. Chill until pudding becomes slightly thickened. Fold in whipped cream, carefully pour pudding mixture onto cranberry gelatin in mold. Chill until firm. To unmold, dip mold into lukewarm water, tap to loosen and invert onto a platter. Serve with lady fingers or assorted cookies, and top with a peak of whipped cream in the center if desired.

Gentlemen:

As the interested wife of a cranberry grower, I always read your magazine, right down to the recipes. Must admit that in seven years of reading, I have never seen one recipe that tempted me to try it. So I offer you an old family favorite, very easy to make, liked by even those who "don't like cranberries."

Maybe some other growers' wives would like to share their favorites.

Sincerely,
Ellen P. Garretson

GRANNY'S CRANBERRY PUDDING (Serves 9)

- 2 cups cake flour
- 1 cup sugar

- 2-1/2 teaspoons baking powder
- 3 tablespoons melted shortening
- 2/3 cup milk
- 1 egg
- 2 cups cranberries

Sift dry ingredients into mixing bowl. Add shortening, milk and egg. Beat 2 minutes. Stir in cranberries. Bake in 9 or 10 inch square pan about 40 minutes in a 350° oven.

Butter Sauce

- 1/2 cup butter
- 1 cup sugar
- 3/4 cup light cream

Melt butter in double boiler. Add sugar and cream. Mix well. Cook over hot water about 5 minutes, stirring occasionally. Serve hot over cake.



NEW JERSEY

Continued from Page 1

The low was 26 degrees F on September 15th. Temperatures as low as 23 were recorded on other bogs. Frost damage ranging from 5 to 20% occurred on some small properties where water was not available for flooding.

The total rainfall for the first nine months of the year at New Lisbon now stands at 45.65 inches. This is already about two inches more than the average yearly total and about 12 inches more than the normal January through September amount.

As of October first the reports from most growers indicate that the New Jersey crop will be a little lighter than the record 250,000 barrel production of 1974. Some small growers have record crops but the larger properties are running a little under last year.

There is now some indication that the severe hail storm of May 13th around Chatsworth caused damage to the cranberry crop. Bogs in the hail belt produced appreciably less berries than comparable bogs just outside the range of the hail.

WISCONSIN

October has featured beautiful fall weather to date with bright blue skies and mild temperatures. Farmers have been able to make excellent progress on fall field work. Harvesting of soybeans and corn for grain is currently underway as moisture content is considerably below a year ago. Rapid progress has been made on harvesting of corn for silage, potatoes, vegetables, and fruits. Those farmers in the north who have finished their crop harvest are cutting wood for winter and doing some fall plowing. Rain is needed in most areas to improve plowing conditions. September rainfall was below normal in all districts of the State but was especially light in the south. Temperatures for September

averaged about 5 degrees below normal as several nights were quite cold. Frost occurred in the extreme north on the 9th, in lowland areas on the 13th, and again on the 24th-26th. These frosts were generally light and did little damage to crops. The first hard freeze statewide came on October 2nd but most crops had reached maturity by then.

PESTICIDES

Continued from Page 11

available products and choose one which is designed to control specific pests, under conditions existing in your home or garden. Also, the Cooperative Extension Service can provide advice on choosing the right pesticide.

This suspension notice should not cause disposal problems for people with supplies of these products. Normal use of small quantities of these chemicals in accordance with label directions is an acceptable means of disposal. However, if you wish to dispose of rather than use remaining stocks of chlordane or heptachlor, you should not dump them into drains, sewer systems, streams, ponds, or other water supplies. Small quantities (less than five pounds or one gallon) may be wrapped in several layers of newspaper and disposed of through routine trash collection, or buried at least eighteen inches deep in places where they will not leach into water supplies. Larger quantities should be taken to state-approved sanitary landfills specifically designated for disposal of hazardous materials.

In conclusion, EPA emphasizes that although this suspension action was based on "imminent human cancer hazard," the major threat is the introduction of an additional 38 million pounds of chlordane/heptachlor into the environment. There is simply no need to panic about remaining supplies of these pesticides.

EARLY INDUSTRY

Continued from Page 15

some of these artificial ponds cover almost an acre.

Daniel Crowley was eighty years old this year and has been a retired director for twenty years. The inquisitive spirit which pervaded his life's work is an on-going tradition at the Coastal Washington Research and Extension Unit. Their latest development is an insecticide which enhances the color of the cranberry, giving it a mature appearance earlier, and which doesn't break down the quality of the fruit.

The little experiment station Dr. D. J. Crowley put together in 1923 has continued to be responsible for many innovations within the cranberry industry and has undoubtedly been a constant source of gratification for its founding father.

The Tribune, Ilwaco, Washington

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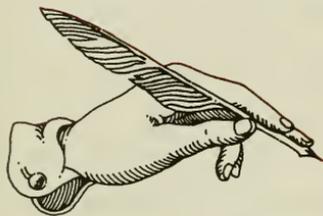
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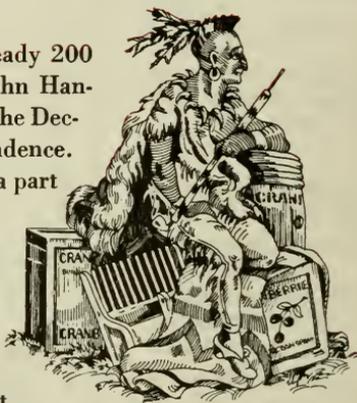
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the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-

berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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WASHINGTON

October precipitation totalled
16.16 inches, a record for the Long
Beach area since 1945 when records
began in the Unit Library. Grayland
area total was 15.69 inches, which
hampered dry harvest activities.
November continued to be wet
with 12.14 inches recorded at the
Coastal Unit with the greatest
amount in a 24-hour period coming
the 14th, 2.40 inches.

The high temperature for Octo-
ber came on the 1st in both the
Grayland area, 85 degrees, and
Long Beach 86 degrees. The low of
33 degrees applied for both areas
on the 22nd.

EPA Pesticide Education classes
will be held in January for all area
growers. The Long Beach members
will meet January 9th at 6:00 P.M.
for the approximately 4-hour class,
at the Coastal Unit. Grayland and
North Beach growers will meet
January 20th at 6:00 in the
Grayland Community Hall. The
Core Manual for Applying Pesti-
cides Correctly, a Guide for Private
Applicators, will be available from
the Long Beach Unit.

NEW JERSEY

Ideal cranberry harvesting
weather prevailed throughout most
of the month of October. Almost
balmy conditions persisted for long
periods with only occasional short
cold spells. Twenty days of maxi-
mum temperatures above 70 de-
grees F, with four above 80, were
recorded in the weather shelter at
New Lisbon. On the bogs in the hot
sun some harvest laborers divested
themselves of clothing and waded
in the warm water bare chested and
wearing only shorts.

Extremes in temperature were
85 degrees F on the 14th and 26
degrees on the 31st. The 85 reading

was the highest ever recorded on
this date. The average temperature
for the month was 60.2 F, about 4
degrees warmer than normal. It was
the third warmest October in the
last 45 years, exceeded only by the
62.5 record average in 1971 and the
60.9 average in 1947.

Rainfall was again excessive,
with a total of 4.22 inches, more
than a full inch above normal.
Through October precipitation has
been above normal in seven of the
10 months in 1975. The accumu-
lated rainfall stands at 49.87 which
is 13 inches above normal for the
10-month period and more than six
more than the normal annual total.

The New Jersey cranberry crop
was large, of good color and size
but will probably run about 5 to
10% lower than the record 250,000
barrel volume of 1974. A few
growers had record crops. One
noteworthy example is the Budd
property at Retreat which has been
in the same family for more than
100 years. Here the crop was about
15 to 20% larger than ever before.
Considerably more than usual fruit
rot and a little more damage from
sparganothis fruitworm contributed
to the state's decline in production.
Frost damage was negligible.

The past month was the warmest
November since 1948 and the
second warmest in the forty-six
year history of weather recording at
New Lisbon. The average tempera-
ture of 50.4 degrees F was only
0.40 below the record. The average
daily maximum temperature of
62.0 F tied the record set in 1941.

There were 19 days during
which the maximum temperature
went above 60 and eight days when
it was above 70. The extremes in
temperature were 80 degrees on the
8th and 26 degrees on the 1st. The
80 degree temperature recorded on
the 8th was not only a record for
this date but it was also the
warmest day ever experienced after

Continued on Page 16



Patrick M. McCarthy has been promoted to Vice President—Marketing, for Ocean Spray Cranberries, Inc., company President Harold Thorkilsen has announced.

Formerly Director of Marketing—Domestic, Mr. McCarthy will now be responsible for the total marketing efforts of all established Ocean Spray products within the U.S., including direction of product management, sales activities, and other related areas.

Mr. McCarthy joined Ocean Spray in May, 1968, serving as National Field Sales Manager and then Director of Sales before assuming his most recent post. His experience prior to Ocean Spray included sales management positions at Wilkenson Sword, Inc., Carter Products, Inc., and the Vick Chemicals Co.

A native of Walnut, Illinois, Mr. McCarthy holds a B.S. in Business Administration from Bradley University and now resides in Marshfield, Mass.

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Weather

November was very warm and very wet but did not set any records in either category. The month averaged 3.1 degrees a day above normal which made it the warmest November since 1963 but only the 7th warmest in our records. In Boston the month was the warmest in their history of over 100 years of record keeping. Maximum temperature was 73 degrees on the 4th and minimum 25 degrees on both the 1st and 23rd. Warm periods were 2-5th, 7-11th, 13th, 18th and 21st. Cooler than average days were the 15th, 23-26th, 28th and 29th.

Precipitation totalled 6.79 inches which is 2-1/5 inches above

normal. This was only good enough to give us a tie for 8th place in our records. There was precipitation on only 8 days, showing that the storms were fairly large. The largest was on the 12-14th with 3.18 inches. We are now 4-1/5 inches above normal for the year to date and over 15-1/2 inches ahead of 1974 at the same time. Snowfall was only recorded as a trace which is not unusual here, happening about two out of every three years.

Crop Report

The official crop estimate released by the Crop Reporting Service for November indicates that the Massachusetts crop declined dramatically from earlier estimates.

We are now estimated at 810,000 barrels down 140,000 from August. As noted last month there seems to have been several factors involved rather than one single catastrophe. Size of Early Blacks was off on many bogs, the extreme heat in early August blasted many small berries, Sparganothis fruitworm was

quite active on some bogs, weevil did its share, there was some late season scald and the quality was only fair. In the other areas, New Jersey at 225,000 was down 10,000, Oregon up slightly at

97,000, Washington down 13,000 at 130,000 and Wisconsin up 25,000 at 825,000. The national total 2,087,000, down 166,000 barrels. Note the Wisconsin total which surpassed the Massachusetts crop for the first time in history.

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OBITUARY

GERHARDT GETZIN

Services were held recently for Gerhardt A. Getzin, 64, of Wisconsin who died of a heart attack.

Mr. Getzin was born April 23, 1911, at Milwaukee, the son of Mr. and Mrs. William Getzin, and married Kathryn Mengel on Nov. 27, 1937. He was secretary and treasurer of F. F. Mengel Co. and owner-operator of Getzin & Mengel Cranberry Marshes. He was a graduate of the University of Wisconsin-Madison, majoring in mechanical engineering, and a member of Knights of Columbus, Elks Club, and Ushers Club at Our Lady Queen of Heaven Catholic Church.

Survivors include his wife; three sons, Patrick, Wisconsin Rapids; John, San Francisco, Calif.; and Gerhardt, Tacoma, Wash.; two daughters, Mrs. Patrick Daly, Wisconsin Rapids; and Mrs. Tom Christenson, Milwaukee; a brother,

Arthur, Sturtevant; a sister, Miss Helen Getz n, Sturtevant; and nine grandchildren.

FRANS H. JOHNSON

Frans H. Johnson, 77, died recently at his home. A resident of Chinook, Washington for many years, Mr. Johnson was a well-known historian, and was a featured speaker at many historical meetings in Pacific County. He was born Dec. 2, 1897 in Chinook.

He was a fisherman and vitally interested in fish propagation, and he was also a cranberry grower.

Several years ago Mr. Johnson was the curator at the Fort Columbia Interpretative Center. He was a past president of the Pacific County Historical Society, and of the Pacific County Pioneers.

Survivors include his wife, Pearl at home in Chinook; one son, Allen Johnson, of Portland, and three grandchildren.



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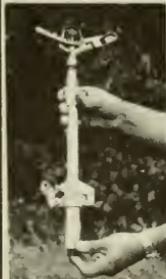
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MASSACHUSETTS FARMLAND VALUATION ADVISORY COMMISSION HOLDS HEARING FOR CRANBERRY GROWERS IN S. E. MASS.

Growers and Assessors Air Their Views About Current Assessment Values

A special meeting was held on Wednesday, December 17, at the Mass. Experiment Station in Wareham to "enable the Massachusetts Farmland Valuation Advisory Commission to acquaint themselves with the value of cranberry land and to receive concrete figures from growers on the costs of raising berries and recent sales of cranberry land," to quote Irving DeMoranville, secretary of the Cape Cod Cranberry Growers' Association.

The Commission was represented at the meeting by Ruth Kleinfeldt, Associate Commissioner in the Department of Corporations and Taxation; Frederick Winthrop, Commissioner of Agriculture in Mass.; Everett Martin, assessor in the town of Chester, Mass., and Dr. Arless Spielman, Dean of the College of Foods and Sciences at the University of Massachusetts.

Ms. Kleinfeldt was the primary spokesperson for the Commission and opened the meeting to questions from the large group of local cranberry growers and assessors present immediately after calling the meeting to order.

First to speak was Phil Good, executive Secretary for the Mass. Farm Bureau Federation. He set the stage for further discussion by reminding those present that the MFBF was the prime mover in the field of farmland assessment in the

state, and that the action taken by them had resulted in the Farmland Assessment Act, which was designed to prevent Mass. farmers from being "driven out of business by assessors who were rightfully doing their duty of fair and complete taxation."

The dilemma is that the tax board, which had originally set the value of cranberry land at \$500 per acre some years ago has presently settled it at \$1,000 to \$1,800, having come down from the recent high of \$1,800 to \$3,000. Growers generally feel that the \$1,000-\$1,800 range is too high to make cranberry growing a lucrative business and those present seemed to agree that the figure originally set by the board of \$500 is more reasonable. This figure agrees with that which was arrived at by the University of Massachusetts using figures from bog leases. Furthermore, an exhaustive study has just been completed by Martin Coleman, working with the MFBF and, according to MFBF attorney W. Macdonald, "the best appraiser in New England, possibly in the country," which resulted in the same \$500 figure.

Though the Commission made no comment on this figure, it was apparent that most of the local assessors who spoke at the meeting felt the \$500 figure was low and that the assessed values they had respectively arrived at were fair.

Leo Mestieri, assessor from the town of Wareham, opened his remarks with the comment, "I guess you've all been waiting for me, so here I am." Mr. Mestieri is presently a defendant in a suit brought against him by the MFBF and the Cape Cod Cranberry Growers Association who represent certain Wareham growers who feel that they were not granted the proper assessment of their bogland according to the Farmland Assessment Act.

"I'm not concerned with appraisers. I'm concerned with equity," stated Mestieri. "The Commission should come up with an excise so that each grower can pay the same amount." He quoted the assessments in three area towns as follows: Wareham; \$2,000 per acre, Barnstable; \$1,800/acre, Carver; \$1,000/acre.

"Where is the equity here?" queried Mestieri.

Winslow Macdonald, counsel for MFBF, pointed out that the Farmland Assessment Act was not aimed at resolving the question of inequity.

"The whole purpose of the Act is to give you (assessors) a means of taxing farmland in such a way as to encourage the farmer to stay in business and not sell out," continued Macdonald.

The question of an excise tax was put to rest when Deborah Ecker, Chief of the Bureau of Local Assessment, pointed out that there



is no provision in the Farmland Assessment Act for an excise tax and that a request for an excise would have to be directed to legislators, not the Commission.

Gilbert Beaton, a cranberry grower from Wareham, Mass., and Vice President for Grower Rela-

tions at Ocean Spray, gave a quick rundown of the decrease in productive bog acreage in recent years. "By 1990 there will be 6,300 acres left from the original figure of 14,480 acres of productive bogland in Massachusetts," said Beaton. His point was that cranberry growers

have been driven out of business by high town taxes.

Cranberry growers bring revenue into the state by purchasing Mass. produced equipment, providing employment, and so on. Beaton contended that the continuation of current assessments on bogland would not only be unhealthy for cranberry growers, but would hurt the state as a whole. His recommendation for assessment values were; upland, \$25; woodland, \$60; and bogland, \$500 per acre.

Dr. Chester Cross, director of the Experimental Station, addressed the Commission in his easy, persuasive style pointing out that, first of all, it is difficult to find alternate uses for cranberry bogs. If bogs are assessed out of business, there is no alternative for taxation.

He outlined the peculiar problems of cranberry raising such as the need for a buffer zone and for large areas of surrounding wetlands.

"You have to own the whole margin of wetlands, or you may be paying out to people whose cellars have filled up with water. I know of no other business that has to pay 10% to 30% of its gross revenue in property taxes," asserted Cross.

The assumption that many of the growers who spoke worked upon was that high assessments were likely to force them out of business, but this was not readily acknowledged by area assessors.

Leo Mestieri commented after the meeting that Wareham is a very conservation-minded town and certainly does not want to see bogs replaced by developments. He maintained that \$2,000 per acre was not an amount that endangered the cranberry grower and that he had taken the percentage of gross revenue factor into consideration in order to arrive at a fair figure.

The assessors' general position might fairly be suggested by a remark from George Church, assessor for the town of Rochester. Most of the revenue for the town of Rochester comes from cranberry bogs. Church remarked that, "Cranberry growers have got to live so that the town of Rochester can live,

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out other people have to live too. I think we have to strike a happy medium."

Section 10.1 of the Farmland Assessment Act states that:

"The Board of assessors of a city or town, in valuing land with respect to which timely application has been made and approved as provided in this chapter, shall consider only those indicia of value which such land has for agricultural, horticultural or agricultural and horticultural uses. Said board, in establishing the use value of such land, shall be guided by the list of ranges of value published pursuant to section 11 and by its personal knowledge, judgment and experience as to local land values."

The relevant phrases in section 11 which defines the Farmland Valuation Advisory Commission and its duties are as follows:

"The commission shall meet . . . to determine . . . a range of values on a per se basis for each of the several classifications of land in agricultural or horticultural uses in the several counties of the Commonwealth."

The critical passage seems to be the last sentence in section 10. Mr. Mestieri, in defending his high (\$2,000 per acre of bogland) assessment in the town of Wareham, Mass., stressed the phrase "and by its personal knowledge, etc.," whereas Mr. Macdonald, counsel for MFBF, using that whole sentence, pointed out that an assessor must come up with a solid excuse for rejecting the Commission's recommended range of values as did Mr. Mestieri. In Macdonald's opinion this published average value is a definite point of the law, and it provides some solid basis for claim.

Even if Macdonald's contention is upheld by the courts, the cranberry growers will still feel the need to secure a lower figure from the



Commission for that 'list of ranges of value published pursuant to section 11.' The Massachusetts Farm Bureau Federation and the Cape Cod Cranberry Growers Association are agreed that the assessed value should be \$500 per acre of

bogland. In the opinion of the local growers, the practical value of the Farmland Assessment Act for them is contingent upon securing this value and upon the compliance with the Act by their local assessors.

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A MASSACHUSETTS CRANBERRY GROWER'S VIEW OF THE FARMLAND ASSESSMENT ACT

by David B. Mann

Trends in the cranberry industry:

- (1) Mid-1940's for 2 years growers received \$25.-\$30/bbl.
- (2) 1965-1969 — a 5 year period Ocean Spray's payments ranged from \$15.81 to \$15.81.
- (3) 1970-1975 — a 5 year period Ocean Spray's payments \$13.84 to this year's of \$10.36.
- (4) 1965 — O.S. paid all the growers in the nation \$18.4 million for their cranberries.
- (5) 1975 — O.S. paid all the growers in the nation \$21.5 million, an increase of 16.8%, while inflation has increased 75% in the same period.

However in 1965 Mass. produced 56% of the national crop while in 1975 Mass. produced 42% of the national crop. This might well mean that collectively all of the Mass. growers received less total \$'s in 1975 than in 1965. Even with no consideration for inflation these trends are anything but encouraging for the future of the Mass. cranberry industry. With alternate uses for land available, some Mass. bogs have gone out of production and more may in the immediate future.

The purpose of the Farmland Assessment Act is to assist in the preservation of Massachusetts' farms. A cornerstone of the act was the establishment of the Farmland Valuation Advisory Commission, with the responsibility of annually determining a range of values prior to 1 January. This is the key to implementing the act. The actions of the Commission must encourage growers to come under the act if it is to carry out the voters' mandate to preserve agricultural land. A grower that comes under the act is

a grower that is making a long term commitment to stay in agriculture.

A grower that comes under the act is also a grower that is assuming some liabilities.

(1) He will have a lien recorded against his property.

(2) He is subject to a 5 year roll back of real estate taxes if he removes the land from agriculture.



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3) If he has owned the land for less than 10 years and he changes the use of the land he is subject to a penalty of up to 10% of the sales price for the first year, decreasing to 1% in the 10th year.

So a grower must see a financial benefit before he will come under the act. The carrot that the Commission must offer in return for a legal commitment of the farmer's land to agriculture under the act is that his real estate valuation will be lower than it presently is — otherwise there is absolutely no incentive for a grower to come under the act.

The Commission's values of last year for the cranberry industry would not encourage any grower to come under the act. There are very few towns that are presently assessing cranberry property as high as it would be assessed using the high end of the range of your combined values for bog and upland.

To come under the act a grower must feel he is being treated equitably. The record here is not very good.

- (1) The first year the Commission established bog values at \$500-\$800/acre based on the Univ. of Mass. capitalized rental formula. We agreed with the values and the method which was used on all other types of agricultural land.
- (2) The second year the Commission ended up with bogs at \$1000-\$1800/acre and a new undefined category called upland at \$100-\$300/acre.

These values were arrived at by what we believe to be an incomplete analysis of sales prices. Cranberries were the only classification where sales information was used rather than the capitalized rental formula. To be equitable we believe all land under the act should be classified under the same methodology and the same categories where possible.

Most important, the grower must feel he can depend on the stability of land values under the act for an extended period of time

because of the long term liability he assumes by coming under the act. Again, the record here shows:

- (1) The first year bog was valued at \$500-\$800/acre.
- (2) The second year bog was valued at \$1800-\$3000/acre, later reduced to \$1000 to \$1800/acre. A new undefined cranberry sub-category called *upland* at \$100-\$300/acre was introduced, which value is higher than most of the other productive categories. In short, the cranberry grower feels like he's on the end of the yo-yo.
- (3) The grower must apply to come under the act annually. He must apply by 1 October;

however, the Commission does not set the values until 1 January so he has to have faith in the relative stability of the recommended values.

We would like to see the Commission eliminate the category of *upland* because the common meaning of the term among growers is all of the land around a bog except the water supply. If this is the Commission's definition, the value of \$100-\$300 is too high because all upland will fit into one of the existing categories—either *productive woodland* at \$30-\$60/acre

Continued on Page 12



M.I.T. RESEARCHERS CONDUCT TESTS ON STORAGE OF CRANBERRIES

In their processed forms, cranberries come to us in a number of guises—as sauce, jelly, juice and more. And to have a sufficient number of the berries on hand for processing for the whole production year, it is necessary to freeze a large percentage of the annual crop during the fall harvest season.

Because this is an expensive form of storage, however, scientists from the Department of Nutrition and Food Science at the Massachusetts Institute of Technology have joined in the search for a less costly preservation method.

From the standpoint of cost and energy utilization, storage of the berries at refrigeration temperature of 40° F is ideal. (Prior research has indicated that cranberries stored for up to 14 months in a 100 percent nitrogen atmosphere at 40° F can be made into a sauce without loss of color or flavor.)

The major barrier to ambient storage has been the deteriorative changes to the fruit due to enzymatic, microbial or chemical action. These have to be prevented or minimized for the cranberries to be made into acceptable consumer products.

The M.I.T. researchers studied the feasibility of storing cranberries for up to one year at 40, 77 and 99° F as a whole fruit coarse puree, including seed and skins. Microbial spoilage was prevented by addition of potassium sorbate (0.1 percent) or pasteurization and aseptic packaging. The puree was stored in both polyethylene and glass containers.

Changes in anthocyanin content, pH, soluble solids, gel strength of

jellied sauce and pectin content were studied. Enzyme assays for peroxidase and polygalacturonase activity were used to determine adequacy of heat treatment.

The findings:

Of the three storage temperatures studied, only 40° F was found to satisfactorily retain color and gel formation ability for one year.

Storage in hermetic glass jars only moderately improved stability compared to polyethylene.

Jellied sauce prepared from the puree received sensory evaluation ratings similar to those of commercial sauce.

Thus, the results of the study indicated that long-term refriger-

ated storage of cranberry puree is feasible.

The research was funded by Ocean Spray Cranberries, Inc. of Hanson, Mass., the nation's largest producer of cranberries and cranberry products, through a graduate fellowship.

The researchers were A. Bradford Holmes, a graduate student from Stoughton, Mass.; Dr. Zeki Berk, a visiting professor from the

Department of Food Engineering and Biotechnology at the Technion in Haifa, Israel; and Dr. Samuel A.

Goldblith, Underwood-Prescott Professor of Food Science and Director of Industrial Liaison at M.I.T.

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NOTES

Record '76 Output Should Help Stabilize World Sugar Trade

After a year of generally falling sugar prices, following the unprecedented high reached in November a year ago, the world sugar situation is expected to be a little more stable in the coming year.

A record crop is in prospect, which should improve the stock situation. Several important trading countries have signed bilateral agreements, which have eliminated some of the uncertainties connected with the expiration of the U.S. Sugar Act and the Commonwealth Sugar Agreement.

During 1975, there has not been aggressive buying by the USSR on the world free market, although there have been persistent unconfirmed reports to the contrary. Consumption is again expanding at the usual level as prices have adjusted downward.

According to an FAS projection released on November 20, the

1975/76 world sugar crop will be about 83.4 million metric tons, raw basis, 4.8 million tons above the 1974/1975 crop. The increase is mainly the result of expanded beet plantings, particularly in Europe and the United States.

Can production is also expected to improve somewhat this year. The 1975/76 crop has generally been helped by more favorable weather than last year's.

Cane production, at about 50 million tons, is expected to constitute 60 percent of 1975/76 world sugar output, while an estimated 33 million tons of beet sugar will account for the remainder.

World consumption of sugar is expected to expand about 2.5 percent this year to 81.8 million tons, only 1.6 million tons less than the anticipated record production. With output only slightly exceeding consumption, carryover at the end

of 1975/76 will not be much larger than at the beginning of the year, when world stocks were a relatively low 15 million tons.

Most of the large producing countries are registering increases over last year's output. The major exceptions are Brazil, Argentina, Cuba, and India. Both Brazil and Argentina were hard hit by severe frost in July.

In Brazil the frost damaged sugarcane in the States of Sao Paulo and Parana and output, at 7 million tons, is about a half million tons below last year's. Cuba's output was reduced by drought, while in India production is 500,000 tons lower than last year's because of wet and cloudy conditions.

In the USSR, the 1975/76 crop is an estimated 9 million tons, compared with 7.7 million tons the year before when the weather did not encourage sugar growth. Production in most European countries also rose this year, as acreage planted to beets expanded considerably.

Output in Europe, not including the USSR, is about 17.9 million tons, more than 2 million tons above that of the previous year. Production in Poland is nearly 500,000 tons higher this year.

The United States is expected to produce an estimated 3.4 million tons of beet sugar in 1975/76, 650,000 tons more than last year's. Cane sugar output at 1.5 million tons, represents a 200,000-ton im-

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provement on the continental United States, while there is little change in output in Hawaii and Puerto Rico. Expanded acreages, both in the United States and in Europe, were encouraged by the higher prices prevailing early in the season.

In the Philippines, sugar output is up by 100,000 tons to 2.6 million tons. Production in Thailand, Turkey, the People's Republic of China (PRC), and Indonesia also climbed in 1975/76. Australia's held steady.

New mill construction has not risen significantly worldwide, despite the 1974 price rises. Investors have been more cautious since the 1974 price upswing than they were following the one in the early 1960's, particularly with higher investment costs.

Several countries have begun modest expansion projects. France

reportedly has a new plant under construction with a 14,000-ton daily beet capacity. The USSR also has a new small beet mill in operation.

A new U.S. beet factory began operating this fall in southern Minnesota and several mills are under construction in Australia, Morocco, the Philippines, Thailand, and Mexico, among others. Brazil has a modernization program underway, and Cuba has announced similar plans.

Several countries have signed new bilateral agreements. Under the USSR's and Cuba's recent new agreement, the USSR will pay about 30 cents per pound for Cuban sugar. Australia is sending Japan 600,000 tons of sugar per year for 5 years beginning July 1975 under their new program. Japan also has agreements with South Africa and Thailand.

The PRC has new agreements to buy sugar from the Philippines and, reportedly, Brazil. A European Community agreement with the African Caribbean Pacific (ACP) producers for 1.2 million tons annually for 5 years will provide minimum supplies for the United Kingdom.

The International Sugar Council met November 20-21 to discuss the international sugar situation and consider negotiations for a new sugar agreement. The United States attended the proceedings as an observer.

Latin American sugar producers met recently in Peru and estimated world production at 81 million tons, 2 million below the FAS estimate. The group accounts for about 30 percent of world exports and does not appear to have reached its objective of stabilizing world prices as yet.

GROWER'S VIEW

Continued from Page 9

or non-productive land at \$20-\$30/acre.

If the *upland* category is eliminated, I believe that the *non-productive land* category should be broadened to conform with Chapter 61A which defines two distinct types of non-productive land. For example, non-productive land could be defined as:

(1) *Non-productive A* - This would be land as defined in Chapter 61A, sections 1 and 2. These 2 sections define land which may qualify as productive land under the act. Both sections 1 and 2 end with the following quote "... when primarily and directly used in a related manner which is inci-

dental thereto and represents a custom and necessary use in raising such products...". Simply stated this says land that is non-productive itself but which is necessary to support producing land may be counted as producing land for the purpose of coming under this act. Examples of this around cranberry bogs could be roads, dikes, sandpits, land under farm buildings, storage areas around bogs for stockpiling sand or picking boxes.

(2) *Non-productive B* - this would be the land defined in Chapter 61A, section 4 as contiguous land not used in agricultural production and the farmer is restricted as to the amount of this non-productive contiguous land which he can bring

under the act—he may have 1 acre of this type of land for each acre of land classified as productive land. For example then, a cranberry grower would add cranberry acres + productive woodland acres + non-productive A acres + water acres, and the sum would be the amount of non-productive B acres he could have under the act.

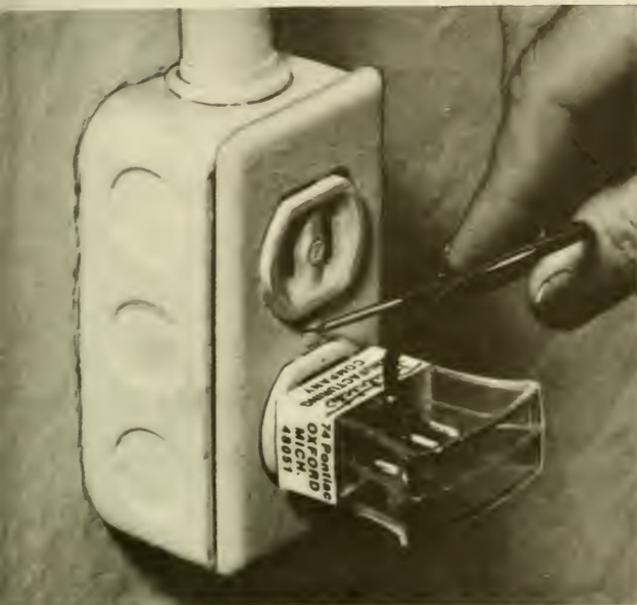
We would like to see the Commission use the Univ. of Mass. capitalized rental formula which resulted in \$500-\$800/acre for cranberry values and which method has been used for all other categories of agricultural land.

The Cape Cod Cranberry Growers Association has engaged an appraiser to analyze cranberry bog sales because this was the basis for establishing bog values last year. He has made extensive research into this area and his findings have verified the accuracy of the values arrived at by the University's capitalized rental formula.

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Wagons Full of Children's Cranberry Treats

Party time doesn't have to be a special occasion. After all, birthdays come but once a year, and a merry party for your children and their friends with homemade goodies would be welcome any time. So have a party for party's sake!

One idea for a special theme might be to use toy wagons to serve the refreshments. If you already have some play wagons around the house, but they need a bit of refurbishing, brighten them up with a quick coat of paint. A good rainy day project which your kids would surely enjoy.

As for the treats here are a tempting bunch that are easily made. Do let your children help with the preparation. They'll be as pleased as you are when these party foods come up looking as pretty as a picture, and are just as good to eat.

"Cranberry Cartwheel Cookies" are giant cookies made from a mixture of butter, brown sugar, eggs, cranberry-orange relish, raisins, vanilla, flour, chocolate malted milk powder, and baking soda. After baking, they can be decorated with frosting to look just like wheels with spokes.

Nothing could be finer than homemade doughnuts, but here are doughnuts with a difference, "Berry Whitewall Tires." They're made from a mix of instant mashed potatoes, sugar, eggs, milk, cranberry juice cocktail, vanilla, flour, pumpkin pie spice, baking powder and soda. When done, they're rolled in confectioners' sugar.

"Cranberry Marbles" are prepared in a snap from a mixture of corn syrup, milk, peanut butter, cranberry-orange relish, egg white, confectioners' sugar, colored sprinkles, coconut, and chopped nuts. Easily stored in an airtight container, you can make these days ahead of time.

For dazzling drinks and super sipping "Cranberry Creamers" are a delight any time. The sweet 'n tart base of cranberry apple drink mixes with ginger ale or orange soda, and is then blended with scoops of favorite ice creams or sherbets. Topped with whipped cream they are a dream, and will be greeted with much pleasure.

Recipes courtesy of Ocean Spray Cranberries, Inc.

CRANBERRY CARTWHEEL COOKIES

(Makes 1-1/2 doz. 5" cookies)

- 1 cup butter or margarine
- 2 cups firmly packed brown sugar
- 2 eggs
- 1/2 cup cranberry-orange relish
- 2 teaspoons vanilla
- 1 cup raisins
- 4 cups all-purpose flour, unsifted
- 3/4 cup chocolate malted milk powder
- 2 teaspoons baking powder
- 1/2 teaspoon baking soda

In a bowl, cream butter until light and fluffy. Stir in sugar, eggs, relish, vanilla and raisins. Stir in flour, malted milk powder, baking powder and baking soda. Chill

dough for at least 2 hours or until easy to handle. Roll out dough on floured surface 1/4 at a time and cut into 5-inch rounds (use a saucer or a 1-pound coffee can). Lift with wide spatula to greased cookie sheets. Repeat with remaining dough. Bake in a preheated moderate oven (375°F.) for 12 to 15 minutes or until lightly browned around the edges. With wide spatula lift cookies to wire racks to cool. If desired, cookies may be decorated using 1 can (16-1/2 ounces) vanilla frosting and a pastry bag with a writing tip. With frosting make the spokes, outline edge and fill in center for the hub of a wheel on top of cookies.



BERRY WHITEWALL TIRES

(Makes 4 dozen)

- 1/3 cup instant mashed potato granules
- 3/4 cup boiling cranberry juice cocktail
- 1-1/4 cups sugar
- 2 eggs
- 1/4 cup melted butter or margarine
- 1 cup milk
- 2 teaspoons vanilla
- 6 cups unsifted all-purpose flour
- 4 teaspoons baking powder
- 1 teaspoon salt
- 1 teaspoon baking soda
- 2 teaspoons pumpkin pie spice
- Deep fat or oil heated to 375°F.
- Confectioners' sugar

In a bowl, mix potato granules and boiling cranberry juice. Cool. Stir in sugar, eggs, melted butter, milk and vanilla. Beat until smooth and well blended. Stir in flour, baking powder,

salt, baking soda and spice. Turn out dough on a floured surface and knead a few times until a smooth ball. On a heavily floured surface roll out dough, 1/2 at a time, 1/4 inch thick and cut with a

3 inch, floured doughnut cutter. Drop doughnuts into preheated fat and fry 2 to 3 minutes turning doughnuts over once to allow for even browning. Drain on absorbent paper. When cool, roll in confectioners' sugar.



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CRANBERRY MARBLES (Makes 72 - 1-inch balls)

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1/3 cup peanut butter
1/2 cup cranberry-orange relish
2 pounds confectioners' sugar
1 egg white, slightly beaten
Red or green crystal sugar, colored
sprinkles, coconut, chocolate
sprinkles, chopped nuts, etc.

In a bowl, mix corn syrup, milk, peanut butter and relish. Add sugar and stir to blend. When mixture is crumbly, knead with fingers until a smooth ball is formed. Dust hands with sugar and roll small pieces of mixture into 1-inch balls. Dip balls or brush lightly with egg white, then roll in desired coating. Let dry on wax paper at room temperature

until hard. Store in an airtight container in a cool, dry place.

CRANBERRY CREAMERS (Serves 6)

4 cups cranberry apple drink, chilled
2 cups ginger ale or orange soda, chilled
6 scoops any desired ice cream or sherbet: vanilla, strawberry, banana, butter pecan chocolate ice cream, or orange, lemon or lime sherbet

In tall glasses, mix cranberry apple drink and ginger ale. Add scoops of ice cream or sherbet and serve at once with straws and long spoons. If desired, sodas may be topped with whipped cream.

November 6. Almost every year a reading in the 70's may occur in November, but 80 degree temperatures in the month are extremely rare. The last time an 80 degree day occurred so late in the season was on November 6, 1948.

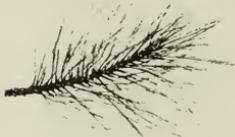
Precipitation for the month totaled 3.16 inches on eight rainy days. This is 0.21 inches below normal for November. It was only the second month in the past eight which did not have excessive rainfall. The amount for the first eleven months of 1975 is 53.03, already about ten inches more than the normal annual total.

The unseasonal warm weather has brought about spring-like developments. Blossoming of forsythia bushes and dandelions is quite common. There is some concern by growers over the rapid expansion of fruit buds and the occasional open blossom seen on early blueberry varieties. Should the warm spell be succeeded by a rapid change in weather before the growing tissues could become dormant severe damage might result.

The latest estimate of the New Jersey Crop Reporting Service put the cranberry crop at 235,000 barrels, 6% below the record crop of 1974 but 3% above 1973. The blueberry production was more sharply lower with the 1975 crop at 2,079,000 trays, 13% below the record crop of 1974.

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The Massachusetts Cooperative Extension Service and the Christmas Tree Growers' Associations of Massachusetts, Connecticut and Rhode Island are sponsoring a two-day program on the business of Christmas tree management. The Southern New England Christmas Tree Growers' Workshop will be held on January 16 and 17, 1976, at the Sheraton Inn-Springfield West, West Springfield, Massachusetts.

Topics to be discussed are: layout and design of plantations, sources of planting stock, fertilization, control of competing

vegetation, disease control, shaping and shearing, cost of the final product, etc. The workshop is suited to the hobbyist or the full-time grower. Many part-time growers are realizing an excellent secondary income from this crop.

For further details on registration fee or the program contact H. Peter Wood, Franklin County Extension Service, Courthouse, Greenfield, Massachusetts 01301.



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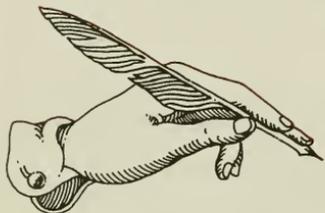
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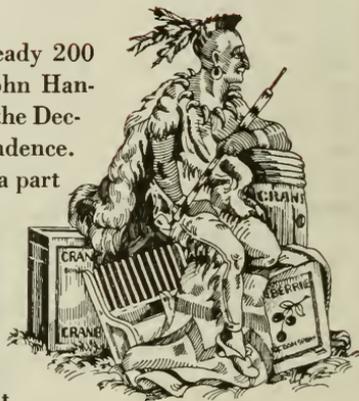
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of our country's heritage, for they have the distinction of being a berry native to North America. The American Indian made use of the cranberry not only as a fruit, but also for dyeing their blankets and rugs. Cranberries were originally called "Crane-berries" because



the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-

berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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NEW JERSEY

December had two different weather phases. The first half of the month was mild and dry with temperatures frequently in the high fifties and low sixties and with only .35 inches of rain. The latter half was wet and frigid with a daytime high in the thirties and minimums in single digits, while rainfall was about normal. The warm phase slightly overbalanced the cold and the average temperature was 36.7 which is 1.2 degrees above normal. Precipitation totaled 2.82 which is about 0.26 inch below normal.

A review of 1975 weather data shows that it was a year of slightly warmer and much wetter than normal weather. A very mild winter was followed by an unusually cold spring, with the coldest April on record. The summer was on the cool side and the autumn was one of the warmest ever recorded. Extremes in temperature were 8 degrees on December 12th and 25th, and 98 degrees on August 2nd and 3rd.

The total rainfall in 1975 was 55.85 inches, which is 12.66 inches more than normal. It was the third rainiest year in the past 46 years at New Lisbon. The two rainier years were 1958 with 60.01 inches and 1972 when 56.25 inches of precipitation occurred.

The lack of severe frosts in cranberries and blueberries was a notable feature of the weather. The most unusual features were the extremely cold and windy April which caused a severe hail storm on May 13th. The cold windy weather caused an abnormal "wind-burn" growth of early unfurling foliage in blueberries. The hail storm in the Chatsworth area devastated several blueberry fields as stones the size of walnuts shredded the foliage and battered green berries and blossoms to the ground. The damage was

thought to be confined to blueberries since cranberries were still in the dormant condition at the time of the storm. However, during cranberry harvest in October, it was indicated that bogs subjected to the hail had appreciably smaller crops than those located just out of the range of the storm.

NOVA SCOTIA

Precipitation largely rain during the month of December was nearly twice the 50-year average. The mean temperature for the month was below the average. In contrast, to last year when we had a heavy snowcover, oxygen deficiency should be much less of a problem this winter. At the time of writing (Jan. 16) we have less than 20 cm of snowcover at Kentville.

WASHINGTON

The cranberry growers of Washington State have been honored for their strong support of agricultural research at Washington State University. Archie Harrington, acting president of the Grayland Growers Association and Clarence Hadley, president of the Long Beach Cranberry Club received the special bronze medallions on behalf of their respective organizations, during November.

The awards are being made as part of WSU's celebration of the national state agricultural experiment station centennial anniversary. The first such station was established in Connecticut in 1875. WSU's Agricultural Research Center was established in 1891. It is headquartered on the Pullman campus with scientists and facilities throughout the state. It has about

Continued on next page

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140 full-time scientists who are working on more than 350 research projects. The Coastal Washington Research and Extension Unit, located at Long Beach, is a part of the Center, and deals with cranberry research for the growers. The support of organizations such as the Long Beach Cranberry Club and the Grayland Growers Association are vital to WSU's agricultural research programs.

December was a mild but wet month. There were only five days with no measurable precipitation, the 17th to the 21st. Eight days brought more than one inch with the greatest storm on the 26th, yielding 2.64 inches in the 24 hours. The total for the month was 17.42. The total for the year of 1975 was 91.81 inches.

The high temperature of December came on the 19th with 58 degrees F recorded, and a low of 25 degrees F on the 12th.

WISCONSIN

November offered a variety of weather conditions. The month began very mild with some record high temperatures. Rain fell in the south on the 2nd and 3rd. A major storm system on the 9th brought 2 inches of rain to the north and up to 1 inch in the south. The rain changed to snow in the north central and northwest as colder air moved in. Another storm crossed the north late on the 11th, leaving 1 to 3 inches of snow in most places but 12 inches in the extreme north at Mellen. Cold air penetrated south by the 12th, resulting in the first snow flurries of the season there.

Mild weather returned at mid-month and remained until the 20th when a strong low pressure system caused blizzard conditions in the north where up to 18 inches of snow fell in some areas, accompanied by much blowing and drifting. The south had a light snow cover for the opening of the deer season.

Most of the State had a white Thanksgiving as a snow storm on the 26th dumped 4 to 7 inches in the south and 1 to 2 inches in the central area. Another storm on the 29th brought heavy snow in the northwest and rain in the south.

The first week of December had only light snow in the north. Temperatures were mild on the 4th and 5th before becoming more seasonal.

Light snow of 1 to 2 inches fell in the south on December 8th, while the north and east had 1 to 3 inches on the 10th. Snow occurred again in the south on the 11th, with heaviest amounts of 2 to 5 inches in the extreme southeast. Mild air brought record high temperatures near 60 degrees on the 13th-14th, along with showers and thunderstorms. Cold arctic air changed the rain to snow in the northwest late on the 14th as 1 to 4 inches accumulated.

The past week had light snow on the 15th. Heavier snow of 3 to 6 inches fell in northern and central areas on the 19th, with 1 inch in the southeast. Temperatures were very cold at mid-week as below zero readings were recorded over most of the State on the 18th. Moderating temperatures in the 30's occurred over the weekend.

The week of December 21-27 had light precipitation in the form of freezing rain or snow flurries. Temperatures were seasonable with highs in the 20's north and 30's south. A snow storm on the 29th moved across the southeast corner of Wisconsin, leaving 4 to 6 inches of snow. Another storm on January 1-2 dumped in excess of 4 inches of snow north of a line from Eau Claire to Marinette. Extreme northwest counties had 8 inches of snow. Lighter amounts fell in the central part of the State and the south had only a trace. Temperatures turned sharply colder following the storm. Lows were below zero in the north on the morning of the 2nd and over the State on the past weekend. High temperatures did not reach zero in the northwest on January

3-4 and were in the low teens in the southeast.

Wisconsin Leads the Nation in Cranberries

Wisconsin cranberries, once confined to the role of fresh sauces served only during Thanksgiving and Christmas holidays, are now regular fare on family tables year.

Thanks to promotional effort advanced marketing techniques and the development of new cranberry products, the cranberry—a native American berry—is now about as familiar as traditional "American Apple Pie."

That's the report from Joe Polich, marketing specialist with the Wisconsin Department of Agriculture, who says that production estimates now indicate that Wisconsin leads the nation in cranberry production with an estimated crop of 825,000 barrels.

To help market this large cranberry crop, the Wisconsin Department of Agriculture has teamed up with the Cranberry Growers Association, the American Dairy Association, and Ocean Spray Cranberries, Inc., in a special promotional effort. Promotions have included TV and radio commercials in Wisconsin and Chicago, news releases for newspaper food editors, and other publicity efforts.

A special feature of the promotion, distribution of recipes for "Bucky Badger Sundaes" by the American Dairy Association at the Wisconsin cranberry industry was an outstanding success. Bucky Badger Sundaes, made with ice cream and cranberry sauce, has been served at Wisconsin restaurants, banquets and other functions and are reported to be "catching on fast."

According to Polich, fresh cranberries are sold during November and December in bulk and small consumer packages. Most of the cranberries are frozen to allow the

Continued on Page 20

Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Weather

December was a little on the warm side, averaging 0.9 of a degree a day above normal. Maximum temperature was 59 degrees on the 14th. Warmer than average days occurred on the 1st, 6th, 7th, 10th, 15th and 26th. Colder than average periods were the 4th, 8th, 12th, 19-20th, 23-25th and 28-29.

Precipitation for the month totaled 5.30 inches which is 1.1 inch above normal. There were 12 days with measurable precipitation, the largest storm was 1.92 inches on the 20-23rd. Snowfall was 6.0

inches, slightly above average.

For the year 1975, our temperature averaged 1.1 degrees a day above normal, while in Boston it was about one half a degree higher than we were. Warmer than normal months were January, February, May, June, July, August, October, November and December. The only cold months were March, April and September, with April being very cold, but May and July were very hot. Maximum temperature for the year was 100 degrees on August 2nd, only the second time in 50 years that we have reached this mark. The minimum was 1 degree on February 10th.

Precipitation for 1975 totalled 53.79 inches which is 6.91 inches above normal and the ninth largest on record. This was 17.55 inches more than in 1974. Largest single storm was 4.93 inches on September 23-26. Snowfall was 32.9 inches or about 20 percent above our average. Largest snowfall was 7.3 inches on February 12th.

Grower Meetings

Cranberry grower meetings will be held in the Marcus L. Urann Library at the Cranberry Station in both February and March. Notices will be mailed at the appropriate time.

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ROPES PROMOTED

John S. Ropes, Jr., has been promoted to Director-Grower Relations for Ocean Spray Cranberries, Inc., Hanson, Mass.

Mr. Ropes will assist in coordinating company policies and activities at the farm level, while continuing to function as a corporate liaison for the more than 800 grower-members of the Ocean Spray cooperative across North America.

Mr. Ropes joined Ocean Spray in 1974 as Grower Relations Administrator. Prior experience included positions at Agway, Inc., and the Ciba-Geigy Chemical Corporation.

Recipient of a B.S. in Agriculture from the University of Massachusetts, he was recently named to the industry-sponsored National Canners Association Crop Protection Advisory Committee.

Mr. Ropes is a native of West Newbury, Mass., and a graduate of Newburyport High School. He now makes his home in Plymouth, Mass.

Farmers Blame Government for High Food Costs, Survey Reveals



A recent poll, conducted by International Harvester's FARM FORUM Magazine, indicates that almost three-quarters of farmers polled believe that the U.S. Government is actively involved in manipulating the prices farmers receive for the products they sell.

And a total of 46% believe that the U.S. will have a serious shortage

of food within the next two to 10 years.

These and other conclusions are based on a random sampling of 1000 U.S. farmers who voiced their opinions on a variety of questions concerning food prices.

In response to the question, "Do you believe the U.S. Government is actively involved in manipulating

the prices farmers receive for the products they sell," 72% responded yes. Another 22% felt there was "some involvement." Only 5% said there was little or no manipulation by the government.

When asked whether they felt food processors, wholesalers and retailers were involved in price fixing, 60% felt food processors did, 54% felt wholesalers did, and 47% believed retailers were involved. And 56% of those interviewed felt that processors and food manufacturers were

receiving more than their fair share of the consumer food dollar, while less than 1% felt the farmer was receiving a fair share.

With the high price of food a major concern for most people, some 34% of the respondents felt

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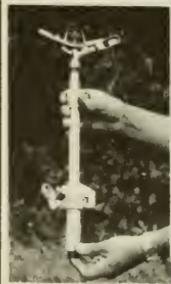
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at increasing prices of farm products has hurt the image of the farmer. More than a third (36%) felt it had somewhat hurt 'the farmer's image, and 23% felt it had very little effect.

Despite the fact that the farmers, processors, wholesalers and retailers for price fixing and receiving more than their fair share of the consumer food dollar, 50% of the farmers believe that consumers blame the farmer for increasing prices. The farmers believe that government officials have the greatest influence on food prices.

Which one of the following do you believe has the most influence on food prices?

Government officials	38%
Commodity speculators	19%
Processors	18%
Retailers	12%
Wholesalers	8%
Consumers	8%
Shippers	1%

Less than 1% felt that farmers have the greatest influence.

In most farmers' minds, consumer boycotts have very little effect in lowering retail food prices.

In response to the question, "Are consumer boycotts effective in lowering prices of food at the retail level," the farmers answered as follows:

Definitely lower prices	17%
Somewhat	27%
Very little	33%
No effect	10%
No, they actually increase prices	13%

On the other hand, some 43% of the farmers felt that consumer boycotts definitely depress the prices farmers receive at the farm level. And 34% felt these actions "somewhat" depress prices.

An alarming percentage (21%) of the farmers said they were getting discouraged and might give up farming if the present trend for operating costs and market prices continues. Nine percent felt they could only hang on for one more year. But almost half—45%—felt they would make it somehow, even though times are tough.

When asked if they felt the U.S. would have a serious food shortage in the very near future, the farmers responded as follows:

Yes, next 2-3 years	11%
Yes, next 5 years	17%
Yes, next 10 years	18%
Yes, next 15 years	11%
Not in this century	27%
No, U.S. always will have plenty of food	14%

Perhaps most important for the consumer, when asked if food prices at the retail level would rise or fall in the next 12 months, the farmers responded:

Rise 21-30%	3%
Rise 11-20%	15%
Rise 1-10%	55%
Stay the same	13%
Fall 1-10%	11%
Fall 11-20%	1%

Yet, despite the farmers' distrust of government influences and policies in agriculture; their feeling that processors, wholesalers and retailers are involved in price fixing; and their belief that the farmer is not receiving his fair share of the consumer dollar spent on food; the majority indicated a desire and an intent to remain in farming and do their best to insure that the U.S. would not face a food shortage.

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OBITUARY

GEORGE E. WILLS, SR.

George E. Wills, Sr., 76, died recently at his home on Prince St., Chatsworth, New Jersey.

A retired blueberry grower, he was a former Woodland township tax assessor.

Surviving are one son, George E. Jr. of Chatsworth; three daughters, Mrs. Robert Thompson of Vincentown; Mrs. Frank Loversidge of Red Bank and Mrs. Raymond Carter of Tabernacle; one sister, Mrs. Elizabeth Jones of Neptune; eight grandchildren and six great-grandchildren.

JOHN D. SHAW

John D. Shaw, 84, Plymouth St., North Carver, Massachusetts, died Jan. 12 at the Forest Manor Nursing Home in Middleboro. He had been in ill health for some time. He was a retired cranberry bog worker. At one time he worked for Frank Cole's Box Mill in North Carver.

Survivors include three sons, Forrest E. Shaw of Maynard, Bernard L. Shaw of Whitinsville and Lawrence E. Shaw of Plymouth; three daughters, Mrs. May I. Robbins of Middleboro, Mrs. Dana (Hazel) Provonche of North Carver, and Mrs. Florence A. Jordan of Middleboro; a sister, Mrs. Robert (Viola) Melville of Rocky Meadow; and 13 grandchildren.

Food For The Spirit

by Robert L. Clingan

There is an old story about a highwire acrobatic artist who performed without a safety net above Niagara Falls. An assemblage of watchers saw him walk the wire above the falls and return to the side where he had started.

At this point, he grasped the handles of a wheelbarrow and asked how many in the crowd believed he could push it the length of the highwire and back safely. Most hands went up. Then he asked who would ride in the wheelbarrow for

\$25. This time no hands went up he lacked even one single volunteer.

He said, very appropriately, "I have a crowd of unbelievers."

The Test

The test of genuine belief is both trust and willingness to do something about it. This is what the Apostle Paul meant when he wrote in the Bible about faith. For Paul faith was no mere acceptance of something that seemed incredible or unbelievable.

For him, faith was not simply an acceptance of the obvious, or believing in a mathematical theorem just because an authority on the subject said it was so. Paul seemed to believe that faith was a combination of belief, trust and obedience. Without any of the three, one lacks faith in its full dimension.

To have faith we have to believe, and to believe something . . . something of ultimate significance related to the deeper issues of life where nothing can be proved.

To have faith is to trust. If your belief is in God, you must put your trust in Him and no longer be denied life by either normal or abnormal anxieties.

To have faith is to obey or to practice obedience. A faith that requires nothing is meaningless. To respond in faith is to move into action, an action that grows out of both your belief and your trust.

Have faith. Faith can move mountains and transform deserts. Faith can bring meaning and decision to lives that have lost their way.

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Man's most formidable rival

by Henry N. Ferguson

Ever since man took charge of the planet Earth many milleniums ago, he has been attempting to prove that he is really the dominant species on this planet. He hasn't quite gotten away with it, but he has enjoyed a small measure of success. He has managed to subdue or exterminate many of the large beasts that once roamed the earth, as well as smaller animals, birds and reptiles.

But in the really big-league competition—against creatures with whom he has been battling for thousands of years—his efforts have been anything but overpowering. These stubborn creatures are, of course, the insects. If you care to argue the point, just try telling the next swarm of mosquitoes you meet that you are their master!

The appearance of man on earth established a chain reaction of problems for foolish, feeble beasts such as the tiger, elephant, blue whale, carrier pigeon and whooping crane, but the insects simply took him in stride. In fact, man has made their day, so to speak.

They have fattened upon him, injected his blood with plague and fever, eaten and spoiled his food, turned his floor joists into sawdust, feasted on his winter overcoats and have, in general, gotten their kicks out of keeping him in a constant state of siege and nervous tension.

In fact, the coming of man turned out to be such a pleasant, profitable and entertaining event for insects that had God not been inspired to create man it is quite possible they might have invented him just for laughs.

Since the time when man and insect had their first confrontation, the two have been engaged in a power struggle for domination of the earth. The insects clearly have the edge. They were ancient here long before man's time began.

Man has but a single species. Known insect species number close to a million. New ones turn up every day. In contrast to the insects, all the known species of fish, amphibians, reptiles, birds and other animals with vertebrae add up to only 36,000—fewer than the types of weevils alone.

In their bid for supremacy of the world, the insects also have the advantage of numbers. Entomologists estimate there are 25 million insects *in the air* over every square mile of earth, two-and-a-quarter million *under* every square mile of soil, and 34 million on the *surface* of every acre of land.

There are many things that give the insect an edge over man. For instance, man enters the world ignorant of almost everything he needs to know. The insect leaves the egg with complete knowledge of everything it must do through-

out its life. A mud dauber, for example, builds clay cells with consummate skill, though the wasp has never seen such a cell before it sets to work.

Insects have produced a form of intelligence that often rivals human reason. They perfected flight 100 million years before the winged pterodactyl reptiles took to the airways; wasps manufacture paper for their nests, and fireflies produce cold light. Ants in their wanderings use celestial navigation, and the dragonfly nymph is jet-propelled; when pursued by a predator, it draws water into its rectum and forcibly expels it to make a jet-away. And there is one species of wasp that has even learned how to use a tool; it trowels the sides of its earthen house with a pebble.

Insects never lose sight of their main purpose in life; ridding the planet earth of the human race. They assumed a place of dominance in the animal world long before man came on the scene; they are not about to give it up now. Man has fought back with all his resources and ingenuity. He has swatted, sprayed, burned, bombed and gassed. But he has never been able to wipe out even one of the thousands of varieties of insects that harass him.

Our itinerant bug population is a monstrously expensive thing. The creatures know how to attack man where it hurts the most—in his pocketbook. These nomadic wanderers are responsible for a crop loss alone in the United States equal to several times the total of our national fire loss.

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Continued on next page

Termites do \$50,000,000 worth of damage a year. The cotton boll weevil is a financial scourge throughout the southland. Insects destroy enough wheat annually to feed 16 million persons. They nullify the labor of at least a million workmen each year, and cost the American people alone some four billion dollars every 12 months.

The members of this vast and amazing group of living things have assumed strange shapes and habits that enable them to cope with life

under almost any circumstances. A drugstore beetle, for instance, thrives in red pepper; other insects devour and digest wood, paper, leather and the substances of decaying bodies of both animal and plant life.

There are insects so tiny and so intensely specialized that they live only on the tongues of horseflies. There are others whose life span is so brief that they have neither mouths nor stomachs and never eat at all.

Some bugs live in mud in hot springs that reach temperatures of 120 degrees Fahrenheit. Ice bugs thrive in temperatures of 38 degrees Fahrenheit. A few insects are capable of boring into metal. The pupae of some common butterflies winter on low shrubbery with snow covering but ice and snow.

The story of man's struggle against bugs is as old as the history of agriculture. In 1939, the discovery of DDT fostered a belief that the battle's balance had shifted in man's favor. The belief was short-

Madalyn Murray O'Hair whose efforts successfully eliminated the use of Bible readings and prayers from all public schools, has been granted a federal hearing in Washington, D.C. on the subject of religion and airwaves by the Federal Communications Commission. This petition (number 2493) would ultimately pave the way to eliminate the proclamation of the Gospel via airways of America. She took her petitions bearing 27,000 signatures to back up her stand. If her attempt is successful, all Sunday worship services currently being broadcast either by radio or television would cease. Many elderly people and shut-ins depend on

the radio and television to fulfill their worship needs every week as well as those recuperating from an illness or hospital visit.

Her petition also protests the decision of the Astronauts to read the Bible as a Christian message to the world from their space craft while orbiting the moon in 1968.

You can help stop her this time. We need 1,000,000 signed letters commending the Astronauts for their faith in God. This would defeat Mrs. O'Hair and show her there are still many Christians alive and well in our great country.

What can we do???? IMMEDIATELY send an Airmail letter in favor of RELIGIOUS BROADCASTING to:

FEDERAL COMMUNICATIONS COMMISSION
1919 M Street, N.W.
Washington, D.C. 20036

This Petition Number is ROOM 2493. Please put this number on the envelope you use to mail your letter.
ALL CHRISTIANS ACT NOW FOR GOD.

----- CUT HERE AND MAIL -----

Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20036

RE: Petition Number RM 2493

Date _____

Gentlemen:

I personally appreciate and wholeheartedly support the Sunday worship services and other religious programming that are broadcast over radio and television. Many sick, elderly people and shut-ins depend on radio and television to fulfill their worship needs. I urge you to see to it that such programming continues.

Thank you for your consideration.

Signed _____

Address _____

led—once again man had underestimated the resiliency of his secret enemies.

Now, as concern mounts over the effect of chemicals on our environment, attention turns increasingly to biological control—the oppression of pests by the introduction of natural measures.

For example, in South Texas, the screwworm fly lays eggs in the open wounds of livestock and wildlife; the resultant loss of life once reached epidemic proportions.

The Department of Agriculture secretary at Mission, Texas, 190 million sterilized male screwworms are produced weekly. These are released from planes; when they reach the earth they mate with female flies, and produce nothing, thereby dooming reproduction, or it would seem. Unfortunately, a fertile remnant always seems to remain to harass the livestock industry another year.

Down through the centuries, insects have periodically staged terrifying demonstrations of their treat to the human race. The downfall of the old Greek civilization has been attributed to the malaria-carrying mosquito. The terrible plagues of the Middle Ages, which wiped out 25 million people and spread terror across the world, were spread by the bites of fleas and lice.

Those insidious borers, the termites, once created such destruction on the island of St. Helena that its capital city, Jamestown, was reduced to a shambles. Brutal assaults by migratory grasshoppers (locusts) have altered the history of whole nations. In fact, a swarm of grasshoppers can do as much damage in one day as several atom bombs.

Locusts

The incredible numbers making up a locust army on the march is frightening. A swarm that passed over the Red Sea in 1889 was estimated to cover 2,000 square miles. A horde that invaded Brazil several years ago covered a front of

60 miles and required four hours to pass a given point.

Flies are among the most insidious criminals of the insect world. A single fly can transport on and within its body a staggering 500 million bacteria. Although most of these are harmless, some carry the germs of dysentery, diarrhea, gangrene, typhoid fever, leprosy, tuberculosis and bubonic plague. Naturally, these germs affect the fly not at all.

And these pests are terrifying in their prolificacy. A scientist estimates that the offspring from one pair of houseflies, if all survived and reproduced normally, in six months would become 191 quintillion flies. Enough, according to his estimate, to cover the surface of the earth to a depth of 47 feet!

Ants are perhaps the dominant insects. Some species organize into stupendous marching armies that constitute a living sea of terrifying destruction. When such an army passes through an area, it devours every vestige of life, including all vegetation, and such men and beasts as cannot escape their line of march. Such a rampaging horde is simply a horrible moving blanket of death that stretches as far as the eye can see in all directions and often takes days to pass a given point.

Perilous

Ages before conditions on earth were suitable for human life, uncountable insect families in unimaginable hordes were riding up and down and around our planet on the four winds, just as they are today. Not until the past few years have entomologists been able to form a picture of the threat to mankind's health and prosperity which hangs like a question mark in the atmosphere over our heads.

High above us floats a mysterious canopy of peril, incredibly widespread, its import not yet fully established. The rarefied atmosphere of these upper altitudes abounds with awesome living travelers—insect pests and disease spores against which our puny

quarantines and haphazard sanitary precautions are for the most part ineffectual.

Because a high-flying Texan, who prefers planes to horses, took to the airways with an elaborately contrived set of insect traps secured to the wings of his plane, we now have a more complete picture of what actually goes on in the sky above us. Perry A. Glick, an entomologist with the U.S. Department of Agriculture at Brownsville, Texas, rigged up such a contraption and went aloft to see what the upper reaches might contain. He has made some 1,500 flights above the United States and Mexico.

Combing systematically at different levels, this is what he has picked up; a spider, not equipped for flight, at 15,000 feet; big green darning needles at 7,000 feet—often zooming about the plane as though challenging it to a race. Redleg grasshoppers, one of the greatest enemies to crops, were caught at 1,000 feet; crickets were picked up at 2,000 feet; book lice, the scourge of libraries, at 5,000 feet; and those under-cover agents, termites, were discovered whizzing merrily along at 4,000 feet.

Glick even discovered that some bugs are hitchhikers—he found little ones riding piggyback astride larger ones. And he came across a contrary butterfly species which insists on flying directly into the wind—and the stronger the breeze the faster this perverse creature travels.

It is not known exactly how high insects fly—Glick's plane was not equipped for altitudes higher than 15,000 feet—but one thing is certain: man cannot prevent the spread of these flying creatures from one area to another once they take to the airlines.

Like a host of stealthy enemies from some distant planet, the elusive insects hover overhead, swarm about us, and dig in beneath our feet. They bide their time, waiting for the day when the balance of power will swing in their favor, and they can once more take over the earth as they did in those distant ages of the past.

BACK TO BASICS

*Five
Massachusetts
women
have made
a humble
beginning
in growing
cranberries
organically.*

by J. B. Presler



Augustine sets out for a walk around the snow-covered bog.

It would seem only slightly short of miraculous to find anyone involved in growing cranberries who is feeling serene. What grower could remain completely unruffled over such disturbingly familiar problems as the rising cost of fertilizer, herbicides and pesticides, the limited marketing situation, high taxes on bogland and labor and machinery maintenance costs?

We found some, peacefully ensconced in a small wooden house set on top of a hill overlooking Silver Lake in Kingston, Massachusetts. Though the sub-zero temperatures that day broke all recent records for Massachusetts, the house was pleasantly warmed by a well-stocked wood-burning stove. We settled in with a good cup of hot tea and began to unravel the story

or how five women, city dwellers before last spring, came to be doing what they are doing.

Pine and Augustine were the only women at home that day. They explained that they were growing cranberries organically, as they have grown everything else on the large tract of land they rent in Kingston. Organically means, roughly, no commercial fertilizers, no pesticides (except ladybugs) and no herbicides (except hard, weed-pulling labor). Last season they did not have enough berries to meet the demand that existed for them because they sold through a virtually untapped market: food co-ops and 'naturally grown' food companies—two markets that are expanding rapidly. With a host of willing friends and the simple hand-scoop method of harvesting, these women have made a begin-

ning in cranberries on a very basic and uncomplicated level.

In April of 1975, several of the women came down to Kingston to look over a piece of property that had been advertised in the Boston "Globe." The land was available for rent.

There was a large garden plot that hadn't been worked for a number of years, but it would be possible to get it back into shape. The situation was beautiful for the land overlooking Silver Lake, water reservoir for the City of Brockton. A four-acre cranberry bog was also included in the deal, though this meant little to the women at the time.

The house gave them reason to pause temporarily; it had not been lived in for several years, and the plumbing was badly in need of repair. Upon discovering that the



Pine and Augustine mull over the first harvest in their house in Kingston, Mass.

cost of the repair work was prohibitive, Pine said firmly, "Let's demystify this plumbing business," and they did just that. In fact, "with that point of view we proceeded in everything," says Augustine.

The ground needed to be turned over in the large garden (one-third acre) in which they grew a variety of vegetables. The organic farmer does not use commercial fertilizers of any kind, but employs partially rotted vegetables and plants from the previous year's garden and other naturally produced compost. No herbicides or pesticides are used either. With these roles in mind the women hoped to discover the efficient methods they believe have been provided in nature to help them grow large and healthy crops.

A piece of cultivated land must sit fallow after pesticides and herbicides have been used on it, for between five and forty years before it can be classified as fit for organic growing. Augustine's and Pine's bog has not been worked for five years, and so it just qualifies.

When asked how they plan to employ organic methods on the bog, Pine replied that they would hand-weed the bog before blossoms and after harvest and try to bring in some ladybugs to fight off the "bad" bugs. Other than that, regular practices of using bees for pollination and possibly getting a

sprinkler system set up was all they had figured out so far. Both women candidly seek advice from seasoned growers.

The whole business of growing cranberries came over them in the form of an irresistible offer made last fall by the fruitful bog itself.

The women had not put any energy into the bog the first spring . . . "basically because when we moved in here," explained Augustine, "we had to fix up the house, and we put all our energy into that and the garden. All that we had heard about cranberry growing was that it was a precarious business."

The berries grew with no help from human hands or minds. Then came the harvest.

"We couldn't get boxes or anything. Someone lent us an old scoop and, after investigating prices of scoops in antique stores we copied the design and built some more. Then we had to dig around for any kind of boxes. We used a lot of cardboard boxes lined with newspaper. We set to on our hands and knees with the scoops and a little red wagon to pull the boxes up to the barn for sorting.

"After we scooped the berries we tried to figure out how to sort them," continued Augustine. "We called a lot of people and visited local bogs. We tried to barter for sorting equipment but either no one had anything, or else they were using it. So we tried to build a sorter copying a design from a book and suggestions from a very helpful neighbor."

Many attempts were made arranging angles and buffeting the contraction with pillows. "Later (after the harvest had been completed) we found an old sorter in the back of the barn in decrepit condition," said Pine.

Pine estimated that they took nearly a ton of berries off the bog. Roughly ten percent of these were discarded in sorting. "We only skimmed the surface and so we got only the most beautiful berries. There were berries everywhere!" Pine exclaimed.

Continued on next page

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Pine recalls difficulties presented by equipment shortages.



Scene of many efforts to design a method for sorting the organic cranberries.

"In the end, we used an old earth sifter that I found while walking on the beach one day to sort," Pine recalled. "The little berries fell through with the bad ones and only the big, beautiful ones were retained."

Marketing the berries that they harvested posed little problem.

After checking with the Mass. Experimental Station in Wareham about the procedure, and receiving a go-ahead from I. DeMoranville, the women pursued the channels they had already developed for their organic vegetable produce.

"We'd been bartering our vegetables at food co-ops around Bos-

ton and we asked everyone if they would be interested in our beautiful berries." Once the berries were seen, it was difficult to keep up with the demand.

"We gave some vegetables and berries away, too. Some went to 'Rosie's Place,' a shelter for homeless old women in the South End in Boston," Pine explained. "Our attitude is that we don't own the land. We worked real hard, but it's the product of the land, not our own private property."

"Fruit of the vine—it belongs to the world," added Augustine.

"Except that we do shoo little boys out of the bog area," Pine quickly added, acknowledging a frustrating problem common to most growers.

These women are not given to excesses, it seems. Certainly they are not in cranberries or vegetables for the money, often preferring to engage in a bartering or trade system at the food co-ops. Having made little monetary investment, they stand to lose little. Every cranberry that was trucked up to the market was simple gain, more in satisfaction than anything else, for Pine and Augustine.

In mulling over the lessons learned this past season, the women remarked that one of their biggest problems was the lack of a suitable vehicle for transporting the berries. They used trunks of various cars in the absence of a truck and mused



A tool shed on the property has been converted into a small dwelling place.



Augustine mulls over lessons of the first season.



that they could easily have sold the whole crop, even though they didn't get started until October, if they had had a more efficient

method of getting the berries to the buyers.

"We never had enough to satisfy everyone once we did get into the city," one recalled.

Planning for next year began even while they were going through the rigorous school of trial and error this year.

"We are going to start early to get another sorting system together," said Pine.

"And we're going to get in a good supply of boxes and people," added Augustine. The women plan to continue with the hand scoops because more sophisticated harvesting equipment is presently beyond their means.

"We just found out about flooding two weeks ago with the understanding that if the damage hadn't been done already, it wouldn't be. We're leaving it up to the snow

cover (unusually heavy for Massachusetts this winter) because there isn't anything else we can do," explained Pine.

Augustine and Pine are aware of the high prices of organically grown produce. Though it would probably be possible to market the 1976 crop through established natural food market, they would prefer to set up their own juicing process and thereby make their product more accessible to everyone.

Pine and Augustine, frankly acknowledging their greenness, have entered a plea, through *Cranberries* magazine, to experienced growers to send any helpful suggestions their way. They can be reached by mail at the following address:

Feather's Farm
P. O. Box 19
Bryantville, Mass. 02327



A view of the 4 acre bog, barely distinguishable under the heavy snow cover.

AGRICULTURE NOTES

Butz Sees Trade Growth in East Europe, Mideast

Secretary of Agriculture Earl L. Butz, recently returned from a trip to Eastern Europe and the Middle East, has predicted that growing demand for protein foods "will bring those countries increasingly into the market for feedstuffs produced on American farms.

"Even in centrally planned economies," the Secretary said, "governments are responding to consumer demands for higher quality and greater variety in diets. In most cases, this will require increased imports of feedgrains and proteins."

Secretary Butz visited Iran, Israel, Yugoslavia, Romania, Hungary, and Poland. The visit to Poland resulted in a U.S.-Polish understanding on future grain trade between the two countries.

"The Minister of Agriculture of Romania told me that 'you have something more powerful than the atomic bomb—soya.' Romania plans to double its production on livestock and poultry," the Secretary noted, "and cannot do it entirely with feedstuffs produced at home.

"In Bucharest, I had a very good talk with President Ceausescu, who is quite directly and personally involved in the trade and development plans of his country. Romania is agricultural, with good basic resources. The Romanians are working very hard to improve their agriculture, and we are cooperating on the basis of the two protocols signed here last September for exchange of technical and econ-

omic information. Romanian agriculture officials will come to Washington in January to discuss further plans for this work.

"In Poland, we signed an exchange of letters in which Poland stated its intention to buy from the United States 2.5 million tons of grain a year, give or take 20 percent, in each of the next five years. For our part, we stated our intention to supply Poland's present and future demand for U.S. grains, subject to supply availabilities in this country.

"Israel is also interested in establishing quantity goals for imports of grains and soybeans from the United States. Her Minister of

Commerce and Industry recommended the establishment of trade targets for the coming three years for wheat, feedgrains, and soybeans. We emphasized to the Israelis that U.S. agriculture is now producing without government restraints and that our intention is to meet the needs of our traditional customers, including Israel.

"In Iran, we discussed the agreement for technical cooperation developed with the United States over the past two years. We discussed a proposal for a regional research center that would be located in Iran but might serve other countries of the Middle East. We will be working on a more

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specific plan for that project and other work under the U.S.-Iran agreement. I had the privilege of an audience with the Shahanshah, who discussed in considerable detail his country's agricultural goals and the food and energy needs of the world.

"In the year that ended last June 30, Iran moved into the 'top 10' among foreign customers for U.S. farm products, with purchases of \$757 million. Middle East countries from Iran to Libya have expanded imports of farm products almost 10-fold in value since 1969.

The Secretary emphasized that in that part of the world, there is a noticeable awakening of concern among countries over the future food needs of their populations. In most Mideast countries, farm production per capita is below levels of the early 1960's, due to population growth and limited prospects for expanding cropland. Along with large gains in foreign exchange generated by petroleum exports, these countries have adopted policies to increase expenditures for basic consumer goods.

"In Yugoslavia and Hungary," he said, "we visited some of the large 'factory-type' farms that those countries have developed. Both Yugoslavia and Hungary are doing impressive work in grain research,

some of it in cooperation with the United States, and we reviewed some of these programs. In all of these countries, there is tremendous interest in American agriculture, both as a supplier of farm products and as an example to the world of success in food production.

"For several years, East European countries have been expanding imports of U.S. soybean meal to supplement their increased livestock and poultry feeding. This year, with normal grain imports from the Soviet Union virtually cut off, East Europe has expanded grain imports from the United States. U.S. grain exports to those countries in the 1975/76 marketing year are estimated at 7.5 million metric tons."

In Europe, Secretary Butz also attended part of the biennial conference of the Food and Agriculture Organization (FAO) in Rome November 11-13, where he headed the U.S. delegation and presented the statement of the United States. He ended the trip in London, where he had talks with agricultural leaders of the United Kingdom and addressed the National Farmers Union of that country.

In that talk, the Secretary discussed U.S. goals in the multilateral trade negotiations, now under way in Geneva. "The major negotiating

thrust," he said, "should be directed at nontariff barriers—a form of restriction to which agricultural products are especially vulnerable.

"We believe that these barriers can be eliminated or reduced only if agriculture and industrial matters are negotiated together, not separately as they were in the Kennedy Round. We are often told that this is a procedural matter, of little consequence to the substantive accomplishments likely to come out of the MTN's. We feel that the issue is much more important than that.

"If we who represent American agriculture are required to negotiate in an 'agriculture only' forum, there is little that we can accomplish. The reason is that the United States—while not without its own trade restrictions—does in fact maintain a relatively low level of protection against farm product imports. Therefore we have less to offer in exchange for concessions in other markets.

"If a lowering of trade barriers is a genuine goal, U. S. negotiators must be able to offer concessions in foreign agricultural markets. We are not seeking special benefits for our agriculture but rather a general lowering of trade barriers."

Foreign Agriculture

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NEW PRODUCTS:

HINGED RIVET FASTENERS

A new hinged rivet fastener designed to provide more than six times the holding strength of existing wire hook fasteners for joining belting used on harvesters, hay balers, fertilizer spreaders, tillers, tractors and other farm equipment is available from General Splice Corporation, Rt. 129, Croton-On-Hudson, N.Y.

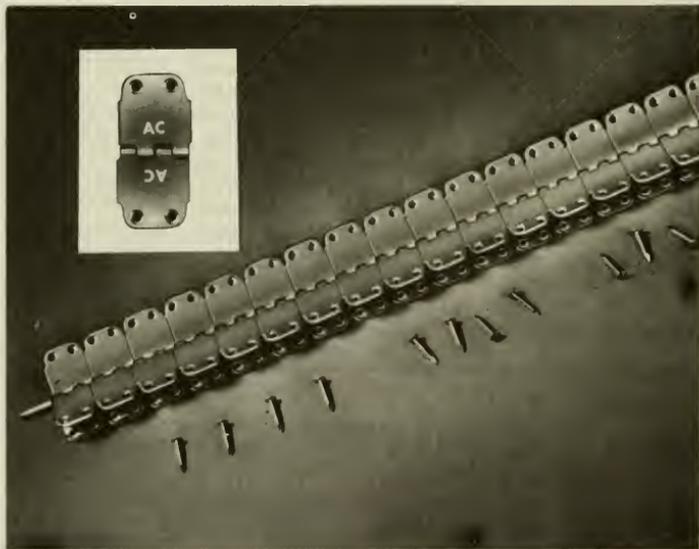
Designated Minet AC and rated at a strength of 160 pounds per ply, the new hinged rivet fastener can handle belting up to 1/4 inch thick and is available in

lengths to 60 inches with easily separated sections to fit the desired size. Recently adapted as a standard part by several original farm equipment manufacturers, the new AC fasteners are made in either regular or stainless steel.

In addition to their greater strength, Minet AC hinged rivet fasteners offer the added advantage of ease of replacement in the field. Installation can be handled in a few minutes by one person without the need for special machines, tools, templates or hole drilling. Driven through pre-drilled fastener holes with a one pound hammer, the

pointed rivets holding the fastener to the belt separate the cord smoothly without wounding or punching in the carcass. Bending takes place behind the plate and not directly on it.

Manufacturers, farm equipment distributors and farmers interested in receiving more information on AC fasteners for equipment using belting to harvest, bale, fertilize, till or for related tractor driven operations, write General Splice Corporation, Box 156, Rt. 129, Croton-On-Hudson, N.Y. 10520 Tel. (914) 271-5131.



“Hot Rocks” may heat Britons

Some British homes could, in the future, be heated by formations of hot rocks deep underground, a group of British scientists believe. The rocks are thought to lie two or three miles below the surface at three sites in Britain, and to be within reach of modern mining techniques. The idea eventually is

to drill down to the formations, pump down water, and then recycle the steam to heat homes and factories. The revolutionary idea comes in a report of the energy technology support unit to the Department of Energy. The researchers say that by the end of the century, “hot rocks” could be

supplying the equivalent of four million tons of coal a year, although this would be only a small fraction of the energy requirements by the year 2000. The rocks lie under Durham in the northeast, Cornwall in the southwest, and the western isles off Scotland.

WAUKESHA INTRODUCES NEW HIGH CAPACITY 450 gpm ASEPTIC PUMP

With renewed emphasis on aseptic processing in the food and dairy industries, Waukesha Foundry Div., Abex Corporation, Waukesha, Wis., has engineered and introduced its new Model 323 SEP high capacity aseptic pump to meet higher production demands.

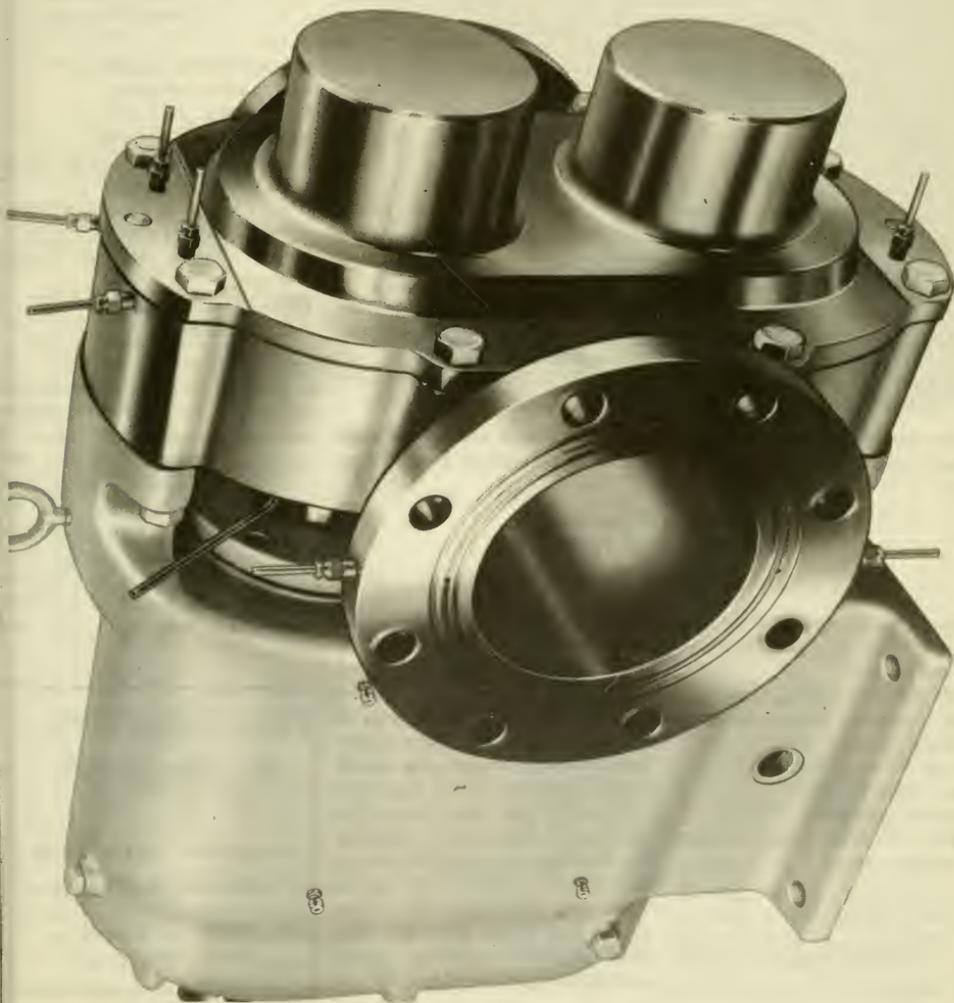
Made of 316 stainless steel, with patented non-galling "Waukesha

88" metal rotors, and featuring durable ceramic shaft seals for long life and uninterrupted service, the Model 323 is capable of handling 450 gpm of low viscosity product to 200 psi pressures through 6" flanged fittings. Temperature range is -40° F. to +300° F.

This new model extends the Waukesha aseptic pump line to four

sizes with a capacity range to 450 gpm. Typical applications are aseptic drum filling, "silo" loading and unloading, filler metering, batch metering and handling flow through cookers and evaporative coolers.

Catalog and pricing is available from Waukesha Foundry Div., Abex Corporation, 1300 Lincoln Ave., Waukesha, WI 53186.



A MELTING POT OF AMERI-CRANBERRY DISHES

To the great new continent of America came ships of many nations carrying conquering explorers who vied to claim the rich and virgin land for their countries.

So began the "melting pot" culture of a nation to be fought for and founded years later by people whose origins and tastes though very different, blended together for a strong and vital country.

Today the pleasure of unlimited foreign cuisines is ours in a national melting pot of dishes brought by immigrants over the years. Notably among the first explorer ships were those of Holland, England and Spain. So in hailing those first migrants to the new land, and in the spirit of the bicentennial, we offer with pleasure three dishes that combine the zestful taste of the native American cranberry into sensitively revised versions of classic Dutch, English and Spanish recipes.

The Dutch have always favored fish, and they must have been delighted to discover an abundance in the new land. "Cranberry Baked Dutch Salmon Steaks" is a hearty and delectable recipe. Easy to prepare, each salmon steak is baked with a topping of mashed potatoes mixed with grated cheese, and then laden with a piquant sauce combining butter, chopped onions, celery and whole berry cranberry sauce. Serve along with a salad of crisp greens and a bottle of dry white wine. For dessert consider a mild Dutch cheese with crackers and fresh fruit.

"Berrie British Meat Pie" is a handsome, but budget-minded meal in itself, which would be perfect either for a company buffet or a family dinner. This version based on a Melton Mobray pie, as popular today as it was in Elizabethan England, combines corned beef hash, chopped apples, hard boiled eggs, parsley, celery and jellied cranberry sauce. The mixture is encased in pie crust. It is equally good served cold with mustard or horseradish.

Lastly is a delightfully easy and tasteful dish with a Spanish flair, "Cranberry Chicken and Rice Espanol." This spicy dish combines chopped onion and tomatoes, garlic, green pepper, and cranberry-orange relish with chicken and rice for a veritable meal-in-a-pot. It can be made ahead of time and reheated—and will be as tasteful the second time around.

Here are the recipes those early American explorers would have surely enjoyed, and which are a prideful part of our American food heritage today.

CRANBERRY BAKED DUTCH SALMON STEAKS

(Serves 6)

6 salmon steaks, each about 1 inch thick

Salt and pepper

4 cups seasoned mashed potatoes

1 cup (4 ounces) Edam or Muenster cheese, grated

1/4 cup butter or margarine

1 large onion, chopped

1 cup chopped celery

1 can (8 ounces) whole berry cranberry sauce

Place salmon steaks on a greased, foil-lined shallow baking pan, side by side in a single layer. Sprinkle with salt and pepper. In a bowl, mix mashed potatoes and cheese.

Spoon mixture in a mound in the center of each salmon steak. Bake in a preheated moderate oven

(350° F.) for 25 to 30 minutes or until salmon flakes easily when tested with a fork and potatoes are lightly browned. In a saucepan, melt butter and cook onion and celery until soft, about 5 minutes. Stir in whole berry cranberry sauce. Simmer until bubbly. Season to taste with salt. Spoon this sauce over salmon steaks after they have been placed on serving plates. Garnish with parsley; if desired.



CRANBERRY CHICKEN AND RICE ESPANOL

(Serves 4 to 6)

1/4 cup olive or salad oil
1 large onion, chopped
1 clove garlic, chopped
1 green pepper, chopped
1 chicken, about 3 pounds, cut up
1 cup converted rice
1 can (1 pound, 12 ounces) tomatoes, chopped with their juice
1 can (13-3/4 ounces) chicken broth
1/2 cup cranberry-orange relish
Salt and pepper

In a Dutch oven, heat olive oil and cook onion, garlic and green pepper until lightly browned, about 5 minutes. Crush mixture into one side of pan. Add chicken and brown pieces lightly. Add rice, tomatoes, chicken broth and relish. Cover and simmer, stirring occasionally, for 1 hour or until chicken is tender and liquid is absorbed. Season to taste with salt and pepper.

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BERRIE BRITISH MEAT PIE
(Serves 8 to 10)

- 2 packages (11 ounces each) pie crust mix
- 1 egg, well beaten
- 1/4 cup water
- 2 cans (15-1/2 ounces each) corned beef hash
- 1 large onion, chopped
- 1 can (1 pound, 4 ounces) pie-sliced apples, drained and chopped
- 3 hard cooked eggs, chopped
- 1/2 cup chopped parsley
- 1/2 cup minced celery
- 1 can (8 ounces) jellied cranberry sauce, cut into 1/2 inch cubes
- 1 egg, well beaten
- Green olives with pimiento, sliced as needed for garnish

In a bowl, mix pie crust mix, egg and water until crumbly. Knead crumbs until a smooth ball is formed. Cut off 2/3 of the dough. Roll 2/3 of dough out on a floured surface until a 15 inch round. Place

round in a 9 inch springform pan, 3 inches deep, press pastry to the bottom and sides of pan. In a large bowl, mix remaining ingredients except beaten egg until well blended. Pour mixture into lined

pan, packing mixture into pan and smoothing top. Press pastry at sides of pan down onto filling. Brush pastry edge with beaten egg. Roll out remaining 1/3 pastry into an 11 inch round. Trim round to make a

9 inch round. Place round on top of pie pressing edges firmly to seal. Brush top of pie with beaten egg. Using scissors, cut crust trimmings into leaves and place on top of pie as decoration. Brush leaves with beaten egg. Bake in a preheated hot oven (400° F) for 1 hour and 15 minutes or until top is richly

browned. Cool pie in pan for 30 minutes, then remove sides. Garnish with sliced olives. Cut into wedges to serve. Can also be served cold with mustard or horseradish.



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WISCONSIN

Continued from Page 2

fresh, cranberry flavor to be captured for juices, sauces and relishes throughout the year. Cranberry juices, combined with other fruit juices, have become very popular in recent years.

Polich says Wisconsin cranberries and apples are in record supply, and when combined they make a delicious, nutritious and inexpensive drink. He suggests that growers should mount an early promotional effort to have cranberry and apple juices become a special drink in 1976.

*You've Come a
Long Way,
Baby . . .*



Ocean Spray announces marketing promotions

Several promotions in the marketing department have been announced by Ocean Spray Cranberries, Inc., Hanson, Massachusetts.

Christine M. Masclee, has been promoted to Group Product Manager, responsible for the management of all established Ocean Spray processed products sold in the U.S. Most recently Senior Product Manager—Drink Products, she has been with Ocean Spray since 1972 and in that time has also functioned as Product Manager—Cranapple and Blends. Ms. Masclee holds a B.A. in Philosophy from the University of Birmingham, England.

William G. Bazley has been promoted to the position of Senior Product Manager. The marketing activities of Cranapple and other Ocean Spray blends, as well as management of a line of frozen concentrates, will fall under his direction. A graduate of Lake Forest College with a B.A. in History, Mr. Bazley joined Ocean Spray in 1970 and most recently served as Product Manager—New Products.

Stephen M. Abelman has been promoted to the newly created position of Manager—Sales Analysis/Administration. Formerly Market Research Analyst, he will now be responsible for the administrative functions of the Ocean Spray sales department, while also retaining responsibility for sales research and forecasting. With Ocean Spray since 1974, Mr. Abelman received a B.A. from Brandeis University and an M.B.A. from Boston University.

CRANBERRIES Magazine welcomes comments, criticisms, guest editorials, photographs, interesting articles, helpful suggestions, and any other item that would enable us to better serve you.

*Send to: CRANBERRIES
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Group Product Manager
Ocean Spray Cranberries, Inc.



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Senior Product Manager
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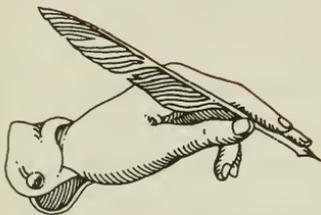
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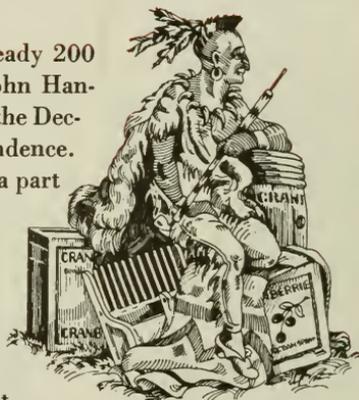
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The 400 year old cranberry



Cranberries were already 200 years old when John Hancock was signing the Declaration of Independence. They are definitely a part

of our country's heritage, for they have the distinction of being a berry native to North America. The American Indian made use of the cranberry not only as a fruit, but also for dyeing their blankets and rugs. Cranberries were originally called "Crane-berries" because



the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-



berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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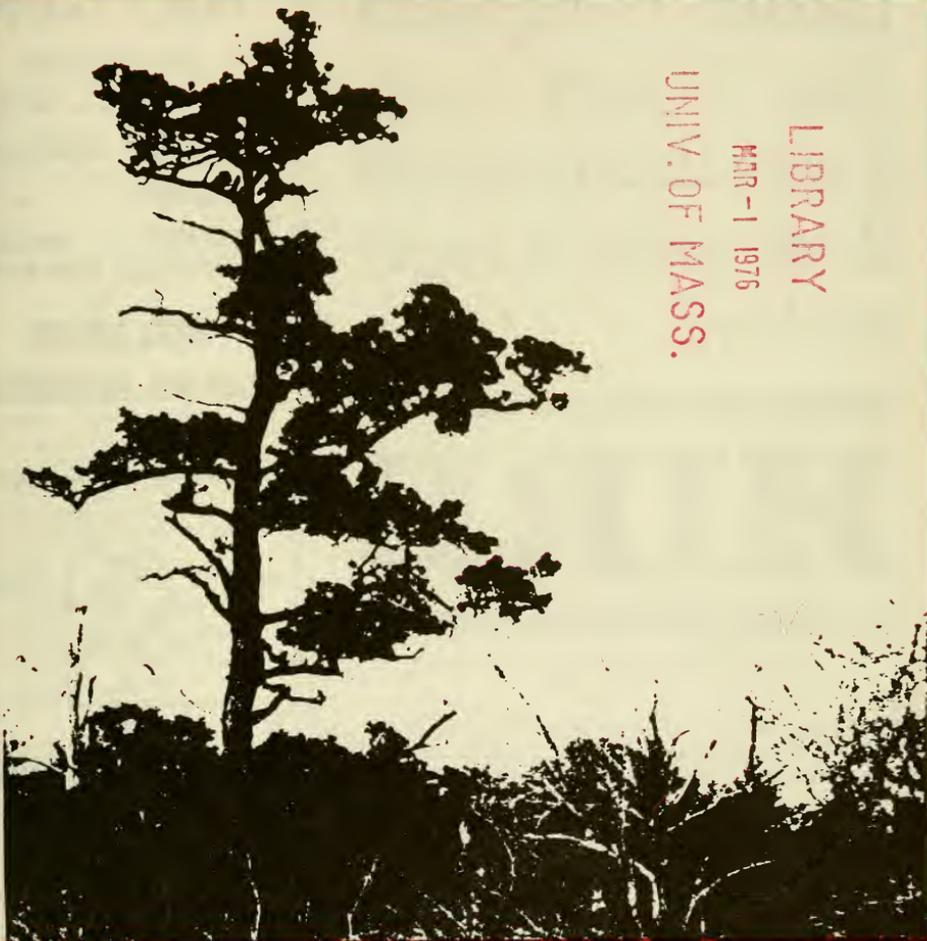
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REGIONAL NEWS NOTES**NEW JERSEY**

January was very wet and very cold in the cranberry region of New Jersey. The average temperature was 29.1 F which is 3.8 degrees below normal. The precipitation totaled 6.34 inches, exactly double the norm of 3.17 inches. Precipitation occurred on 13 days, in the form of snow on only three days. The total snowfall was only three inches.

There were six days during which the maximum did not go above freezing and four days when the minimum temperature was below 10 degrees. Extremes were 68 F on the 26th and zero on the 19th.

Floodwater on cranberry bogs has been frozen over for much of the month of January but ice has not been thick enough to support sanding operations for more than a few days. At the Rutgers research bogs at Oswego ice thickness reached four inches by January 25th. A warm January thaw from the 26th to the end of the month with two days of 60 degrees temperature and a total of 2.15 inches of rain on three successive days completely opened up the bogs. The dissolved content of the floodwater has remained consistently above 5 cc per liter.

A survey at the end of January showed a negligible amount of winter killing of blueberry fruit buds in the Pemberton area.

ern half of Wisconsin but the southern half has only a few inches or just a trace of snow on the ground.

A cold front on Jan. 6th brought light snow and very cold temperatures. The north had readings of 30 below zero on the 7-8 and strong northwest winds produced chill factors of 60 below. A weak low pressure system moved northeastward out of the Southern Plains on Jan. 10th, bringing the heaviest snow to north central areas where 5 to 6 inches fell. The week of Jan. 12 began sunny and mild with temperatures reaching 40 in the south. Snow developed on Jan. 15 with heaviest amounts of up to 6 inches in central areas of the state. Very cold temperatures followed the storm when skies cleared. Readings of 35 below were recorded in the extreme northwest on the 17th.

The week of Jan. 19-25 had frequent light snow of 1 to 2 inches until the 25th when 4-6 inches fell in the southern part of the state where cover had been light for two months. Temperatures ranged from the upper teens north to 20's south except on the 19th and 24th when readings dropped to 30 below zero in the northwest and 10 to 20 below in the south. Temperatures moderated on the 28th, with highs in the 30's and 40's. Light snow of 1 to 3 inches fell in the north and east on 27th, 28th, and 29th, with lesser amounts and freezing drizzle in the south.

WISCONSIN

January began with very cold temperatures following a snow storm on the 1st. After some moderation in temperatures, the coldest weather of the season occurred on the 7-8th as overnight temperatures were well below zero throughout the State. Snow cover is currently respectable in the north-

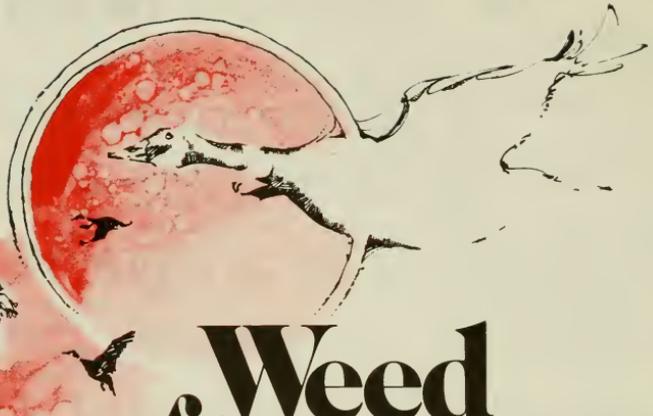
WASHINGTON

Dr. C. C. Doughty and Azmi Shawa attended the Western Washington Horticultural Association meeting at the Tye Motor Inn, Olympia Jan. 7-9. They also attended a newly formed Pacific Northwest Small Fruit Task Force meeting Jan. 13th at the North

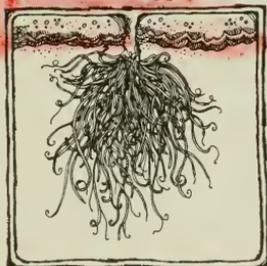
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Continued on page 20



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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Dr. Cross, Dr. Devlin and Mr. Demoranville attended the Annual Meeting of the Northeastern Weed Science Society on January 6-8 in Boston. Bob Devlin presented a paper on cranberry seed dormancy and Mr. Demoranville on two experimental herbicides that are being tested on cranberries.

Dr. Robert Devlin was moderator of the morning session on insects and diseases of the Second Horticultural Congress held in Boston on January 27.

Dr. Bert Zuckerman attended the Gordon Research Conference held in Santa Barbara, CA from January 25 to February 1.

Dr. Cross, Dr. Devlin and Mr. Demoranville attended the Annual Meeting of the Northeastern Section of the American Society for Horticultural Science on January 3-24 in Amherst. Bob Devlin

presented a paper on the effects of Evital on chlorophyll manufacture and Mr. Demoranville on growth regulator types of herbicides that have shown good control of several cranberry weeds.

Dr. Chester Cross and four cranberry growers from various growing areas: Jim Olson from Oregon, Tom Darlington from New Jersey, Arthur Handy and Paul Morse from Massachusetts—a Wisconsin representative was unable to attend—met with various officials of the EPA in Washington, D.C. on January 30. The meeting was arranged by Nathan Chandler, former Commissioner of Agriculture in Massachusetts and now acting as agricultural advisor to Russell Train, Head of EPA, for the cranberry industry to explain its need for pesticides and the safety measures used to protect the environment.

Charts

The cranberry pesticide charts have been revised and are at the printers. We hope to have them mailed by the first week in March. The assistance and observations of the growers who helped with the chart revisions are greatly appreciated as always. The fertilizer chart has been revised and will be sent with the others. Anyone not receiving their charts can contact the Cranberry Station for copies.

Green Scum

Growers are reminded that bogs should be checked in February and March for green scum around the shore ditches. If present, it should be treated with copper sulfate as recommended in the 1975 weed chart.

Weather

January was cold, averaging 5.7 degrees a day below normal, however, it was only the 7th coldest in our records. Maximum temperature was 52 degrees on the 28th and minimum -7 on the 23rd. The only warm days were on the 14th and 26-28th. Cold periods occurred on the 2nd, 4-6th, 9-12th, 15th, 17-19th, 22-25th and 30-31st.

Precipitation totalled 6.51 inches which is nearly 2¼ inches above normal. This was the wettest January since 1958 but only the highest in our records. There was measurable precipitation on 14 days with 1.90 inches on the 28th as the largest storm. Snowfall totalled 23.6 inches, more than 3 times our average. It was the second snowiest January exceeded only by the record in 1965.

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Sod sales, crop destruction, chicken purchases, drought sales, almond groves and share farming are among the many subjects of interest covered in the "Farmer's Tax Guide," a free publication available from the Internal Revenue Service.

H. B. Mosher, District Director of Internal Revenue for Massachusetts, said the 64-page publication *IRS Publication 225* is geared to answer all the basic tax questions applying to farming situations. "Farmer's Tax Guide" shows, by example, how to prepare the Form 1040 and related schedules—and lists important tax dates which affect farmers during the course of the year.

Mosher pointed out that the "Farmer's Tax Guide," which is written in easy-to-understand language, provides useful hints on how good records can help a farmer prepare an accurate tax return and pay only the correct amount of tax.

NEW SMALL BUSINESS FILM AVAILABLE FOR LOCAL SHOWING

"Hey, We're in Business," a new IRS film highlighting tax law rights and responsibilities for owners of small businesses, is now available. It can be borrowed without charge by business, civic, fraternal, and other community groups.

The film covers such important areas as the necessity for and importance of proper recordkeeping, types of free taxpayer assistance available from IRS offices, what to do should a business not be able to meet a tax deadline, and the tax responsibilities relating to employees. Copies can be obtained from Edward V. Callanan, Public Affairs Officer, John F. Kennedy Bldg., P. O. Box 9112, Boston, MA 02203 or by calling 223-6020/6023.

The 27-1/2 minute 16mm color production traces the fortunes of a young couple who open a new restaurant in an established block

of stores, and features a number of well-known television and theater personalities.

Name personalities in the IR film include: Jim Backus, widely known for his role in "Gilligan's Island" and as the voice of "Mr. McGoo;" David Hedison, who starred in the "Voyage to the Bottom of the Sea" series and who frequently appears in television dramatic programs; Pat Finley, best known as Bob Newhart's sister Ellen, on the "Bob Newhart Show;" Nehemiah Persoff, veteran actor who has had countless dramatic roles in the legitimate theater and television; and Warren Berlinger, a frequent performer on the former "Love, American Style," show who will appear in two soon-to-be released feature films with Elliott Gould.

Continued on page 20

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GETTING READY TO SELL YOUR TIMBER

by Prof. Alexander Dickson
Dept. of Natural Resources
Cornell University

We live in what tends to be a preservationist society. The furniture of yesteryear, worn and faded, is sought and hoarded with great zeal. The weathered boards of an old barn find no final resting place on a fire or dump, but rather they climb the ladder of prestige to decorate the interior walls of expensive homes and restaurants. Too, down through the decades, if not the centuries, a persistent voice growing in clarity and strength has sounded the call, "Woodsman, spare that tree!"

Appreciation of our forest resource, preserved as it were in an outdoor museum, has its place... an important place, as witness the establishment of the country's national parks and New York State's Catskill and Adiron-

dack Forest Preserves. However, as trees live and die in place they contribute little to the material needs of man. Houses, furniture, tools, sporting goods, photographic film, solid rocket fuel and even nail

polish and other beauty aids are among the 5,000-odd items in daily use that come from the harvested tree.

Trees growing in your woodlot can serve many purposes. One of them undoubtedly is production of that renewable, versatile, biodegradable industrial material—timber. Our needs for this material are likely to double in the U.S. by the year 2000. Moreover, the solution to the problem of adequate supply lies largely in boosting the productivity of small privately-owned forest holdings like yours.

Not only must desirable species in your woodlot be encouraged to grow well, they should be harvested when they reach economic maturity. This, in most instances, involves a timber sale.

Continued on page 7

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OBITUARY

of Hyannis; numerous nieces, nephews, cousins, and an aunt, Mrs. Ida Fleming of Brooklyn, N. Y.

of Fort Knox in Kentucky, the state highway in Illinois, a nuclear engineer laboratory in Connecticut and Army Corps of Engineers in Rhode Island.

VIENO E. HARJU

Mrs. Vieno E. (Kaski) Harju, 69, of Meadow St., South Carver, Mass., died at the Jordan Hospital in Plymouth on Feb. 10. She was the widow of John C. Harju who died on Jan. 14, 1975.

Mrs. Harju was born on Nov. 11, 1906 in the house she was living at the time of her death. She was the daughter of the late Andrew and Alina W. (Palmberg) Kaski. She attended the local schools, including the Carver High School. In her youth she was a frequent soloist in the local churches. Most recently she attended the Advent Christian Church of West Wareham.

Mrs. Harju had supervised extensive cranberry bogs since 1961 and was a member of Ocean Spray, Inc.

Survivors include two sisters, Mrs. Martin (Florence K.) Sand and Mrs. Francis (Sally) Merritt, both of Carver; a brother, Terho A. Kaski

RUSSELL A. TRUFANT

A funeral service for Russell A. Trufant, 82, of Middleboro, Mass., former cranberry bog owner in North Carver, was conducted Feb. 9 at a Middleboro funeral home with the Rev. Paul J. West of the Central Baptist Church officiating.

Mr. Trufant died Feb. 4 in the New England Deaconess Hospital, Boston. A native of Whitman, he attended the schools in that town and Massachusetts Institute of Technology. Until ten years ago he made his home on Plymouth St., North Carver. He was the son of the late Walter E. and Carolyn (Cobb) Trufant. A civil engineer, Mr. Trufant held patents on prefabricated flumes and pumps used for cranberry bogs. He also designed bog railroads.

During his professional career, Mr. Trufant was associated with irrigation in Texas, the construction

He had been president of the Lower Rio Grande Valley Engineer Club, a director of New England Cranberry Sales Co.; a member of the Carver Planning Board and chairman of the Middleboro Planning Board. He was also a member of the Cape Cod Cranberry Grower Association, the American and Boston Societies of Civil Engineers; a member of the Mayflower Lodge AF&AM, and had written a number of articles for both cranberry and engineering magazines.

Besides his widow, Elisabeth (Brown) Trufant of Middleboro Mr. Trufant leaves two daughters Mrs. Thomas (Ella) Wolf of Buenos Aires, Argentina and Mrs. Edward M. (Carolyn) Colbert of Brookline and eight grandchildren.

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Too, timber harvesting can be compatible with improvement of the woodlot for wildlife, water catchment or personal recreation.

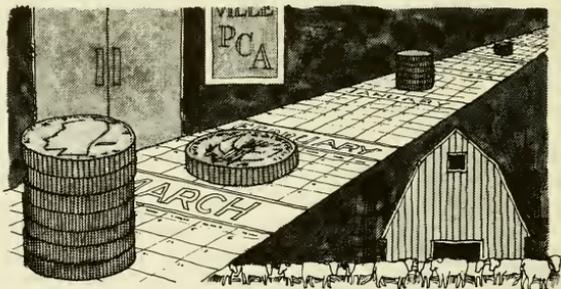
Bear in mind as well that when you cut a tree (or have one cut), you set in motion a chain of events that involves loggers, sawmillers, manufacturers, advertising counselors, mass media employees, salesmen, retailers and others to boost the economy by nearly 20 times the price you receive. In a word, you help the economy and give people employment.

It is no small thing you do when you harvest a tree. By making timber available to society, you also help to avoid the necessity for expanded use of timber substitutes, such as steel, concrete, aluminum and plastics, which require much more energy in their production and which have the potential for extensively polluting our environment.



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Production Credit Associations of Wisconsin



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As I have indicated, your personal interests will be safeguarded and the future welfare of your woods assured if you follow the proper procedure when you sell your timber. What then, is the proper procedure?

Know what you have to sell fairly precisely, and then invite bids from several buyers. Unless an emergency dictates otherwise, don't sell when the market is down. It is also good to know something about the person to whom you sell your timber. His price may be satisfactory, but his workmanship may not.

Small trees should only be sold when their removal improves the growth of their neighbors. As a general rule, it is unwise to harvest healthy trees smaller than 18 inches in diameter four-and-a-half feet from the ground. It may even be advisable to wait until they are 25 to 30 inches in diameter. This depends on growing conditions, species and the market available.

Perhaps at this point, you will sit back and gasp! How are you to know all these things—good buyers, good trees, good growth, good price, good logging, and a good size at which to cut a given tree? Take heart; public and private foresters are available to give you the help you need. And don't overlook the fact that you, too, can learn to do some of these things for yourself.

If, after you have gained the necessary knowledge and skill, you still decide to hire a forester, you will have all the greater appreciation for the service he provides.

At first glance, it may seem that cutting trees would jeopardize or destroy some of the other values you may hold to be important. This is not necessarily so.

Harvesting does, of course, leave stumps. There will also be the tops of felled trees left behind after the operation, and there will be some unavoidable damage to remaining trees from felling or skidding.

Although there will be skid trails and log roads, these may be assets rather than liabilities, depending on where located and how they are left. The extent of any undesirable aspects depends on the reliability of the operator, the control specified in a written timber sales contract, and the vigor with which the controls are enforced.

The forest has been referred to as a wood factory. Unfortunately, it is difficult in this factory for an unskilled manager to tell the machines or workers from the products. In a shoe factory, no such problem exists—and you can only sell as many pairs of shoes as the machines and workers produce. In the wood factory, since the product and the machines or workers are the same things—that is, the trees—it is all too easy to harvest part of your productive plant, thereby impairing your output in the future.

It is important to maintain a certain level of growing stock or "machinery" in order that you may shortly afterward have new products to harvest. In reserving such production machinery, or workers, it is important that only efficient, productive ones be kept. It may be that most of your trees are inefficient—diseased, poor quality, overmature, slow growing, etc.—and in such cases it may be best to clear out the factory of both products and growing stock and let new productive capacity be installed in the form of young growth. This would be called "clear cutting."

Depending on the vigor of the trees, the species present and your goals, harvesting may therefore consist of:

—"clear cutting" in patches, strips or other patterns

—"selection cutting" in which the largest and, ostensibly, oldest trees are removed in light cuts which maintain the forest with a relatively closed canopy.

—cutting of some other type which may remove all the timber from any one area in two or three harvests over a period of 10 to 20 years. Part of the objective in any of these systems is to secure natural

reproduction of new trees of desirable species to replace those which were harvested. Tree planting following harvesting is very seldom necessary or justifiable.

If you contemplate harvesting your timber, it will pay biological economic and psychic dividends to obtain professional forestry advice and help. Each state has three kinds of foresters available to help you: the land-grant university extension forester, the state service forester and the consulting forester.

The extension forester is primarily an educator and can provide you with most of the information you need to do the job. He conducts indoor and outdoor meetings, gives radio and television presentations, writes articles and bulletins, and answers your inquiries. He is as close as your telephone or nearest mailbox.

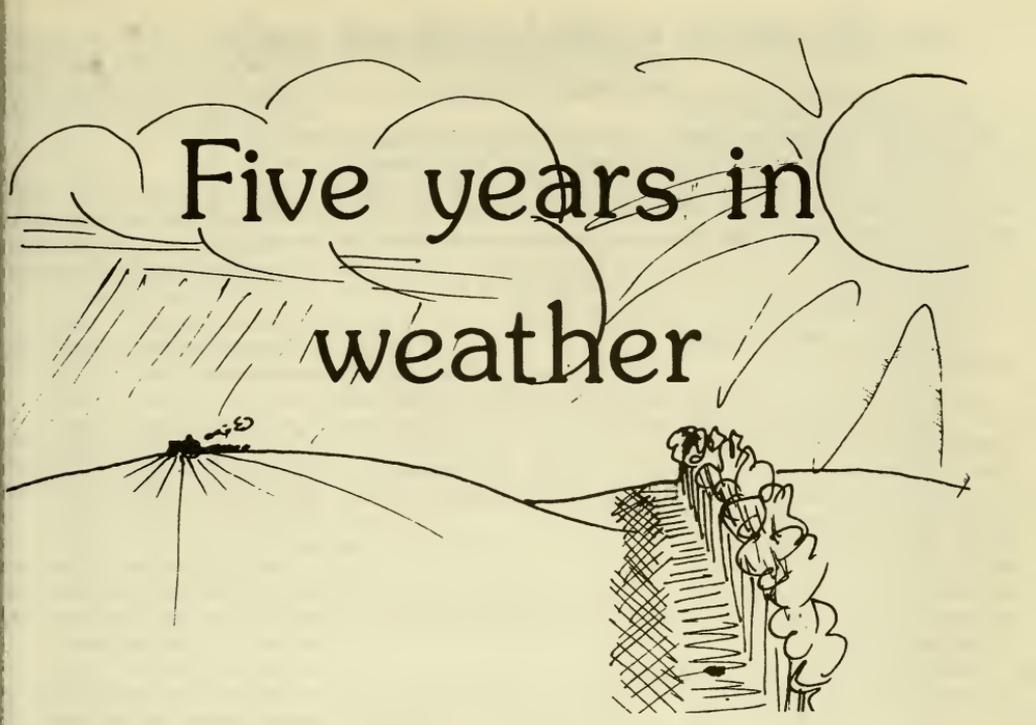
The service forester (available free of charge for limited service under either state or federal legislation) can visit your property and give you on-the-ground guidance. He will mark trees to be cut, record their volume by species, suggest good loggers to whom the timber might be sold, and provide you with a sample timber-sale contract. The time he can spend with an individual owner, however, is limited. In New York, for example, the forester can legally give only three days of service per year. Furthermore, he is not permitted to solicit bids or supervise a sale for a landowner.

The consulting forester is a private entrepreneur and can be hired to do as much work in connection with a sale as you wish. He can survey, mark, estimate volume by species, determine potential buyers, solicit bids, and supervise the logging operation on your behalf. Naturally, he prefers to do the whole job rather than just part of it.

Because the need has been felt by absentee woodland owners in particular for a service to supplement that provided by the state

Continued on page 20

Five years in weather



Many scientists agree that some basic changes are taking place in weather patterns throughout the Northern Hemisphere. But climatologists are hesitant to come up with farm forecasts as to what trends may develop and how they may affect year-by-year weather in the United States.

So we asked our own weatherman, Oscar L. Moldenhauer, whose *Wisconsin Weather* appears in each issue of *Wisconsin Agriculturist* to give his 5-year long range outlook. Following is his report:

Abnormal storm patterns for 1976 will bring a generally wet and stormy winter and a very dry summer. This could be the driest summer in the next 5-year period.

"A year of extremes and a dry summer top the outlook for 1976"

High points in storm causes will hit in January and again during April and May. Low point will come in July and first half of August.

Chances are this will bring excessive wet weather at times during this winter and spring and dry periods by July from the Rocky Mountains eastward.

The wet weather will bring good moisture reserves this winter and spring. It should make the winter wheat crop and carry spring crops well along before the main dry weather hits in July. Dry weather will exhaust subsoil moisture reserves, at least locally, by the third week in August when more widespread rains are likely to begin over the Cornbelt. Late crops which survive in fair shape until then probably will be rescued.

Overall storm activity and rainfall are likely to level off to more normal weather by late February and into March. They could begin a noticeable upturn in April. The good rains in May and early June will begin to decline, leading to mostly dry weather in July and into mid-August. Above normal temperatures will likely be recorded throughout the Midwest.

The weather could bring good yields in winter wheat but in most areas only fair yields of spring wheat, corn, soybeans, and other late crops. 1976 may prove to be a year of strong grain market trends, beginning weak in spring but strengthening considerably in the summer.

"1976 is not the year to plant every available acre."

If abnormally dry weather hits in late July and the first half of August, farmers should get their spring wheat planted as early as possible to get extra growth before drought hits in July.

A smaller plant population per acre of corn will help withstand long dry stretches. Good farming practices can help.

But it appears we can expect the July 1 to Aug. 15 rainfall to average no more than 25 to 50% of normal in the Plains and no greater than 50% in the Cornbelt.

Continued on next page

Since we will be moving into early summer with good moisture accumulations, crops should not fail completely. But, with a dry summer, it is difficult to visualize good yields over large areas, let alone bumper crops.

Farmers should make the most of available moisture in 1976.

"1977 will have close to normal weather trends"

Storm causes will be spaced out over the year reasonably well, bringing fewer extremes in weather than in most years. The year is expected to begin with normal or slightly more than normal rainfall during the winter months, especially in the north and central Midwest States. This should mean adequate moisture for winter crops throughout the country.

Rainfall should keep pace with the season from the Rocky Mountains eastward. Rainfall should continue close to normal through August. That should make the small grains and summer grain crops.

In general, the weather should be favorable for about normal overall yields in winter, spring, and late crops. But the evenness of the weather pattern may bring weakness to the grain market.

"Another reasonably favorable crop year is in store for 1978"

Storm causes will be at high levels during the winter months and again in the fore part of the summer. Winter wheat regions should get mostly adequate moisture to get by until spring. But 1978 weather trends should favor spring grain most.

It appears 1978 will begin with a Northern States winter with excessive snowfall in the north, tapering down to normal in the Southern Plains.

Storm activity and rainfall should level off to about normal in April, somewhat less than normal by May from the Rocky Mountains eastward. Such weather would

favor planting of spring and late crops and still be adequate to pull southern wheat through.

Upturn in storm development in June and July should bring adequate moisture to make the northern winter and spring wheat crops. August, however, may be drier than usual. Late crops in northern and central states should get by on soil moisture reserves.

Moderate moisture shortages at times in the Southern Plains may strengthen the winter wheat market. But spring wheat market probably will lag and influence of weather should hold corn prices fairly steady.

"A wet winter and a near normal spring are predicted for 1979."

This will probably be followed by a dry growing season. Timing of high and low points in storm causes will favor winter crops at the expense of spring and summer crops.

There's good chance winter storm activities will be favorably distributed to bring adequate moisture for winter crops in the Plains as well as other states.

Rainfall will probably keep pace with the season through May, but thereafter storm causes are due to decline gradually. Good widespread rains are likely to become scarcer than usual by July from the Rocky Mountains eastward. It could bring serious moisture shortages over wide areas through August. There is fair chance this will develop into actual drought conditions in the Plains.

The year will probably see a good winter wheat crop as far north as South Dakota. Dry trend in July may hurt extreme northern winter

wheat. But it will be the northern spring wheat and other small grains, as well as late crops which may be seriously hurt by hot, dry summer weather.

Favorable weather for winter wheat could drive grain prices down in the spring. But dry weather in the summer should push them back up late in July and August.

"1980 will probably have a long, hard winter."

The excessively wet, cold winter could last into spring. And a fairly wet summer will likely follow throughout the Midwest.

The great concern in 1980 will be for enough dry weather to plant spring grains and late crops and harvest early winter wheat.

Although storm causes will be at their highest during the winter and spring, there should be enough adequate rainfall for spring grains and late crops in the upper Midwest. Summer should be dry, as usual in the West.

Chances are there'll be a scarcity of moisture for starting fall plantings in the southern and central plains during October and November of 1979. But winter wheat reaching December in good shape will have enough moisture for big yields in 1980.

Excessive rainfall at harvest time may cause disease and harvest problems in the South and southern Midwest.

Any strength in the grain market in 1980 is likely to result from problems in harvesting the early winter wheat and delays in planting of spring wheat, corn, and other late crops.

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ARM PRESERVATION PLAN IN NEW JERSEY DRAWS MIXED REACTIONS

Local officials offered mixed reactions to a proposed experimental program which calls for the state to purchase the development rights to 10,000 acres of farmland in four Burlington County municipalities, including Pemberton and Southampton townships.

Secretary of Agriculture Philip Alampi outlined the details of the program for local officials at a special meeting in January. Legislation to set up the experimental program in Pemberton, Southampton, Lumberton and Medford townships was introduced by 7th district assemblymen Charles Yates and George Barbour.

The proposed legislation would set aside \$5 million in Green Acres funds to purchase the development rights to as much as 10,000 acres of farmland.

The price of the development rights would be the difference between the value of the land for agricultural use and its open market price at the time of the sale. Once the development rights are sold, the land use would be restricted to agriculture.

Southampton township Mayor Robert Thompson likes the proposal.

"It's a good idea," Thompson asserted. "I agree with the program. The only thing wrong is that they're using Green Acres funds to buy up the wooded areas and the farms and eventually its (the Green Acres program) will be drained."

Pemberton township Mayor Washington Georgia was more cautious in his appraisal of the program.

"I think it's a good idea," Georgia stated, "as long as they (state officials) deal with the township for some input before making any decisions on what land will be chosen for the program. We would

want to make a complete local review of their proposals to see if they are in line with our master plan."

Township Administrator Joseph Kane, who attended Alampi's explanatory session said: "I think it's a great idea, but it may be 10 years too late. And they should definitely have township input."

Kane said that Alampi assured him that local officials will be involved in designating which farms should be included in the program.

However, the program is purely voluntary for farmers. They can accept the state's offer to purchase their development rights or they can reject the proposal.

Alampi called the experimental program a "first step toward saving 1 million acres of farmland in New Jersey," but the New Jersey Farm Bureau has already expressed opposition to the proposal.

Farm Bureau President Arthur West called the program "unreasonable and unworkable." The Farm Bureau represents approximately 8000 Garden State farmers.

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AGRICULTURE

NOTES

USS FACING POSSIBLE IMPORT PAYMENT PINCH

Purchases of U.S. farm products in fiscal 1976 (July-June) by the USSR may pose some payment problems for Moscow. This year's Soviet purchases in the United States—largely grain—are expected to reach more than \$2 billion in value by June 1976.

The USSR is not eligible for Commodity Credit Corporation financing. The Soviet ruble is not convertible into hard currency, but Soviet purchases will require large amounts of hard currency in payment. Although the USSR earns substantial amounts of hard currency from its foreign trade, these earnings in total fall far short of covering Soviet hard-currency purchases.

In the first 6 months of calendar 1975, the Soviets ran an estimated \$1.8-billion trade deficit with the United States, West Germany, France, Italy, and Japan, and their large grain purchases during the second half of 1975 are expected to push the total up considerably.

The USSR covers the difference between its hard-currency earnings and expenditures with gold sales and loans. In 1974, for example, the Soviets sold an estimated 150 tons of gold, earning about \$750 million, and 1975 gold sales may reach \$1.3 billion even though declines in gold prices may slow sales.

Although Soviet gold sales could be used to finance the entire payments deficit, the USSR has

increasingly turned to the West for credits and loans. Soviet bankers have been borrowing heavily in the Eurodollar market. Moscow's International Investment Bank recently negotiated a \$260 million loan from a 13-bank consortium led by a subsidiary of the Deutsche Bank. Proceeds of this loan—on which the USSR is paying about 10 percent interest—probably will be used to help finance the construction of a natural gas pipeline between Orenburg and the Czechoslovak border.

Other Eurodollar loans have been made for general purpose use, and are presumably being used to finance industrial modernization as well as the agricultural purchases the Soviets have made in 1975.

Foreign Agriculture

WORLD WEATHER

January showers and thunderstorms substantially eased the drought in Argentina but dry weather in December already had seriously reduced crop prospects. Drought also tended to ease in the USSR and frequent snowfall in January extended a protective snow cover over most major agricultural areas. Temperatures in the USSR tended to be above normal, although ground ice in late December caused concern about crop suffocation. Generous December-January rainfall benefited crops in South Africa and Australia. Frequent heavy rain disrupted wheat harvest and planting schedules in parts of

southern Brazil. Most of Europe was exceptionally dry in December but northern areas turned rather wet in early January, when one of the worst storms in decades struck. In general, temperatures were slightly above normal. In the United States, there has been no significant precipitation since November 20 in much of the Great Plains.

The Argentine drought persisted through December, aggravated by occasional hot, windy weather. December precipitation amounts were 25-50 percent of normal. At the beginning of the year, shower and thunderstorm activity increased

considerably bringing widespread relief. In the first half of January, rainfall was 2-6 inches in most of the corn-sorghum crescent.

Cloudy skies and rainy weather were common in early summer in much of central and southern Brazil. Though seasonably dry conditions prevail in the northeast, the region is suffering from the cumulative effects of relatively dry weather since July.

Wet weather continued in much of Australia with well above normal rainfall in eastern areas. Rain amounts ranging from 15 to 25 inches over the last 6 weeks account for extremely wet condi-

ns in northeast Australia. The
uthwest has been seasonably dry.
emperatures throughout Australia
ve been running close to normal.

South Africa's "corn triangle"
ceived about 6 inches of rain in
ecember and frequent showers
ntinued into January. In the
editerranean region December
ecipitation was variable, mostly 1
6 inches, with the heavier
ounts in Tunisia.

In the USSR, normal or above
ormal December precipitation in
ost of the European region and
azakhstan particularly benefited
ought areas of the Urals and West
azakhstan. In contrast, precipita-
ion over much of southern Euro-
ean USSR and western Siberia was
ppreciably below normal. Fre-
ent and widespread January

storms provided above average
moisture.

December was much drier than
normal in most of Eastern and
Western Europe and temperatures
tended to be above normal. Good
rains, however, occurred over much
of the western Mediterranean re-
gion. Moderate temperatures ac-
companied much wetter conditions
in northern regions in January.

In North America, precipitation
has been sparse over much of the
U.S. Great Plains, especially the
southwest portion.

Dry December weather favored
harvests of wheat and flaxseed in
Argentina. Summer crops and pas-
tures, however, continue to deterio-
rate, especially early-sown corn.
Sorghum and sunflowers fared bet-
ter. January rains arrested crop

deterioration, improved pastures,
and stimulated seeding of late
sorghum and sunflowers. Late seed-
ing may harm crops not reaching
maturity before winter rains and
frost. Weather has been good for
apples and pears.

Pastures, citrus, coffee, and most
annual crops benefited from the
active rainy season in central and
southern Brazil. The wet weather
caused some problems harvesting
winter grains and seeding soybeans
in Rio Grande do Sul. Crops in
northeast Brazil are suffering from
drought following the floods of last
July.

Improved soil moisture and
snow cover in the USSR brightened
the winter grain outlook. The
mixed and spring wheat areas
received much more snow than a
year ago.

AMERICAN AGRICULTURE DAY

The nation's farmers, rural
owns and agribusiness firms will
observe American Agriculture Day
n March 22, 1976.

Designed to promote better un-
derstanding of U.S. agriculture by
consumers, elected officials and
ther nonfarm groups, American
griculture Day is an opportunity
or everyone connected with agri-
culture to explain its accomplish-
ments, problems and opportunities
to their city neighbors.

Planned, coordinated and
parked by members of the
ational Agri-Marketing Associa-
ion (NAMA), Ag Day '76 is a
ationwide "do-your-own-thing"
celebration.

"From the response we've been
etting, Ag Day is something almost
everyone in agriculture has been
ooking for," says NAMA Executive
irector Ernest T. Marshall.
NAMA helps provide materials to
articipate and encourages every-
one to work together for the
reatest impact on the same day—
arch 22—throughout the nation.

Last year, NAMA-prepared pro-
otional materials, including
30,000 brochures, 8,500 school

lesson plans and 60,000 coloring
books, were distributed in 38
states. Features about Ag Day were
carried by major newspapers, wire
services, radio and television sta-
tions. Thousands of school chil-
dren, city residents and consumer
groups visited farms or participated
in special Ag Day programs.

Local NAMA chapters blitzed
entire states with school programs,
advertisements, radio announce-
ments, urban-rural exchanges, farm
tours, speeches for legislators, retail
store tie-ins, bumper stickers and
piles of literature.

Continued on page 20

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capacity of most competing equipment, a capability made possible by the 144 in. overall length minus bucket and generally heavier than customary construction.

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Two features are unique. A four-wheel drive hydrostatic system provides improved tractive effort and contributes to drive simplicity. A fail safe brake system originating in the aircraft industry applies brakes if the engine stops and hydraulic pressure drops below 200 PSI.

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feller-buncher type tree shear, a snow blade. Others are a snow blower, a materials bucket, a scrap grapple and a 14 ft. fork lift with two-stage mast.

Early applications of the new 540 wheel loader have been in the coal industry.

Allis-Chalmers also makes a range of other articulated loaders in larger capacities. The company is the first major firm in its field to offer an articulated loader in the 3000-lb capacity range.

FIBERGLASS TANK FOR AGRICULTURE



A new "Slimline" fiberglass tank for agriculture has been introduced by Raven Industries of Sioux Falls, South Dakota. Designed for side-mounting, this new 200 gallon capacity tank fits on tractors with minimal clearance between cab and wheel.

Raven's new "Slimline" comes with a ten-inch fillwell and a choice of outlets. There are wide gallonage strip indicators on both sides of the tank for easy level checking. Colors can be matched to equipment, with yellow being standard.

For more information about Raven's new 30-inch diameter "Slimline" ag tank, contact your nearest Raven dealer. Or write: Raven Industries, Inc., Plastics Division, Box 1007, Sioux Falls, So. Dakota 57101.

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Cranberry Bright Breakfasts and Brunches

Whether it's a top of the morning breakfast or a midday brunch, these recipes made with tangy cranberries will add new taste pleasures.

A lively treat, and hearty too, are "Pancakes with Berry Fruitful Sauce." The topping for your pancakes combines a sweet 'n tart mixture of whole berry cranberry sauce, apricot preserves, and chopped apples. You can certainly make this sauce ahead of time and keep it refrigerated. Do warm the sauce before serving, and prepare enough so that you'll have an extra bowlful for those who want second helpings.

For a very special brunch consider "Cranberry Raspberry Omelet with Canadian Bacon." The filling for your omelet mixes whole berry cranberry sauce and frozen raspberries. Serve along slices of Canadian bacon. To round out this brunch menu prepare a salad of crisp greens with a light dressing, corn or bran muffins and a carafe of rose wine.

To serve at any breakfast or brunch, "Cranberry Raisin Molasses Bread" would be a welcome treat indeed. Bake in less than an hour its easy-to-prepare mixture combines hot roll mix, eggs, butter, molasses, raisins, and cranberry-orange relish. It is especially good when spread with "Cranberry Orange Butter," easily made by combining butter or margarine with cranberry-orange relish. This moist and tasty bread will be relished by even the least enthusiastic breakfast eaters.

Cranberry Raspberry Omelet with Canadian Bacon (Serves 6)

- 2 tablespoons cornstarch
- 1/2 cup sugar
- 1 can (1 pound) whole berry cranberry sauce
- 1 package (10 ounces) frozen raspberries, thawed
- 8 eggs
- 1 teaspoon salt
- 1/4 teaspoon pepper
- 1/3 cup milk
- 1/4 cup chopped parsley
- 1/4 cup butter or margarine
- 12 slices Canadian bacon

spatula to allow uncooked portion to run underneath, until top of omelet is moist but firm. Spoon some of the sauce over the omelet and with a wide spatula lift omelet at one edge and fold over. Slide omelet onto a serving platter. Place bacon slices into skillet and brown quickly on both sides. Serve bacon around omelet. Each serving of omelet should be topped with some of remaining cranberry sauce. Serve at once.

In a saucepan, combine cornstarch and sugar. Stir in cranberry sauce and raspberries. Stir over low heat until sauce bubbles and thickens slightly. Simmer 5 minutes; keep sauce warm. In a bowl, beat eggs with salt, pepper, milk and parsley. Heat butter in a 10 inch skillet. Pour in egg mixture. Cook without stirring, lifting edges of omelet with



Cranberry Raisin Molasses Bread (Makes 1 loaf)

- 1 package (13-3/4 ounces) hot roll mix
- 3/4 cup lukewarm water
- 2 eggs
- 1/4 cup butter or margarine
- 1/2 cup molasses
- 1 cup raisins
- 1/2 cup cranberry-orange relish

In a bowl, pour yeast from hot roll mix into lukewarm water. Stir until yeast is dissolved. Stir in egg, butter, molasses. Add flour from mix, raisins and relish. Beat until well blended. Let stand for 1 minutes, then beat again. Spread dough evenly into a greased loaf pan, 13 x 4-1/2 x 2-1/2 inches. Let dough rise, covered with towel, in warm place until it reaches the top of the pan. Bake in a preheated, moderate oven (350° F.) for 35 to 40 minutes or until firm to the touch in the center. Cool in pan then loosen edges and turn out onto rack. Cool thoroughly before cutting into slices and serving with Cranberry Orange Butter.

Cranberry Orange Butter (Makes 3/4 cup)

- 1/2 cup (1 stick) butter or margarine
- 1/3 cup cranberry-orange relish

In a bowl, let butter stand at room temperature until very soft. Stir in relish. Pack mixture into a crock cover and chill until ready to serve.

**PANCAKES WITH BERRY
FRUITFUL SAUCE**
(Serves 6 to 8)

1 package (13-3/4 ounces) hot roll
mix
2 cups lukewarm milk
2 eggs
1 tablespoon vanilla
1/2 cup sugar
1/4 cup oil
1 can (1 pound) whole berry
cranberry sauce

1 cup apricot preserve
2 apples, peeled, cored and
chopped
1 cup water

In a large bowl, combine hot roll mix, milk, eggs, vanilla, sugar and oil and beat until smooth. Let stand for 1 hour. Stir well. For each

pancake pour 1/4 cupful batter onto a preheated greased griddle shaping pancakes about 5 inches round. Brown on one side, turn and brown on the other side. Stack pancakes. Combine remaining ingredients in a saucepan and boil gently for 10 minutes. Serve pancakes topped with this hot sauce.



Continued from page 1

Willamette Experiment Station, Aurora, Oregon. Key personnel from Washington, Oregon, Idaho, and British Columbia dealing with Small Fruits (excluding grapes) are participating.

January was slightly on the wet side. Rainfall totalled 16.83 inches. There was measurable rain on 23 days with the largest storm of 6.06 inches occurring from the 13-15.

Maximum temperature was 63 degrees on the 31st and minimum 25 degrees on the 1st. To date, Feb. 6, there have been 8 days with no precipitation and a 65 degree day on the 1st of February. Temperature on the bog has dropped to 18 degrees on the 5th and 17 degrees on the 6th of February so most of the growers have their automatic sprinklers set at 30 degrees, to protect from frost.

Local growers and friends were saddened by the recent untimely death of Joe Rowe of Nahcotta, a long time grower. Funeral services were held Feb. 5.

FILM

Continued from page 4

To give added realism to some of the dramatic situations unfolding, IRS employees appear in the film performing their regularly assigned duties.

Although "Hey, We're in Business," is intended to underscore the IRS commitment to maintain strong links of communication on tax matters with owners of small businesses, the film also provides individual taxpayers with valuable information on recordkeeping, tax deadlines, and IRS taxpayer assistance.

For the past year many Massachusetts organizations have taken advantage of the availability of the IRS film, "Why Me, Tom Krolik?" starring James Whitmore, who most recently portrayed President Truman in a widely acclaimed stage production.

The "Krolik" film, which covers the rights and responsibilities of taxpayers—especially as they relate to the audit of a tax return—was produced in 1974 and is still available for showings. The same points of contact for bookings apply as for the "Hey, We're in Business" film.

TIMBER

Continued from page 8

forester, another kind of helpful person is available in some states. He is the timber agent. In New York and New Jersey, at least, a timber agent can be hired for 10% (or more, depending on size of sale) of the gross receipts to take over where the state forester leaves off. In other words, he will solicit bids, negotiate the contract, supervise the harvest operation to see that it is in accord with the terms of the contract, and collect all payments due.

The value of your trees depends on what kinds they are, how large and free from defect they are, whether they are easy to reach with logging equipment and whether good markets are close by.

Even though you secure the advice of a professional forester, you are not, so to speak, "out of woods." You should clearly express to this person your property-management objectives so that he or she understands what kind of premium you place on aesthetic aspects, or wildlife enhancement.

American Agriculturist

• • •

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Continued from page 15

To plan an American Agriculture Day for your group, committee, business or community, Ji Stephens, national chairman of Agriculture Day '76, recommends, "Contact NAMA, 800 W. 47th St., Kansas City, MO 64112, and order the "do-it-yourself" promotion kit. This kit will help you plan, organize and conduct your own Ag Day. Ask for the name, address and phone number of the local NAMA chairman. You may be able to piggyback on his plans, obtain free help or advice from him or coordinate your effort with his for great over-all impact.

"To get your program rolling begin working now with local media for publicity on the goals and purposes of Ag Day. Establish a working relationship with local civic groups, and work out the planning and details for your celebration."

Here are some ideas for a local program: a work exchange project involving urban and rural leaders; half-day farm visits by urbanites

with farmers reciprocating in the afternoon, followed by an evening dinner with speaker (county agent can be a big help with planning and liaison); agriculture-related tours for school children and others—

farm or processing plant; an agricultural exhibit, such as machinery, farm-animal zoo, milking contest or the like in a shopping center, or use NAMA's "do-it-yourself" kit and other materials.

A major boost for Ag Day '76 formation of the Agriculture Day Foundation, a continuing resource to fund and administer Ag Day activities. Money raised by the foundation helps defray the cost of materials produced.

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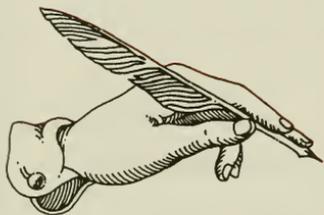
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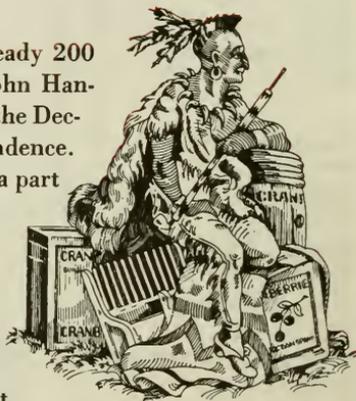
The 400 year old cranberry



Cranberries were already 200 years old when John Hancock was signing the Declaration of Independence.

They are definitely a part

of our country's heritage, for they have the distinction of being a berry native to North America. The American Indian made use of the cranberry not only as a fruit, but also for dyeing their blankets and rugs. Cranberries were originally called "Crane-berries" because



the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-



berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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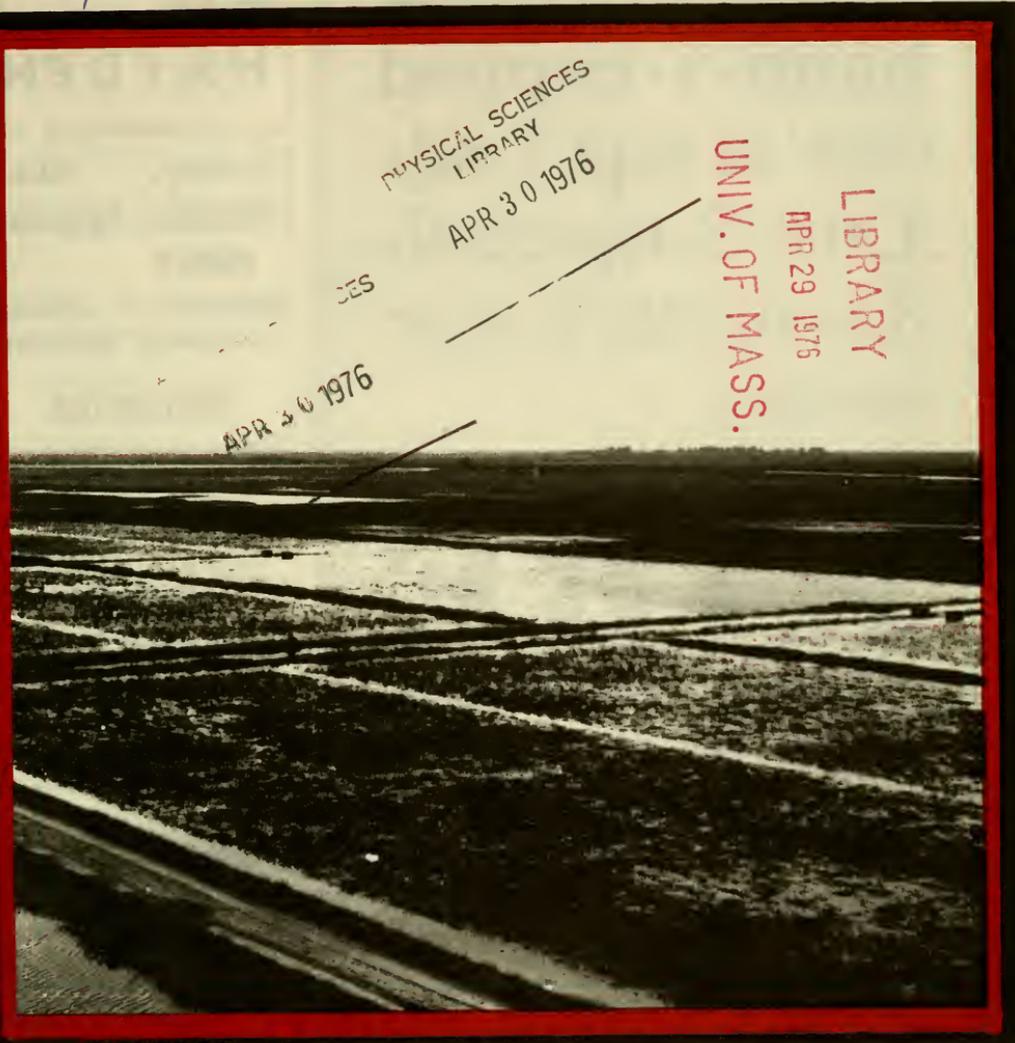
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REGIONAL NEWS NOTES**WISCONSIN**

Except for the first week, Febru-
ary was a mild month with much
above normal temperatures. Signs
of an early spring were appearing as
flocks of geese were observed flying
north and the maple sap began
flowing. The mild weather reduced
snow and frost depths in Wisconsin.
Frost depths in the State at the end
of February averaged 10 inches
compared with 20 inches a year
earlier and 19 inches normally for
that date. Snow depths averaged 6
inches at the end of February,
about 8 inches less than a year ago
and 5 inches below average. Farm-
ers became concerned over the loss
of snow cover on their hay fields
and winter wheat as the type of
weather in February was a month
earlier than usual for Wisconsin.
The apprehension of farmers about
what March would bring was sub-
stantiated by bad weather in the
first week. Heavy snow in the north
and rain, sleet, and snow in the
south dominated the first few days
of March. Severe weather on the
4th caused blowing and drifting
snow in the north and heavy rain in
the south. Some streams and rivers
reached or exceeded flood stage in
the south. The southern area also
experienced the worst ice condi-
tions in many years as freezing rain
caused ice to accumulate on trees,
power lines, and fields. Consider-
able damage occurred to trees when
limbs broke from the weight of the
ice. Numerous power outages re-
sulted in urban and rural areas as
ice laden electrical lines collapsed
or were pulled down by falling tree
limbs.

recorded for this month. The aver-
age daily maximum temperature,
53.2° F, was actually about one
degree higher than the average for
March. There were 10 days during
which temperatures were in the
sixties and one seventy degree day.

Total precipitation was 2.52
inches, about 0.38 below normal.
Accumulated rainfall for the first
two months of the year is 8.86,
which is 2.79 above normal.

If the theory of growing degree
days is valid we are more than a
month ahead of last year with
regard to the growth stage of
plants. By the end of February the
sum of the growing degree days
above 50 degrees was already 27.5.
This point was not reached in 1975
until April 18.

In the Pemberton area crocuses
started to bloom after the middle
of February. Forsythia had started
to blossom before the end of the
month, about a month ahead of
schedule. With much cold weather
certain to occur in March, the rapid
growth of fruits is causing farmers
concern. Already there has been
significant damage to peaches. A
recent survey of blueberries in
normally cold areas indicated that
very little damage has occurred thus
far.

WASHINGTON

New names and new faces
greeted the cranberry growers of
Washington at the Coastal Washing-
ton Research and Extension Unit
Advisory Board meeting February
20. The annual meeting was held at
the Harbor Community Bank
Courtesy Room, Raymond. Dr.
Ernest C. Bay, Superintendent of
the Western Washington Research
and Extension Center, Puyallup,
began August 1. Dr. Bay was
chairman of the Department of
Entomology at the University of
Maryland since 1971. He grew up at

NEW JERSEY

It was unbelievably mild in
February in the cranberry region of
New Jersey. The average tempera-
ture of 41.0° F was 7.2 degrees
above normal, the warmest ever

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Continued on Page 3



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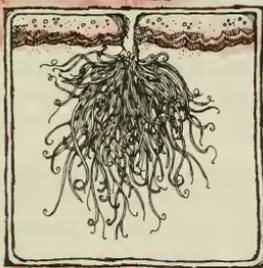
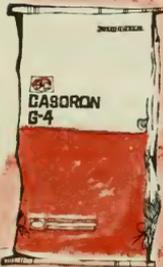
Applied to the soil, CASORON remains ready until the conditions that cause weeds to grow—warmer temperatures and soil moisture—activate it. Then, CASORON releases a "Gas Blanket" at a controlled rate, killing weeds two ways: by inhibiting the growth of annual weeds as the seeds germinate, and by absorption through the roots and shoots of perennial weeds, preventing further growth.

One CASORON application a year—between November and April—effectively controls weeds like: Bracken Fern, Royal Fern, Sensitive Fern, Hair Cap Moss, Rushes, Common Horsetail, Dodder, and Water Horsetail—a total of 40 annual and perennial weeds, rushes and sedges common to cranberry bogs.

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WASHINGTON

Continued from Page 1

Schenectady, N.Y., and has B.S. and Ph.D. degrees from Cornell. He did research and teaching in entomology at the University of California at Riverside from 1961 to 1969, and was head of the Division of Biological Control there from 1969 to 1971. Dr. Bay and his wife, Vera Ellen, have two sons.

Dr. Peter Bristow, Plant Pathologist has just been appointed to serve at the Puyallup Center. Craig Fenske is the new Extension Agent in Pacific County as of February 9, 1976. Mr. Fenske originally came from the midwest where he is the son of the Extension Agent for Audubon County, Iowa, where Craig previously made his home. Majoring in Biology Education, Mr. Fenske received his undergraduate degree from Iowa State University, Ames, Iowa, in 1972. In 1975 he completed his Master's Degree in Counseling and Guidance at Pacific Lutheran University in Tacoma. His area will be working with Community action, and serve as chairman for the County Extension Service.

February rainfall totalled 8.90 inches. The first eight days were dry as well as the 21st and 22nd. The greatest storm occurred in the 24-hour period previous to 8:00 A.M. on the 16th with 1.73 inches.

Maximum temperature was recorded at 65 degrees on Feb. 1 with a 19 degree as minimum on the 6th.

NOVA SCOTIA

Our big item in weather was the big wind and rainstorm which struck on Feb. 2. Wind speeds in excess of 100 mph were recorded in the Annapolis Valley. Many homes were without power for 24 hours, trees were uprooted, power lines blown over, and shingles ripped from buildings. Here at Kentville we had 5 to 10 panels of PVC blown from a house that had much of our lowbush blueberry breeding stock. This we were able to move to other houses until temporary repairs were made. The storm re-

moved all of our snowcover and the groundwas bare for over two weeks thereafter.

Recently I received a progress report to the British Columbia Cranberry Marketing Board by Dr. George W. Eaton and his associates on research they are conducting or have carried out at U.B.C. I feel that George would not object to my sending along the following quotation:

"Much of our research has been in the area of cranberry nutrition. Five full-scale studies have taken place and a large amount of information relevant to commercial production of cranberries has been collected. Our field studies, concerned directly with the application of our results in cranberry nutrition of commercial bogs, operated for two years giving growers an indication of the nutrient status of their plantings and laid the basis for the present B.C.D.A. leaf analysis service to the industry.

"Frost damage studies have now become one of our major areas of interest. We feel that the problem of frost damage and its control deserves a thorough study as it is an important and complex problem both practically and from a physiological point of view.

"The chilling and dormancy of cranberry plants are phenomena which we have investigated. Cranberry buds in the field require a chilling period before normal reproductive growth is able to take place. The effects of different chilling periods on subsequent growth are of interest in understanding the duration of developmental stages.

"Photoperiod effects many of the same systems in plants as chilling temperatures. Our research on photoperiodism has been in relation to vegetative growth and floral induction. By altering photoperiod different kinds of growth can be induced.

"Our morphological studies have involved observation and quantification of plant characteristics, par-

ticularly ones relevant to yield. Through these studies we are gaining a knowledge of the ways in which different cultivars grow and what characteristics of the plant are important to its ability to produce fruit.

"Work with chemical growth regulators is still in progress. Success in this area could have interesting applications in the field, allowing some control over amounts of runner and upright growth.

"Two experiments have taken place in which color enhancement of cranberries was noted. In one a chemical, malathion, was used, in the other radiation was used. Our research now concentrates on frost damage and morphological components of yield. Information in both of these areas is expected to be of help to the grower as well as being of interest in the field of plant physiology and anatomy.

"Full reprints of some papers cited here may be obtained from G.W. Eaton, Dept. of Plant Science, University of British Columbia, Vancouver, B.C. as long as the supply lasts."

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Food for the Spirit

Don't be specific!

Dr. Mason of Manchester, England, a Baptist preacher and Old Testament scholar, tells an amusing story of a young minister serving a remote parish located on a river in a lumbering area of northeastern Canada.

This was a community that could be rather hard on a minister if the members of the parish came to dislike him, or were offended by something he said in the pulpit. But the new minister was a personable young man and . . . to begin with . . . was liked by everyone who had a chance to know him.

As time went on, however, he found that some of his regular church members had one practice unworthy of the Christian faith they professed. Each village along

the river had its own number, which was stamped on its logs before they were floated down the waterway. As the logs floated by from up-river, some of the people in the village served by the young minister would capture the logs, saw off the ends that bore the number of an upstream village, and replace it with their own village's number. Later they collected payment for these "pirated" logs.

Against Sin

It's time to preach about sin, thought the minister. His sermon on sin was well received. Everyone was against sin.

The following Sunday, he preached on the theme, "Thou shalt not steal." This was also well received. Everyone in his congrega-

tion was certainly against stealing. The results for which he had hoped did not appear; no one was in the least conscience-stricken.

Finally, he preached a sermon on "Thou shalt not cut off the end of thy neighbor's logs." This sermon brought results. The next week, there was a meeting of the congregation, and the young minister was asked to leave. To be against sin was fine. To oppose stealing was what every minister should do. But to address himself to the specific sin they were continually committing was more than they could take!

Yet if we are to be saved from the sinful ways that could destroy us, we need to know which of our deeds and attitudes are sinful, and need to be dealt with. This requires a "courage of the clergy," and a moral and spiritual sensitivity on the part of a congregation.

Does your minister ever get specific? What is your reaction if he does?

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A cranberry fungicide that doesn't slow ripening!

The trouble with some cranberry fungicides is that while they may control fruit rot, they reduce color development. *Not* ORTHO DIFOLATAN® 4 Flowable.

What's more, this efficient fungicide clings tightly, resists washing off. Rain actually prolongs protection because it helps distribute DIFOLATAN to new growth. It provides top flight protection against fruit rot, even when conditions favor disease development.

DIFOLATAN can be mixed with most commonly used insecticides to save you time when spraying, but don't combine it with highly alkaline materials. DIFOLATAN is easy to handle. It stays in suspension with minimum agitation and there are no particles to clog the nozzle.

Apply DIFOLATAN at 10 to 14 day intervals. Avoid Accidents: For safety, read the entire label including cautions. Use all chemicals only as directed.



ORTHO

Chevron Chemical Company

Mass. Cranberry Station & Field Notes

by **IRVING E. DEMORANVILLE**
extension cranberry specialist

Personals

Dr. Chester Cross was an invited speaker at a symposium on World Hunger and American Responsibilities held at Smith College, Northampton, Mass. on February 18-19. His topic was "Possibilities of Increasing Food Production." Also included in the program were Agriculture Economist Don Paulberg and Senator Hubert Humphrey.

Dr. Robert Devlin attended the Annual Meeting of the Weed Science Society of America in Denver, Colorado from February 2-5. Bob presented a paper on herbicide uptake when combined with growth regulators. He also attended meetings of the Plant Growth Regulator Working Group as a member of the Executive Committee.

Weather

February was a pleasantly warm month averaging 3.9 degrees a day above normal at East Wareham, while in Boston the average was nearly 7 degrees a day above normal. This was the warmest February since 1960 and tied with 1937 and 1949 for fourth warmest in our records. The warmth was especially welcome following a very cold January and a series of twelve of the last sixteen years when the month was colder than normal. Maximum temperature was 64 degrees on the 27th and minimum—4 degrees on the 7th. The 64 degree temperature sets a record set in 1930 for the warmest single February* temperature ever recorded here. Warm periods were 1st, 2nd, 11th, 13th, 15-19th, 22nd and 25-29th. Cooler than average days were on the 3rd, 5-7th and 23rd.

Precipitation totalled 2.48 for the month which is slightly more than one inch below normal. There were 11 days with measurable precipitation with 1.04 inches on the 1-2nd as the largest storm. We are 1-1/6 inches above normal for the two-month period but 1-1/3 inches behind 1975. Snowfall was only 4.3 inches on two days, with 4 inches of it coming on the 6th. This is only about one-half our average.

Charts

The 1976 Insect and Disease, Weed and Fertilizer charts have been printed and mailed. Growers are reminded to read all notes and cautions on the charts; these are extremely important considering the emphasis on clean environment.

Anyone not receiving charts should contact the Cranberry Station in East Wareham.

Frost Warning Service

The Cape Cod Cranberry Growers Association is again sponsoring the telephone frost warning service. Applications were mailed to all growers in early March. If a grower has not received an application, he should notify Mr. Irving E. Demoranville, treasurer of the association, Cranberry Experiment Station, East Wareham, MA 02538. There is a spot on the application for a donation to the telephone answering service which is also sponsored by the association and is in opera-

Continued on Page 20

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CHRISTMAS TREES

from seedling to sales

by Bill Rawlings
American Agriculturist

Will this be your year to start raising evergreens for the ornamental and Christmas tree market? Perhaps you might benefit from our 20 years of experience in raising, shaping, harvesting and selling evergreens.

Were I to start today, my goal would be to raise only as many trees as I could care for individually, rather than as many as I could plant. Perhaps a thousand a year would be enough, with the aim of completely turning over one thousand trees annually, starting with the seventh year. This would give a person plenty to do, assuming he could inspect each tree annually and give it the individual attention it needs . . . pruning, shaping, and spraying . . . to attain premium quality.

Tree-growing is hard work, and you should obtain a decent return for the hours of toil that go into

producing a marketable specimen. It takes years to grow a tree to saleable size, and every tree represents a major investment of time, labor and talent. I am amazed that some growers can market a tree for as little as a dollar and feel that they have a profit. Either their labor must cost them almost nothing, or they must have extraordinarily poor-quality trees!

Planting

Work starts the minute the seedlings arrive, for they should be unpacked immediately, set in a slit trench about as wide as a shovel and as deep as the average round-point shovel, with the dirt tightly packed around their roots and thoroughly saturated with water. Let no air reach the roots. The dirt should cover the roots; the rest of the seedling should be exposed.

The backbreaking labor comes when the seedlings are planted. Put several bundles of seedlings in a bucket and mix some water and dirt to make a muddy slurry deep

enough to keep the roots wet. Get someone else to carry the bucket, while you take a round-pointed shovel with a long handle.

Push the shovel into the ground, step on it, and move the handle forward to make a slit in the earth. The other person should then place the seedling into the slit and hold it in place while you pull out the shovel. Then you move forward two paces and reinsert the shovel. Meanwhile, your partner has used his foot to tightly seal the dirt around the first hole, and has another seedling in his hand ready to drop into the hole you have just made.

Exchange

Using this method, we have planted as many as a hundred trees per hour. It's a good idea to exchange tasks every hour; the planting goes faster, and each individual gets a chance to use different muscles. After planting trees for a full day, you'll be

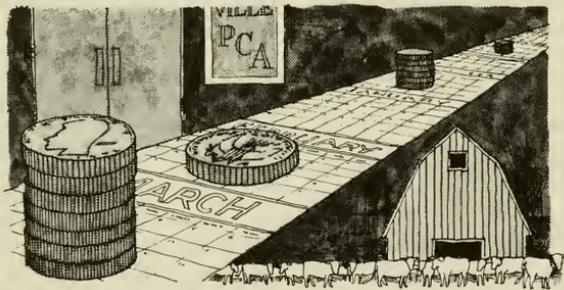


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tell it like it is...
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Straight-talk from PCA

A line of credit is almost as good as money in the pocket.

A line of credit: It's like having many pre-arranged loans, just waiting for you. Then you can take advantage of *tax planning* purchases...or unexpected *price breaks* on feeders...or big *discounts* on large-volume purchases. □ We can help you determine how much borrowed capital your operation needs and can support. You needn't borrow that much...but you will have a better idea of how far you can go, if necessary, in your financial planning. □ So come in soon! Talk with us about establishing *your own* line of credit.



Production Credit Associations of Wisconsin



We're spreading the word

Farming is everybody's bread & butter

surprised to find how good a h
bath feels!

Some folks use a mattock whe
planting, but we have found th
shovel method much easier. I
suitable soils, a commercial tre
planter pulled by a tractor can b
used, but this is not feasible whe
there are only a small number o
trees to plant. When operated by
competent help, the machine does
good job. If care is not taken wit
the planting, though, the operator
can be worthless.

The machine opens a thin slice
in the earth, inserts a tree, ther
closes the dirt around the plant.
Constant inspection is required to
be sure each part of the operation
is done properly, that the spacing
is correct, that the trees are inser
at the proper depth, and that the
feeding mechanism is working as
it should.

Boy Scout troops often seek
projects of this sort, because thi
type of work gives them a chance
to earn merit badges and experie
in the outdoors. Some will even
camp overnight at the planting site
to gain camping experience.

Do they do a good job? Much
depends on their leadership and on
the individual boys. Some do an
outstanding job... and then there
are others!

In return for their work, you
should make a decent donation to
the troop's camping fund. This
allows them to earn money for
tents and sleeping bags, and help
allay the cost of summer trips tak
as a troop. Planting trees surely
teaches the boys the value of work,
and they can come back to see the
seedlings they have planted grow
into trees.

Through the years, we have
found that our ideas about tree
plantations change. Absentee man
agement is wasted effort. Through
the years, we have seen many suc
plantings grow into scraggly, worth
less trees. They are useless and
unmarketable for Christmas trees.

Three men I know own a
plantation of white spruce plant
ed in 1927. After almost 40 years,
this should be good timer, but one of

the owners thought that no tree should ever be cut. Consequently, few of the trees exceed ten inches dbh (diameter at breast height). They will never be worthwhile for anything . . . game cover, wildlife or timber . . . until they are thinned.

Trees taken out during thinning can usually be sold for pulpwood, but this is a market which fluctuates drastically, and may be such that it wouldn't even pay to cut the trees.

However, the market is always good for *quality* trees . . . whether for ornamentals, Christmas trees, or timber . . . but it's a highly selective market, and not every tree you plant will make it. Poorer specimens must either be cut and left in the plantation, or given away.

If allowed to continue growing, they take space, light and nutrients from trees that can bring a dollar back into your pocket, so dispose of any and all trees that are not eye-appealing. You'll find that people will pay premium prices for what is left.



Should you fertilize your seedlings? If you are growing trees for timber, it may be worthwhile, but it might also be worth setting them 12 feet apart, which will give you

from five to six hundred per acre. Prune the bottom branches when the tree is about 12 feet in height.

We've heard that deer enjoy eating the tops from fertilized trees, so let us know about your experience in this endeavor. Our trees have never been fertilized; our goal has been to produce dense growth, trees that require minimum shearing, and without wide spaces between the branches. Generally, a fertilized tree will grow vertically.

Brush control can be another problem for the grower. Brush can choke out your trees, cause them to become misshapen, and hold back their growth. Yet a grower can't afford to hire someone to come in and cut out the "popple" and other weed trees that compete with the evergreens.

This is still another argument in favor of the smaller planting, where weed trees are more easily controlled without outside help. Help is mighty expensive today, and unless you do as much as possible yourself, your investment per tree

Continued on Page 14

Blanchard Equipment Co. Inc.



ROUTE 132 & PHINNEY'S LANE
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INTERNATIONAL HARVESTER

1976 Cranberry Weed Control

This schedule is intended to furnish a general review. More detailed information may be obtained from the Cranberry Experiment Station, East Wareham, Massachusetts.

L. E. DEMORIANI AND R. M. DEVLIN

REVISED JANUARY 11, 1976

NOTICE: The use of this information assumes all risks for personal injury or property damage.

ALL PESTICIDES listed in this publication are registered and cleared for suggested uses according to Federal registrations and State laws and regulations in effect on the date of this publication.

When trade names are used for identification, no product endorsement is implied, nor is discrimination intended against similar materials.

NOTES

1. PROVIDE ADEQUATE DRAINAGE or treatments below are of questionable value.
2. APPLY THE EXACT QUANTITIES of chemicals to measured areas and at indicated times. One sq. rod equals 16 2/3 sq. ft. One acre equals 160 sq. rods.
3. WASH EQUIPMENT with soap and water immediately after using. Rinse with ammonia solution after using borax-type herbicides.
4. HAND WEEDING is often practical with scattered grass and woody weeds if it can be removed.
5. MOWING/TE treatments helps to prevent shading and reduces seed formation.
6. LAKE WATER causes a general reduction of annual grasses. If held until June 1, and if temperatures are high, small bromeliads are usually killed.
7. BE MOST EFFECTIVE rain should befall the application of any dry herbicide formulation within 4 days or a bog should be sprinkled with water.
8. IRON SULFATE (ferrous in excess of 20 lbs. per sq. rod) may kill newly set vines or mature vines when they have been standing within 10 months. If 9 parts of iron sulfate are mixed with 1 part of salt, rate or application is unnecessary.
9. CHLORO-IPC may used at 75 lb. of 20% granular per acre before late water from mid-March to April 10.
10. AGRICULTURAL BURNING of brush or grass is allowed if permission is obtained from the Director of Air Pollution Control, Southeastern Area, Lakeville Hospital and under permit from local fire chief.

CAUTIONS

1. CHEMICALS not registered for use on cranberries must not be used.
2. SIMAZINE must be sprayed evenly with continuous agitation using the correct amount. An overdose may injure vines or crop. This is weak vines and so plantings one week to three years old are very susceptible to injury. In the spring use a pre emergence spray. May be used safely in successive years.
3. VINES SPRAYED WITH herbicide are highly inflammable. All broadcast treatments are likely to reduce the crop and may increase susceptibility to low temperatures.
4. CASORON applications by regulation must be at least 12 months apart. Applications under sand or on weak vines may cause injury.
5. Herbicide use makes vines more susceptible to injury and crops may be reduced.

TIMING	WEEDS	TREATMENT
February and March	SHORES and DIKES	SILVEX — 1 gal. ester formulation (4 lbs. acid equivalent per gal.) in 50 gals. kerosene or No. 2 fuel oil. Wet thoroughly. Will control scrub oak, ballflower, poison ivy, pitch pine and other woody plants.
	GREEN GRASS	COPPER SULFATE — Distribute evenly on ice or in bog floverage 4 lbs. of crystals per acre ft. of water. Treat bog should have the water impounded for 1 week.
March to Mid-May	Cut Grass, Mann Grass, Shore Grass, Aster, Plantain, Needle Grass, Nut Grass, Dutchman, Pickleweed, Mud Rush, Haircap Moss, Royal Fern, Brakes Fern, Sensitive Fern, Wild Strawberry, Marsh St. John's Wort, Summer Grass, Blue Joint, Loosestrife, Wild Bean, Hensblood, Wood Grass, Cotton Grass, Ragweed, Fireweed, Spike Rush, Horsetail, Sverl, Smartweed.	DICHLORENIL (CASORON) — 4% granular, 100 lbs. per acre. May be used before late water from mid-March to early April to avoid high temperatures. May be used before late water from April 10 to early April 20. On early water only, 75 to 80 lbs. per acre will result in a adequate weed control and may be used safely in successive years. (See Caution 4 and Note 7).
	DOODER, CORINGRASS, WARTY PANIC GRASS, CRAB GRASS	DICHLORENIL (CASORON) — 4% granular, 100 lbs. per acre. Use just before bud break. (See Caution 4 and Note 7).
	SUMMER GRASS	CHLORO-IPC — 20% granular, 100 lbs. per acre. Apply by May 1.
	CUT GRASS	(See Note 4 and Caution 3).
	SOME UPLAND GRASSES ON BOG	MORCRAN — granular, 100 lbs. per acre. In April. May be used before late water from mid-March to April 10 for control of CUT GRASS and NUT GRASS. (See Note 7).
	NUT GRASS, CUT GRASS, SUMMER GRASS, MUD RUSH, WHITE VIOLETS, CANADA RUSH	SIMAZINE — 3% lbs. 80% W.P. in 300 gals. water per acre, from late March through mid-April. (See Caution 3).
	CORN GRASS, WARTY PANIC GRASS	SIMAZINE — 3% lbs. 80% W.P. in 300 gals. water per acre, only from mid-April through first week of May. (See Caution 3).
	RAGWEED, PITCHFOUR, SUMMER GRASS	CHLORO-IPC — 20% granular, 100 lbs. per acre, by May 1. (See Note 8 and Caution 3).
	WARTY PANIC GRASS, FEAR THUMB, FIREWEED, SMARTWEED	CHLORO-IPC — 20% granular, 100 lbs. per acre, on first year planting, 10 lbs. per acre on mature vines. Late April to bud break. (See Caution 3).
	CORN GRASS, BARNYARD GRASS, CRAB GRASS, FEAR THUMB, FIREWEED	CHLORO-IPC — 20% granular, 100 lbs. per acre, just before bud break. (See Caution 3).
After Late Water	DOODER	WATER WHITE KEROSENE — 600-800 gals. per acre.
	POVERTY GRASS, CAREX SPP., SPIKE RUSH	STOODARD SOLVENT — 300 gals. per acre (3 gals. per sq. rod). Primarily as spot treatment.
	WOOL GRASS, HAIRY PANIC GRASS	IRON SULFATE — 50 lbs. per sq. rod. (See Note 8).
	RUSHES, ASTERS, GOLDEN ROD	EVITAL — 4-6 granules 30 to 100 lbs. per acre. Ground application only. Maximum rate on newly planted vines — 80 lbs. per acre. Injury may occur in areas where water pollution for several days after flooding or heavy rains.
	SPHAGNUM MOSS	SPRING FLOW — Flood bog May 10-12, hold until July 15-20. (See Note 4).
	CUT GRASS, NUT GRASS, BMORE GRASS, NEEDLE GRASS, BARNYARD GRASS, SPIKE RUSH	STOODARD SOLVENT — Mix 1 part Stoodard to 1 part water white kerosene. Apply 600 gals. per acre within 2 days of withdrawal of the flood.
	BRAMBLES	WATER WHITE KEROSENE — 800 gals. per acre. Treat within 8 days when temperature is below 65 degrees and bog is well drained.
	LAKESTRIFE, CUT GRASS, HAIRY PANIC GRASS	SILVEX — 1 gal. ester formulation (4 lbs. acid per gal.) in 50 gals. water, 100 gals. per acre.
	WOOL GRASS, SPIKE RUSH, CAREX SPP.	IRON SULFATE AND SALT — 9 to 1 and apply small amount to each plant. (See Note 8).
	Mid-May and June	TRIPLE AWNEED GRASS, ANNUAL GRASSES	IRON SULFATE — 35 lbs. per sq. rod or small amount to each plant. (See Note 7 & 8).
BRAMBLES ON SHORE		IRON SULFATE — 50 lbs. per sq. rod. (See Note 7 & 8).
ROYAL FERN, CINNAMON FERN		DALAPON — 10 to 15 lb. 14 gals. water per 1000 sq. ft. ditch, will control catstail, bar-neck, grasses, sedges, and rushes.
SENSITIVE FERN, FEATHER FERN		SILVEX — 1/2 teaspoon per gal. water or 1/4 pint per 100 gal. water of ester formulation (4 lbs. acid per gal.) will control poison ivy, wild cherry, maple spruce, grapevine, and possibly other broad-leaved weeds. Avoid drift onto bogs.
MARSH ST. JOHN'S-WORT, CINQUEFOIL, ASTERS		DALAPON — 20 lbs. in 300 gals. water per acre. For poverty and switch grass.
DITCH WEEDS		SALT — 1/2 lb. in gal. water. Never spray over 800 gals. per acre. Knappe wood tops treated off Report as necessary. (See Note 3).
SHORES and DIKES		EGULIT — 1 to 2 gals. per surface acre. Do not use water for any purpose for a minimum of 10 days. Use only on still water areas outside of the bog.
WILD BEAN		NITRATE OF SODA — 11 oz. & 1/2 teaspoon wetting agent per gal. water or 100 lbs. & 1/2 cup wetting agent in 100 gals. water per acre. (See Note 2).
WATER WEEDS		ETHREL (ETHEPHOS) — 2 oz. + 1 pint spreader-sticker per acre. Wet thoroughly. Not applied for sprinkler application. For best results apply when daytime temperatures of 60° F or higher are expected. Late varieties are not responsive.
10 to 14 DAYS BEFORE HARVEST		DICHLORENIL (CASORON) — 4% granular, 75-100 lbs. per acre, after November 15, when temperatures are below 60° F. (See Caution 4).
In the Fall after Harvest	Cut Grass, Blue Joint, Aster, Wood Grass, Cotton Grass, Mud Rush, Marsh St. John's Wort, Summer Grass, Loosestrife, Needle Grass, Nut Grass, Ragweed, Sphagnum Moss.	SIMAZINE — 3 lbs. 80% W.P. in 300 gals. water per acre, or CHLORO-IPC 20% granular, 50-75 lbs. per acre, before November 1.
	SUMMER GRASS	CHLORO-IPC — 20% granular, 100 lbs. per acre, before Nov. 1.
	SORREL	STOODARD SOLVENT — 300 gals. per acre (3 gals. per sq. rod). Primarily as spot treatment.
	GOLDEN ROD, WILD ROBES	DALAPON — 10 lbs. in 300 gals. water per acre, before November 1, will reduce following crop, especially on Early Black.
	POVERTY GRASS, SWITCH GRASS	DICHLORENIL (CASORON) — 4% granular 100 lbs. per acre, after November 15. Retire areas in April with KEROSENE @ 800 gals. per acre. (See Note 1 and Caution 3 & 4).
	BLACKBERRY, RUNNING BRAMBLE	
	FRESH MEADOW GRASS (CAREX SPP.)	

WARNING

PESTICIDES MAY BE POISONOUS. READ AND FOLLOW ALL DIRECTIONS AND SAFETY PRECAUTIONS ON LABELS. HANDLE CAREFULLY AND STORE IN ORIGINAL LABELED CONTAINERS OUT OF REACH OF CHILDREN, PETS, AND LIVESTOCK. DISPOSE OF EMPTY CONTAINERS RIGHT AWAY, IN A SAFE MANNER AND PLACE. DO NOT CONTAMINATE FLOODS, STREAMS, AND PONDS.

Issued by the Extension Service, A. A. Spillman, Dean and Director, in furtherance of Acts of May 8 & June 30, 1914, University of Massachusetts, United States Department of Agriculture, and County Extension Service cooperating.

1976 Cranberry Insect and Disease Control

This chart is intended to furnish a general review. More detailed information may be obtained from the Cranberry Experiment Station, East Wareham, Massachusetts.

W. E. TOMLINSON, JR., B. M. ZUCKERMAN AND E. DEMONARVILLE

REVISED JANUARY 13, 1976

NOTICE: THE USER OF THIS INFORMATION ASSUMES ALL RISKS FOR PERSONAL INJURY OR PROPERTY DAMAGE.

All pesticides mentioned in this publication are registered and cleared for the suggested use according to Federal regulations and state laws in effect on the date of this publication. When trade names are used for identification, no product endorsement is implied, or is discrimination intended against similar materials.

Because of the Federal Entomological Pesticide Control Act there are no approved insecticides for cranberry weevil, cranberry gnat, spawners, red grub, and Gypsy Moth and on cranberry.

CAUTIONS

1. Make all pesticide applications in a manner to prevent contamination of streams, ponds and public ways and imposed water as long as possible after applying. On-ut use Guthion and Dithionon if drainage cannot be held at least 7 days. Don't apply Guthion or malathion after bloom stage.
2. Read and follow label instructions. It is a criminal offense and misuse of a pesticide to use one for an insect not on the label.
3. Avoid insecticide applications during bloom if possible to prevent loss of bees. If it is necessary, make sprayer applications at night and run sprayer early following morning to delay foraging activity. Delay aircraft application as late as bloom as possible and advise beekeeper to remove bees before spraying.
4. MAXIMUM ACTUAL TOXICANT per acre application and time of last application:

Carbaryl (Sevin) 3 lbs. spray, 4 lbs. dust	.....	one day before harvest
Diazinon 3 lbs.	.....	7 days before harvest
Difoliation (Capitol) 5 lbs.	.....	50 days before harvest
Ferbam 11 4 lbs.	.....	28 days after mid-bloom
Guthion (Azinphosmethyl) 1.0 lb.	.....	31 days before harvest
Malathion 2 5 lbs.	.....	3 days before harvest
Mansh 2 3 lbs.	.....	38 days after mid-bloom

Methoxychlor 4 lbs.	.....	14 days before harvest
Omite (Propargite) 6 E - 30 oz.	.....	1 Pre-bloom - 1 more
Parathion 0.6 lbs.	.....	14 days before harvest
Permethrin 1.0 lb.	.....	15 days before harvest
Pyrethrin (60% Pyrethrin) Buloxide - 6% Pyrethrin) 6 oz.	.....	30 days before harvest
Zinb 5 lbs.	.....	No time limitation

NOTES

1. ONLY APPLICABLE INSECTICIDES if damaging numbers are present. If 60 insects per 100 berries are present, 24 berries or 2000 berries (approximately) should be treated. Make weekly applications to control weevils and gnats.
2. EARLY WATER - Remove water from on late March or early April. Farmers irrigated systems, increase total water, decrease severity of flowering injury, but may increase insecticide frequency and cranberry root rot.
3. LATE WATER - Irrigate water later (May 20 or spraying) to late June and following from mid-April to May 20. Concentrate emergence of an insect and control later in season, reduce insecticide frequency, and may control insecticide. Excess water may damage plants.
4. BEE LOGGING -

1. KEEPER - Structural beramne treatments at rates used for weevil control will improve, but not eliminate, flowering and soil insects, but are likely to reduce the crop and increase sensitivity to insecticide treatments and soil insects.
2. CHEMICALS - Generally may injure bee growth, reduce bee survival, and reduce the number of bees that fly to the structure.
3. CHEMICALS - Avoid insecticide applications during bloom if possible to prevent loss of bees. If it is necessary, make sprayer applications at night and run sprayer early following morning to delay foraging activity. Delay aircraft application as late as bloom as possible and advise beekeeper to remove bees before spraying.
4. FERTILIZERS - They may cause nutrient deficiency, and a nutrient deficiency is related to root rot. Use immediately. Excess may cause nutrient deficiency or burn plants.
5. COLDS - If they are necessary to have a hard to obtain refrigerator in block vines or other vines or other vines.
6. FERTILIZERS - Fertilizers should be used in early May. Fertilizers should be used in early May. Fertilizers should be used in early May. Fertilizers should be used in early May.

Timing	Pests	Approved Pesticide or Treatment	Formulation	Amount of Formulation Per Acre	
Dormant To Delayed Dormant	RED MITES	Late Water or Keracore	Use late water or apply 300 gal. water white beramne per acre. Be alert for outbreaks following late water. (Note 2 & 3)		
	ROOT GRUB	Summer Plow	Drain thoroughly from early April to May 15. Refuse May 15-20. Keep well flooded. If cut worm infestation develops apply 50 WP or 8% 1B, 10% 2P or 3 oz. (1.5 oz.) CARBARYL per acre or dust 1% CARBARYL 10.5 lbs. per acre. (Caution 1, 2 & 4)		
	WHITE GRUB	Summer Plow			
New Growth To Hook Stage	FIREWORMS	Carbaryl	50% WP	1 lb.	
		Carbaryl	80% Sprayable	3% 1B.	
		Carbaryl	1 P Flowable	50 50 50	
		Sevin	3% Dust	4 lbs.	
		Sevin	4 lbs. Carbaryl / gal.	4 lbs.	
	CUTWORMS	Parathion	5 P Flowable	4 lbs.	
		Diazinon	50% WP	4 lbs.	
		Guthion	AC009	4 lbs.	
		Guthion	30% WP	3 lbs.	
		Guthion	32C	3 lbs.	
SPARGANOTHIS FRUITWORMS	Malathion	30% WP	7 lbs.		
	Malathion	17% EC	4 lbs.		
	Malathion	8 P Flowable	3 lbs.		
	Malathion	1% Dust	50 lbs.		
	Malathion	1% Dust	50 lbs.		
TIPWORM	Carbaryl	Same as Fireworms above			
	Sevin	Same as Fireworms above			
	Diazinon	Same as Fireworms above			
	Guthion	Same as Fireworms above			
	Guthion	Same as Fireworms above			
RED MITE	Parathion	5 P Flowable	4 lbs.		
	Guthion	Same as Fireworms above			
	Omite	60	30 oz.		
	Omite	60	30 oz.		
	Omite	60	30 oz.		
Hook Stage To Start of Bloom	BLUNT-NOSED LEAFHOPPER	Carbaryl	Same as Fireworms above		
		Sevin	Same as Fireworms above		
		Parathion	5 P Flowable	4 lbs.	
		Alite-Tes	30% Methoxychlor + 3% Diazinon	4 lbs.	
		Alite-Tes	3% Diazinon	4 lbs.	
First Scattered Bloom	FRUIT ROTS	Apply 3 lbs. 80% Mansh or 7% Diazinon or 7% Permethrin to 30-60 gal. water by ground rig or 13 gal. water per acre by aircraft at first scattered bloom and after mid-bloom - or apply 1 lb. 80% Mansh or 7% Permethrin by sprayer at first scattered bloom and 14 and 28 days later - or apply 3 lbs. Diazinon 4 flowable at 100-300 gal. per acre at first scattered bloom and 14 and 28 days later. (Caution 1, 2 & 4. Note 4b, 7 & 8)			
		Parathion	5 P Flowable	4 lbs.	
		Sevin	Same as Fireworms above		
		Carbaryl	Same as Fireworms above		
		Diazinon	50 WP	9 lbs.	
	CRANBERRY FRUITWORM	Diazinon	AC009	9 lbs.	
		Malathion	egg counts every 2-4 days until August 1st on Early Blacks and until August 30 on Hones. Two uninfested and uninfested fruitworm eggs per 100 berries need treatment. Do not wait for appearance of red berries. Repeat 4 times at 10 day intervals for fruitworm and sparganoths. (Caution 1, 2 & 4. Note 1, 2, 3, 14 & 15)		
		Sevin	Same as Fireworms above		
		Carbaryl	Same as Fireworms above		
		Diazinon	Same as Fireworms above		
Late Bloom	SPARGANOTHIS FRUITWORM	Carbaryl	Same as Fireworms above		
		Sevin	Same as Fireworms above		
		Diazinon	Same as Fireworms above		
		Guthion	Same as Fireworms above		
		Guthion	Same as Fireworms above		
	FIREWORMS	Parathion	5 P Flowable	4 lbs.	
		Sevin	Same as Fireworms above		
		Carbaryl	Same as Fireworms above		
		Diazinon	Same as Fireworms above		
		Diazinon	Same as Fireworms above		
BLUNT-NOSED LEAFHOPPER	Parathion	Same as Fireworms above			
	Sevin	Same as Fireworms above			
	Carbaryl	Same as Fireworms above			
	Alite-Tes	Same as leafhopper above			
	Alite-Tes	Same as leafhopper above			
Late July & August	RED MITE	Omite	60	30 oz.	
		Omite	60	30 oz.	
Sept. 25 or Earlier	GIRDLER LARVAE	Plow 4 days or more as Early Blacks are harvested starting not later than Sept. 30 (with late harvest on if necessary) (Note 4 & 5)			
		Apply 5 lbs. 70% FERBAN or 100 gal. water at 1 gal. per sq. ft. Treat 3 ft. outside and 3 ft. within ring in fall immediately after harvest. (Note 7)			
After Harvest	FAIRY RING	See Insect Vets on Fertilizer Chart for method to revive vines weakened by Fairy Ring.			

WARNING

PESTICIDES ARE POISONOUS. READ AND FOLLOW ALL DIRECTIONS AND SAFETY PRECAUTIONS ON LABELS. HANDLE CAREFULLY AND STORE IN ORIGINAL LABELED CONTAINERS OUT OF REACH OF CHILDREN, PETS AND LIVESTOCK. DO NOT CONTAMINATE FORAGE, STREAMS, OR PONDS. DISPOSE OF EMPTY CONTAINERS RIGHT AWAY IN A SAFE MANNER AND PLACE.

Parathion and Guthion are dangerous. Repeated exposure to phosphates type insecticides may, without symptoms, increase susceptibility to phosphatic poisoning. It is suggested that parathion and Guthion treated bags be stayed off and workers be notified before applying them. Stay off and workers be notified before applying them. Stay off and workers be notified before applying them.

Before using parathion or Guthion read and post safety rules. Tell family and co-workers. Make certain your doctor understands. After an accident there may not be time.

CRANBERRY FERTILIZER CHART

I. E. DEMORANVILLE

REVISED JANUARY 1970

This chart is intended to furnish general treatments. More detailed information may be obtained from the Cranberry Experiment Station, East Wareham, Mass.

NOTES

- GOOD DRAINAGE AND ADEQUATE IRRIGATION** are essential for best response to fertilizer. A soil probe is invaluable for determining bog moisture conditions.
- DISCOLORATION** similar to nitrogen deficiency may be caused by insect, red mite or disease injury.
- GROUND APPLICATIONS** of non-pelletized fertilizer should be applied only on dry vines. Careful hand spreading gives the most selective application. Applications of pelletized fertilizer will not injure wet vines.
- SPLIT APPLICATIONS** provide a more uniform supply of nutrients for use by the cranberry vines.
- SUSCEPTIBILITY TO SPRING FROST INJURY** may be increased by fertilizer applied in the fall or early spring.
- KEEPING QUALITY AND COLOR** may be impaired by excessive use of nitrogen because of increased shading and higher moisture.
- Sprinkler systems may be used to apply fertilizer but unless distribution is uniform fertilization will not be uniform. The system should be checked before using it to apply fertilizer.
- A crop of 100 barrels per acre removes 23 lbs. of nitrogen, 18 lbs. of phosphorus and 18 lbs. of potassium from the soil. Applying 230 lbs. 10-20-10 or comparable amounts of other analyses replaces the nitrogen. Much of the phosphorus is unavailable to the plant because of the nature of cranberry soils and the potassium leaches out very rapidly.

Fertilizer for Cranberry Bogs

Remarks	When To Apply	Grade	Amount Per Acre
<p>OVER — VEGETATIVE VINES</p> <p>No NITROGEN for Early Black New Growth over 2½ inches Howes New Growth over 3 inches</p>	<p>Early Spring</p>	<p>0-25-25 0-20-20 0-20-0</p>	<p>160 lbs. 200 lbs. 200 lbs.</p>
<p>AVERAGE VINES</p> <p>20 pounds of NITROGEN per Acre per year for Early Black New Growth 1½-2½ inches Howes New Growth 2-3 inches</p>	<p>April — Early August or October-November</p>	<p>5-10-5 10-20-10 10-10-10 16-16-16 15-40-5 12-24-12 21-0-0 45-0-0</p>	<p>400 lbs. 200 lbs. 200 lbs. 125 lbs. 133 lbs. 167 lbs. 95 lbs. 44 lbs.</p>
<p>WEAK VINES</p> <p>40 lbs. of NITROGEN per Acre per year for Early Black New Growth less than 1½ inches Howes New Growth less than 2 inches</p> <p>This application may be used for bogs with very high production also.</p>	<p>As Above</p>	<p>5-10-5 10-20-10 10-10-10 16-16-16 15-40-5 12-24-12 21-0-0 45-0-0</p>	<p>800 lbs. 400 lbs. 400 lbs. 250 lbs. 267 lbs. 333 lbs. 190 lbs. 89 lbs.</p>
<p>To aid in the recovery of vines injured by Fairy Ring</p>	<p>Mid August through October</p>	<p>0-0-40</p>	<p>4000 lbs. or 25 lbs. sq. rod</p>
<p>NEW OR REBUILT BOGS</p> <p>3 or 4 applications, about 6 weeks apart, of complete fertilizer during the growing season. April Application, 20 pounds of NITROGEN per acre, summer applications, 10 pounds of NITROGEN per acre each. Urea may be substituted for 1 summer application. Sulfate of ammonia at the rate of 5 pounds of NITROGEN per acre may be substituted for any or all of the complete fertilizer treatments.</p>	<p>April-August</p>	<p>5-10-5 10-20-10 10-10-10 16-16-16 15-40-5 12-24-12 21-0-0 45-0-0</p>	<p>200 lbs. 100 lbs. 100 lbs. 62 lbs. 67 lbs. 83 lbs. 25 lbs. 20 lbs.</p>

Issued by the Extension Service, A. A. Spielman, Dean & Director, in furtherance of Acts of May 8 and June 30, 1914; University of Massachusetts, United States Department of Agriculture, and County Extension Service cooperating.

FINDING ALTERNATIVES TO PESTICIDES

*as bugs grow immune to new sprays,
others must be found*

David F. Salisbury
of the Christian Science Monitor

Pests are gaining ground on chemical pesticides in America's farmlands.

This is the conclusion of a major scientific review of the situation made by the National Academy of Sciences.

The decreasing potency of chemical pesticides and their environmental effects make it imperative to search for alternatives, the study says.

Despite their success, the future of chemical pesticides is very much in question, the study finds.

More than 200 pest species have developed resistance to common pesticides and often they kill off a pest's natural predators more effectively than the pest itself.

However, development of new methods is hindered by lack of support for research, regulatory procedures, and the nature of U.S. agricultural support, academy scientists charge.

Growing public concern about health and environmental effects means regulation will be increased

and a smaller number of pesticides approved, the study predicts.

(Citing potential health hazards, the U.S. Environmental Protection Agency has now banned the use of mercury in virtually all pesticides and in paints. Mercury is used in treating seed, such as wheat seed, to kill bacteria. Similarly, it is added to paint to prevent mildew.)

Research has opened up some possible pesticide alternatives, but they are not being pursued vigorously, scientists say.

This month the first "natural pesticide," a virus that kills cotton bollworm and tobacco budworm, was officially registered. Viral agents are considered promising because they act selectively, rather than attacking a large number of species.

But this environmental advantage means that many different viral pesticides must be developed to replace a single chemical pesticide, the study points out—making them less economically attractive. And before a large number can be developed, scientists need better

methods for growing them, experts say.

The virus just registered took 10 years to develop. Much of this involved testing required by government regulations. These regulations, says the study, make it much easier for companies to introduce modifications of present chemical pesticides than to develop novel approaches.

Another promising pest-control measure: applying knowledge of the lives of pests to minimize the amounts of pesticides that are used. Academy scientists feel development of this approach has been held back because the Department of Agriculture's researchers are not familiar with ecological research.

It is generally agreed that use of chemical pesticides prevents some \$2 billion in crop losses yearly. Campaigns to wipe out the carriers of human disease also rely on chemical poisons.

Because of the importance of agriculture, the search for alternatives and the training of specialists who can help farmers use the fruits of ecological research need a higher priority, the study concludes. The report is entitled "Pest Control: An Assessment of Present and Alternative Technologies."

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will be much more than you'll ever realize when you sell the crop.

Much of our pruning time today is spent combating wild cherry, scrub apple and brush that grows up in the rows, between trees, or right in the middle of a choice specimen. Perhaps it would be wise to lay out your plantation rows so you could give them a semi-annual mowing with a rotary mower, or a mower similar to that used on the Gravelly tractor. The 30-inch cut of the Gravelly is almost ideal, although rocks might prohibit its use in some plantations.

What kind of tree will you grow? Our favorite throughout the years has been Colorado blue spruce. Everyone likes this tree; it grows well and takes minimum care. Those that do not sell for Christmas trees (where they command a premium price) can always be sold for ornamentals.

Red pine and white pine can be started as Christmas trees, then retained to grow into timber. They have insect enemies, and need spraying more often than we like, but they do have a dual purpose.

Austrian pine sold well for us as a Christmas tree, but how do you get rid of one 15 feet tall when the pulp men have no use for it? It is not noted for timber or pulp.

White spruce would hold second place after the Colorado blue spruce. The appeal is there for Christmas trees, and it, too, grows into timber. Few insects attack this species... in our plantation, at least.

Norway spruce has not grown well for us, and Douglas fir was a wasted planting with a low survival rate. Those that did survive were of questionable quality for Christmas trees. However, other growers not far away report excellent success with this tree, both in survival and sales.

Balsam fir survived well, but grew too well too fast, and with too much space between branches.

In my opinion, Scotch pine is almost a weed tree. If not kept pruned and sheared... an annual chore... they grow so rapidly that

no one will ever buy them for Christmas trees. They have little value except for the Christmas tree market, and woe unto the grower who has the "gold" species... the ones that turn yellow at the first cold snap. These can be sprayed and sold, but this is an added cost... although some growers tell me they get a much higher price that more than offsets the cost of spraying.

The Scotch pines we planted, supposedly the best seedlings money could buy, often developed several trunks rather than one main trunk and several offshoots. And the sawfly loves to feast on Scotch pine than any other tree, in our experience.

Before you plant, consult your local Soil Conservation Service (SCS) technician. Through the years they have told us what to plant, where to plant it, how, and why. Dave Anna (our SCS man) never gave me bad advice on any project connected with the soil, and I feel that we can never give these dedicated men enough tribute (or

enough pay). Sign up as a cooperator and they will map out your entire plot, matching the proper species with soil conditions.

REAP payments (available through the SCS) are \$40 per thousand trees planted this year (1975) in our county of Oneida, New York. You should be able to hire the trees planted for that amount; the local SCS office usually knows of a tree-planting crew.

Trees can be purchased from New York State for \$20 per thousand, but they can be used only for timber or Christmas trees; none may be removed with their roots on. We have always found these seedlings from the state to be of the highest quality, and never had a bad one yet. If you want Colorado blue spruce, however, you must buy them from a private nursery. The state does not supply this species.

Now let's assume that you have selected choice seedlings. You have carefully planted them, nursed them along, pruned and sprayed them, and now have a fine group of

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marketable trees. How do you sell them?

The best way is to advertise. Use your local pennysavers and newspapers, and the marketing service of our New York State Department of Agriculture and Markets. Let people know what you have for

sale. City dwellers from as far away as 50 miles will come out for a chance to choose and dig a tree for

their front yard, or to cut a tree for Christmas.

Saturate the market with advertising. The more people who see your trees, the more you'll sell. Word-of-mouth advertising is good, but the selling season is short, and when you have a thousand trees to sell, there's no time to waste.

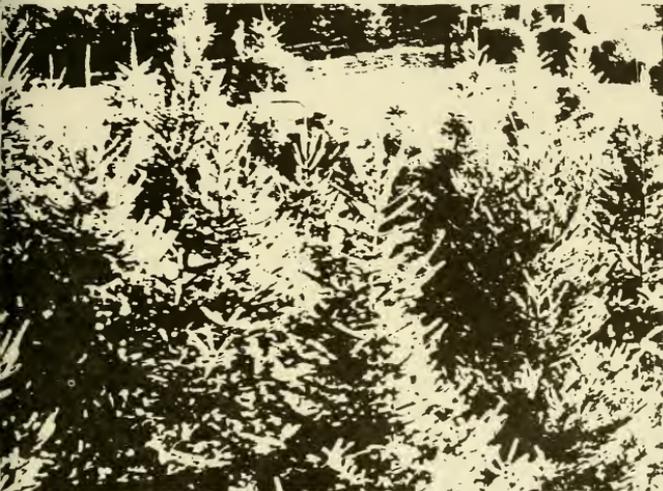
The Christmas market is one you must reach in those few short weeks in December prior to the

holiday. We find that buyers come in during the first week of December, and that cutting almost stops the final weekend before Christmas. Wholesale buyers come in November, but they must make a profit for themselves, so you will do better to offer your trees directly to the consumer.

Remember, plant a smaller number of trees and aim for the highest-quality tree possible. Ask a decent price for your trees; people don't mind paying for the best. One grower was offering his trees for three dollars, while we kept our price at five dollars each on the stump. He couldn't understand why he had so few buyers, and we had so many . . . until he came along to look at our trees.

Faithful buyers, once established, will buy from you every year, provided you maintain your quality, meet competitive prices, and treat them well.

Our trees have traveled far and near, and we take pride that so many customers come back each year for their Christmas trees and ornamentals. We must be doing something right!



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AGRICULTURE NOTES

Fish Kill Annual Report Publication

USDA creates panel to review regulatory programs

A special two-year panel has been created by the U.S. Department of Agriculture to evaluate certain of its programs which regulate how, where and when farm products can be marketed.

The panel, which will be made up of producer, processor, consumer and government representatives, will be headed by Richard L. Feltner, assistant secretary for marketing and consumer services. Donald E. Wilkinson, administrator of USDA's Agricultural Marketing Service, will be the committee's executive secretary.

Committee members will be named by Secretary of Agriculture Earl L. Butz in the near future.

The committee will examine selected USDA programs to determine how well they contribute to the orderly marketing of U.S. farm products. The committee will also review the impact of each selected program on farm income and consumer prices.

The special advisory committee will meet twice yearly for two years and will report its findings and recommendations to the secretary of agriculture.

A limited quantity of EPA publication entitled, "Fish Kill Caused by Pollution in 1977 Fourteenth Annual Report," which represents combined efforts of private individuals; state fish and game, health, and conservation officers; and water pollution control officials at state and local levels, available.

Free copies of the publication can be obtained on a first-come first-serve basis only, by writing to Public Affairs Division, U.S. Environmental Protection Agency Room 2203, John F. Kennedy Federal Building, Boston, MA 02203.

World Weather Watch

Because of persistent dry weather, the U.S. Great Plains continues to be a major agricultural trouble spot. In the USSR—mostly the southeast winter wheat areas—potentially damaging cold in early February caught some of the crop with little or no snow cover. In general, though, snow cover has been above normal.

Winter rains have been sparse in Malaysia, India, and Sri Lanka; only a few isolated spots received any significant moisture. Widespread storms and floods ravaged major crop areas of South Africa and Lesotho.

Unseasonable warmth and continued dryness increased stress on Hard Red Winter wheat and other crops in much of the central and southern U.S. Great Plains. Heavy precipitation in early February brought considerable relief to crops in much of the U.S. southwest.

Above average midwinter snow cover in the USSR protected winter grains against the cold. However, the southeast portion of the winter

wheat region experienced potentially damaging cold in early February and snow cover was briefly inadequate in part of the area. Snow depth increased considerably in most of the spring wheat region.

January rains benefited winter wheat in parts of Pakistan. India's northern wheat region, though, had only isolated areas of worthwhile rain. Elsewhere in India, Sri Lanka, and Malaysia, the prolonged dry spell caused much concern for crops.

Adequate winter rains sustained grains in most of the western Mediterranean region, despite extended periods of dry weather. Conditions have been excellent for winter wheat in Turkey and improved in Syria.

In eastern Europe wintering crops received above normal precipitation and snow cover appeared adequate during spells of cold weather. Although there has been little snow cover, temperatures remained relatively mild in western Europe, where heaving from freez-

ing and thawing poses the biggest threat to crops.

Temperatures moderated from early winter cold in the southern People's Republic of China, favoring growth and development of crops. Winter wheat in the north was exposed to typical cool, dry midwinter weather and precipitation is needed.

In the Southern Hemisphere February rainfall reduced stress on crops in much of northeast Brazil. Elsewhere in Brazil, especially in the major agricultural areas of the south, a balance of rain and sunshine benefited crops. Generous January rains arrested decline of Argentine crops and provided moisture to sustain surviving crops through relatively dry weather so far in February.

Weeks of persistent heavy rain and flooding caused extensive damage to crops in South Africa especially corn and sorghum, and threatens crops in Lesotho.

Similar weather damaged soy beans and sunflowers and caused problems for cotton in Australia.

NEW PRODUCTS:

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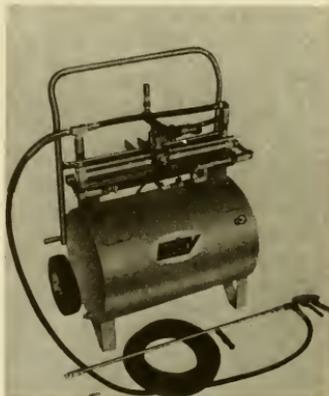
The Hotsy 1000 high pressure cleaning system makes farm and ranch cleaning jobs safe, easy and efficient.

Manufactured by The Hotsy Corporation of Denver, the nation's leading manufacturer of rural and industrial cleaning systems, the Model 1000 makes clean-up of such things as equipment, feed bunks, growing sheds and milking parlors easy and convenient.

The Hotsy 1000 can be mounted on all tractors that have a standard PTO hitch, making the unit

completely portable. The 1000 is powered by the tractor's hydraulic system and needs no electricity.

Hotsy's high pressure washer cleans dirt, grease and manure buildup by using an exclusive adjustable high power cleaning system. The operator can adjust the pressure of the cleaning stream in a range from 150 to 1000 pounds per square inch. The 1000 comes with a 50-foot heavy duty discharge hose and a three-foot spray wand with a pistol grip, trigger shut-off control. The operation has proven to be simple, yet highly effective.



NEW LIGHTWEIGHT CHAIN SAW

A new lightweight chain saw suitable for most types of wood cutting jobs around the home, farm or vacation cottage is available from Allis-Chalmers Corporation.

The Model 65 chain saw has a 86 cu.in. displacement, giving it enough power to perform the toughest jobs. Weighing slightly more than 12 pounds, including the 12 in.

bar, it is easy to carry and handle during a full day's work.

Some of the features of the Model 65 include an automatic oiler to help prolong chain and bar life, plus a manual oiler back-up; a Tillotson diaphragm type carburetor that allows cutting in any position without stalling; an automatic rewind starter with oversize



pulley for easy starting; moisture and dust-proof engine with 100 per cent needle bearing construction for increased engine life and better performance; automatic centrifugal clutch which releases at idle speed for safer operation and less engine wear; a spark arresting baffle plated muffler to reduce noise; and extra large capacity fuel and oil tanks located up front so that spills won't contact the engine.

The piston and cylinder are made of aluminum alloy which contribute to the lightness of the saw. Cylinder walls are chrome plated for durability and longer life.

The handle bar on the Model 65 is flush cut so that an operator can cut in close quarters safely and easily.

Allis-Chalmers also offers five other models of chain saws ranging from 2.3 to 3.6 cu.in. displacement for handymen or professional cutters.

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Cranberry Glazed Lamb Leads the Easter Parade for Fine Dining

Easter heralds the sweetness of spring, and brings with it a hope for new life that is eloquently seen in the beauty of the delicate blossoms and greenery that surrounds us once again.

Lamb is a favorite choice for an Easter Sunday celebration dinner, and a most elegant and special way to serve lamb is "Cranberry Glazed Crown of Lamb." This dish is not only delectable, but it is a magnificent sight to set before your family and guests. The fine flavoring of lamb is enhanced by a piquant glaze created with a mixture of cranberry apple drink, jellied cranberry sauce, mint leaves, and lemon. The center of the lamb is stuffed with a tasteful dressing combining brown rice, onion, celery, tomatoes, cranberry-orange relish and seasonings. When the lamb is placed on a platter, it can be colorfully surrounded by mushrooms, carrots, asparagus, and broccoli. As a special Easter treat to be served as an hors d'oeuvre, consider preparing "Berry Pink Marbleized Eggs" with a pleasing spicy "Cran Dip." These colorful eggs are easy to make by boiling them in a liquid mix of cranberry juice cocktail and tea. Not just for decoration, these edible eggs are particularly delicious when dipped into a mixture of jellied cranberry sauce, chopped onion, sour cream and minced celery.

For a special drink on Easter day to be served as an aperitif or to toast along with your lamb, "Cranapple Rosy Vino" is a refreshing and tasteful treasure. It combines jellied cranberry sauce, cranberry apple drink, ginger ale, and a red or rose wine. Serve your drink in wine glasses with or without ice, or if you wish to make a large quantity double the ingredients for a punch bowl, pitchers or pour into large carafes.

BERRY PINK MARBLEIZED EGGS

(Makes 12)

12 eggs
Cranberry juice cocktail, about 3
cups
1 tea bag

Cover eggs with water in a saucepan. Simmer gently for 10 minutes. Let eggs cool in water. Drain eggs and tap shells on a hard surface until shells are crazed and cracked all over. Do not remove shells. Replace eggs in saucepan and cover with cranberry juice. Add tea bag. Bring to a boil, lower heat and simmer for 5 minutes. Remove tea bag. Add 1 tablespoon salt and chill eggs in juice. Drain eggs and rinse with cold water. Remove shells. Juice will have penetrated cracks and colored eggs underneath. Egg will have a marbleized appearance. Serve garnished with fresh young spinach leaves. Serve with a spicy "Cran Dip."

CRAN DIP (Makes 2 cups)

1 cup jellied cranberry sauce
1 small onion, chopped
1 cup (1/2 pint) sour cream
1/4 cup minced celery

Mash sauce until smooth. Stir in remaining ingredients. Spoon mixture into individual small bowls so each person can have his own bowl of dip.



CRANBERRY GLAZED CROWN OF LAMB (Serves 8)

1 crown roast of lamb, about 6 to
pounds
Salt and pepper
2 tablespoons oil
1 large onion, chopped
1 cup chopped celery
2 tomatoes, chopped
1 cup raw brown rice, cooked and
drained
Ground lamb trimmings
1 cup cranberry-orange relish
Glaze:
1 cup cranberry apple drink
1 cup jellied cranberry sauce
1 tablespoon dried mint leaves
Juice of 1 lemon (about 3 tab
spoons)
Cooked vegetables—sautéed half
large mushrooms, baby whole
carrots, asparagus spears, bro
coli spears

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CRANAPPLE ROSY VINO

(Serves 8)

- 1 can (16 ounces) jellied cranberry sauce
- 2 cups cranberry apple drink
- 3 cups ginger ale, chilled
- 3 cups sweet red or rose wine, chilled

In a large saucepan, combine cranberry sauce and apple drink. Stir constantly over low heat until sauce is melted and smooth. Chill. When ready to serve, stir in ginger ale and wine. Serve in wine glasses with or without ice cubes.

ove lamb trimmings that are
nd from center of lamb.
nkle crown inside and out with
and pepper. In a large skillet,
oil and cook onion, celery and
atoes until tender, about 5
utes, stirring occasionally. Stir
ice, ground lamb and relish.
ove from heat and stir until
blended. Season to taste with
and pepper. Use mixture to
center of crown roast, which
been placed in a shallow
ting pan lined with foil. Extra

stuffing should be placed in a
casserole and roasted with lamb
during the last hour of cooking. In
a saucepan, combine apple drink,
sauce, mint and lemon juice and
heat until bubbly and smooth.
Roast lamb for 1 hour at 350° F.

Baste lamb with cranberry mixture
every 15 minutes and roast for 1
more hour. Serve lamb on a platter
surrounded with vegetables. Spoon
extra glaze, if any, over stuffing just
before serving.



MASS. NOTES

Continued from Page 6
tion during the frost season at the Station. This is a very valuable part of the frost warning for various reasons. There is a message on the recorder every day during the frost season, whether a frost warning is sent or not. We wish to remind the growers using the answering service that the recorded message will not be available before 1:20 in the afternoon or 8:20 in the evening. The frost pad for writing down the message has proved very popular and will be mailed to growers subscribing to the service. All applications and payments should be returned by March 25 in order that the necessary arrangements can be completed prior to the frost season. Applications returned after this date will result in the subscriber's name being placed at the bottom of the telephone list. There were 182 subscribers last season—let's hope there will be an increase this season.

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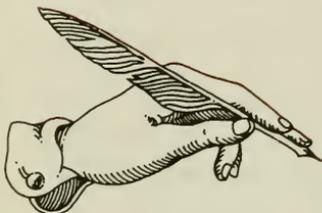
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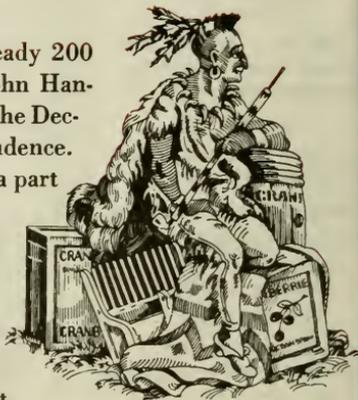
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MAGAZINE

— Our 39th Year of Publication —

APRIL 1976

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NEW JERSEY

March was quite mild and dry in the cranberry region of New Jersey. The average temperature was 45.2 degrees which is 3.5 degrees warmer than normal. Only 2.16 inches of precipitation occurred, or 1.69 less than normal.

There were 14 days above 60 degrees with five of them above 70. The maximum of 80 degrees on March 5th was the highest temperature recorded in 46 years for so early in the year. The balmy weather following an unusually warm February has advanced the season well ahead of normal. At the end of March it was estimated that the blueberry blossom development was about three weeks ahead of normal. The bushes are close to the open flowering stage and with much of the normal frost season ahead, there is much concern over the high probability of frost damage.

Rainfall in March was 2.16 inches which is 1.69 below normal. This is the second successive month with subnormal precipitation. However, the total since the beginning of the year is 11.02 which is about an inch above normal.

WASHINGTON

Azmi Shawa and several members: Dr. J. Harold Clarke, Wilson Blair, Ralph Tidrick, John O'Hagan and Joe Boss, attended the Western Washington Horticultural Board meeting March 2 at Puyallup.

Dr. Carl Shanks, entomologist from the Southwestern Washington Research Unit, Vancouver, spoke on "Insects Infecting Cranberry Bogs" for the Grayland and North Beach growers March 11 at the Grayland Community Hall, and for Long Beach area growers March 12, at the Coastal Unit, Long Beach

Azmi Shawa attended the Western Society of Weed Science meeting at the Sheraton Hotel, Portland, March 16 and 17.

The Washington 1976 Cranberry Insect and Disease Control Program, EM 2463 was mailed with the February *Cranberry Vine*. Copies will be mailed to others on request. Washington does not put out a fertilizer chart, and the March 1973 Weed Control Chart is still in effect, with only small changes, made at the growers' meetings and through the *Cranberry Vine*.

March was rather mild, as the overall winter has been. Maximum temperature was 62 degrees at Grayland and 61 at Long Beach on the 17th. Minimum 25 degrees at Grayland on the 1st, 3rd and 5th and 26 degrees at Long Beach on the 5th.

Precipitation totalled 8.78 inches at Long Beach, and 7.45 inches at Grayland. The 24th let down the largest storm in each area, 2.08 inches at Long Beach, and 2.02 at Grayland.

NOVA SCOTIA

The month of March was slightly warmer than the 50-year average. With no snow we were beginning to think an early spring was in the offing. However, rather cool weather in mid-April has slowed the development somewhat. Heavy frosts occurred on the nights of April 14 and 15.

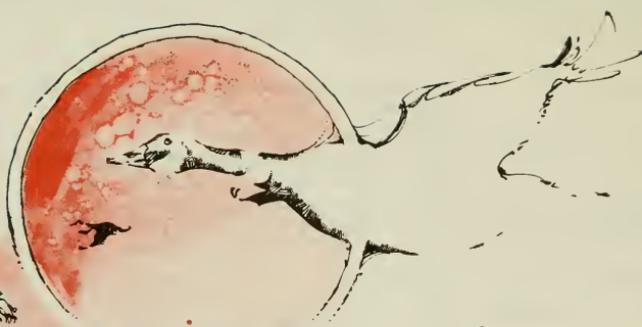
WISCONSIN

The last half of March has featured above normal temperatures with high readings in the 60's and 70's on several days. After a cold beginning on the 16th, tem-

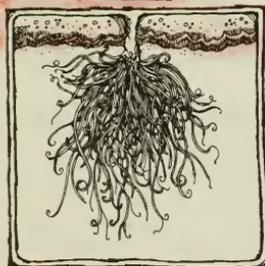
Continued on Page 20

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Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE
extension cranberry specialist

Personals

Prof. Stan Norton was an invited speaker at a vegetable irrigation seminar and the Cranberry Growers School held in Stevens Point and Wisconsin Rapids from March 5-18.

We have just received Extension Bulletin No. 112, "The Modern Art of Cranberry Cultivation." This is used on the grower seminars held at the Station in the winter of 1975 and replaces Bulletin No. 39 which is out of print.

Weather

March averaged 0.7 degrees above normal in East Wareham and was much warmer inland. Maximum temperature was 60 degrees on the 27th and minimum 14 degrees on both the 14th and 18th. Warmer than average days were the 10th, 20-21st and 24-29th. Cooler than average periods were 2-4th, 10th, 12th and 16-18th.

Precipitation totalled 4.14 inches or $2/3$ inch below normal. There were measurable amounts on 12 days with 1.27 inches on the 12-13th the largest storm. We are $1/2$ inch above normal for the first three months and about $2/3$ inch behind 1975 for the same period. Snowfall was 10.5 inches on three days, with eight inches on the 9th as the big storm. This is well above our average for March.

The winter flood was drawn on all bogs by the middle of March with many being out since late February. The vines appear to be in excellent condition with no winter-kill and probably very little oxygen deficiency injury. There is a real fine bud.

Using the red Persian lilacs from our phenology project as an indicator, we are having an early spring such as in 1974 and are about 10 days ahead of 1975.

Cranberry Frost Warning Service

The frost warning answering service at the Cranberry Experiment Station will soon be in operation with the same telephone number as in the past. The same radio stations are again carrying the frost messages.

Preliminary Keeping Quality Forecast

Weather factors to April 1 show only three points of a possible net that favor good keeping quality in the 1976 cranberry crop. The prospect, therefore, of good-keeping fruit is only *fair*. If April or May show cooler or drier than normal weather the prospect will improve—if not, it will worsen. "Late-holding" and/or fungicide treatments should be given careful consideration in planning this year's management of cranberry bogs.

Continued on Page 20

We have plenty of P E lateral and P V C main pipe with all the fittings for buried sprinkler systems and repairs and improvements to installed systems. We are taking aluminum main line pipe in trade for buried P V C. If vandalism is a problem on mains above ground, perhaps you should consider trading for buried P V C. We are also installing new systems with our Mole plow using Rain Bird sprinklers and Hale pumps.

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SECRETARY BUTZ NAMES REGULATORY ADVISORY COMMITTEE MEMBERS:

Secretary of Agriculture Earl L. Butz has appointed eight members to serve on the Advisory Committee on Regulatory Programs to evaluate selected regulations affecting the food industry. The two-year committee will recommend whether certain programs of the U.S. Department of Agriculture (USDA) may be improved or eliminated.

Secretary Butz said membership of the committee was selected to represent different food industries, the farming community, consumer interests, the university sector and state governments. He said the committee will work with USDA marketing and consumer program regulatory task forces which already have been meeting to evaluate the benefits and disadvantages of USDA regulations to producers and the public.

Members of the advisory committee are: Jane Armstrong, vice president for consumer affairs, Jewell Food Stores, Melrose Park, Ill.; Harold E. Ford, executive director, Southeastern Poultry and Egg Association, Decatur, Ga.; E. M. Foster, director, Food Research Institute, University of Wisconsin, Madison;

J. Marvin Garner, executive vice president, National Pork Producers Council, Des Moines, Iowa; James A. Graham, commissioner of agriculture, North Carolina Department of Agriculture, Raleigh; Richard L. Hall, vice president, Science and Technology, McCormick and Company, Inc., Hunt Valley, Md.; Clinton C. Simonton, dairyman, milk processor and cattle producer, Crossville, Tenn.; and Earl S. Smittcamp, fruit and vegetable producer and chairman of the Federal Farm Credit Board, Clovis, Calif.

The Advisory Committee on Regulatory Programs will report to the secretary of agriculture through the assistant secretary for marketing and consumer services, Richard L. Feltner. The executive secretary of the committee will be the administrator of USDA's Agricultural Marketing Service, Donald E. Wilkinson.

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What's more, this efficient fungicide clings tightly, resists washing off. Rain actually prolongs protection because it helps distribute DIFOLATAN to new growth. It provides top flight protection against fruit rot, even when conditions favor disease development.

DIFOLATAN can be mixed with most commonly used insecticides to save you time when spraying, but don't combine it with highly alkaline materials. DIFOLATAN is easy to handle. It stays in suspension with minimum agitation and there are no particles to clog the nozzle.

Apply DIFOLATAN at 10 to 14 day intervals. Avoid Accidents: For safety, read the entire label including cautions. Use all chemicals only as directed.



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WINNER NAMED IN NATIONAL AGRI-MARKETING ASSOCIATION ANNUAL AWARDS CONTEST

Tucker Wayne & Company, the Southeast's largest advertising agency, headquartered in Atlanta, has won ten first place awards out of twelve entries in the Southeast National Agri-Marketing Association's Annual Awards Contest for outstanding advertising in 1975 in this area, it was announced on March 29.

According to NAMA's Southeast Awards Chairman, Charles E. Crowder, judging was based on total concept (determined by stated objectives), quality and originality of the idea, and execution, regardless of budget.

Entries were for single ads and campaigns in the print, radio and outdoor categories for Gold Kist, Tucker Wayne & Company's agri-

business client of 11 years, whose Farm Mutual Exchange Stores provide area farmers feed, fertilizer, light equipment and expertise on a wide range of subjects.

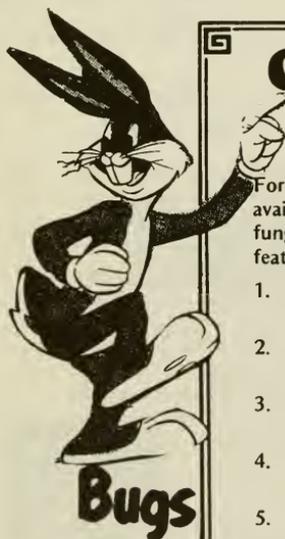
Gold Kist is the largest farm cooperative in the Southeast, with more than 160,000 farmer/members. Annual sales approximate \$800 million, placing the cooperative high among Fortune's 500.

For the past few years Gold Kist has swept NAMA's Awards nationally in the agricultural advertising category. The account is handled at Tucker Wayne by Dick Simms, Vice Chairman/Management Supervisor and Tom Wright, Vice President/Account Supervisor.

When Gold Kist's 1975 trade and consumer ad campaign was

some 2/3d's complete, Gold Kist commissioned an advertising awareness study which showed that 82.4% of all farmers surveyed were aware that Gold Kist offers farmer the help of specialists and technicians in feeds, fertilizers, herbicide and other related farm needs. In awareness of all farm advertising Gold Kist rated third, being out ranked only by such major advertisers as John Deere and Ford Motor Company.

Although the Meat and Poultry Divisions of Gold Kist have recently been assigned to Della Femin Travisano & Partners, Tucker Wayne and Company retains the major portion of the account, the Agri-Business Division, with billing in excess of \$500,000.



cranberry growers !!

For just \$2.50 per acre plus cost of materials applied, I am available for the custom application of insecticides and fungicides through your sprinkler systems. Compare these features:

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CANADIAN FRUIT CROPS LARGE IN 1975

Canadians in 1975 harvested significantly larger crops of apples, pears, peaches, grapes, and blueberries than a year earlier. The volume increases ranged from a 6 percent gain for the pear crop to a substantial 42 percent for blueberries.

The apple crop is estimated at 46,750 metric tons, 10 percent ahead of the 1974 level. Marketing this larger output poses problems and apple imports from the United States are at a lower level as a result. Processing, which has taken about 37 percent of the harvests in recent years, offered depressed prices because carryover stocks from the previous year were high. In Nova Scotia and New Brunswick, where processing is particularly important, government agencies will purchase surplus apples to be processed for later use.

Exports of fresh apples have been declining in recent years, and were at a low of 35,650 tons in 1974/75. Much of this decline is attributed to reduced shipments to the United States.

In contrast, imports of U.S. apples have been increasing (64,860 tons in 1974/75), a strong 58 percent ahead of the previous year's level. Consequently, Canadian growers are aggressively seeking government assistance. Despite this situation, at present there is no prospect of import controls.

The 1975 pear harvest was 6 percent greater than that of a year ago, reaching an estimated 40,140 tons. Fruit sizes are generally smaller as a result of unfavorable weather and rust mite injury in some areas.

Because of this larger crop, U.S. import prospects for 1975/76 are expected to be down about 8 percent from the year-ago level of 10,860 tons. Of the 1975 harvest, the quantity for processing is expected to be greater than the 1974 level of 17,000 tons.

In Ontario, the major pear-producing region, growers are faced

with a surplus of Kieffer pears and the government has announced a plan to purchase about 450 tons of these pears to be canned.

Ideal weather permitted an exceptional 1975 peach crop of 61,330 tons, greater by 20 percent than 1974's. Of this harvest, more than 14,500 tons are expected to be processed, compared with 12,250 tons of the 1974 crop.

Ontario growers did not require government assistance as reported earlier because the harvest in this area was not as large as predicted. Peach imports, supplied mainly by the United States, have been relatively stable at 13,700 tons in 1974/75.

Canada's grape production in 1975 is estimated at 78,600 tons, exceeding 1974's crop by 9 percent. Despite this large harvest, U.S. shipments of grapes are expected to remain near the 1974 level of 117,240 tons. A large portion of these imports is utilized in wine

making, as Canada has an insufficient number of California-type hybrid varieties to meet demand (*Foreign Agriculture*, January 12, 1976).

The 1975 blueberry crop is estimated at 12,250 tons, up from 1974's poor harvest by 42 percent. A shift in markets for frozen blueberries is occurring: in 1972/73, virtually all these exports were shipped to the United States, but in 1974/75 only 28 percent of frozen blueberry exports were shipped to the United States.

The remaining quantity was shipped mainly to West Germany and the Netherlands. This trend of increased exports to Western Europe is likely to continue. Virtually all from the United States, Canada's 1974/75 imports of fresh cherries, plums, and strawberries registered volumes of 6,730, 18,950, and 14,180 tons, respectively, ahead 22, 47, and 14 percent of the year-earlier quantities.

—R. Y. Uyeshiro, FAS



Picking grapes in Ontario

USDA REPORTS FINDING OF IMPORTANT CITRUS PEST IN FLORIDA

Citrus blackfly, a damaging pest of citrus and other tree fruits, has been found in Florida, the U.S. Department of Agriculture (USDA) reports.

Florida State Department of Agriculture inspectors making routine nursery inspections first noticed the pest Feb. 5 in a nursery in the Fort Lauderdale-Pompano Beach area, according to James O. Lee, Jr., deputy administrator for USDA's Animal and Plant Health Inspection Service (APHIS).

APHIS plant protection inspectors then joined with the state inspectors in a survey to locate the outbreak's boundaries. The survey is on-going and has thus far turned up a 160-square-mile area of infestation, focused in Fort Lauderdale and extending to the west and north. No pests have been found in commercial citrus groves.

"Until the survey is completed, we cannot make a decision on what quarantine and control procedures must be implemented," said Mr. Lee. "One thing has become apparent, however, and that is the infestation is quite extensive."

Florida Department of Agriculture and USDA officials met on Feb. 19 in Lakeland, Fla. to review the data available relative to prevalence of the pest and the various alternative type of programs to control it.

In addition to the Caribbean area where the citrus blackfly is common, infestations of the pest have been identified in northeastern Mexico and the Brownsville, Texas area. The Department has had a cooperative program for more than 25 years with the state of Texas and the Republic of Mexico to control infestations in that area.

Citrus blackflies (*Aleurocanthus woglumi*) damage leaves by sucking the sap from leaf tissues. They also excrete a "honeydew" that nourishes a black, sooty mold which damages leaves and fruit. Blackfly infestations can reduce citrus production by as much as 50 percent in a few months. Outbreaks lasting over a year in untreated plantings can cause almost 100 percent crop failure.

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INTERNATIONAL HARVESTER

FOOD RATIONING

Hard Fact of Life in Bangladesh

By Carl O. Winberg
U.S. Agricultural Attache
Dacca

In the face of a population that is outpacing food production—plus overpowering economic and social problems—Bangladesh must rely heavily on food aid and relief shipments from the United States and other countries. These products, largely food grains, are funneled through the Government's extensive distribution network to millions of Bangladesh consumers—for many, the main part of a meager diet.

Government-controlled food distribution thus is of high economic and political importance in Bangladesh. And, with the odds favoring population growth (now at about 3 percent annually) over food production growth, little change in this importance is seen.

The food distribution program dates from the days when Bangladesh was part of Pakistan—and has since become more entrenched, enlarged, and less likely to contract. Foodgrain self-sufficiency is an often-stated goal, as is the elimination of all food imports, but the trend is toward expanding Government distribution of heavily subsidized or "free" grain, obtained largely from imports.

Similar distribution systems are used in India and Pakistan. The other countries, however, have not been nearly so dependent on foreign foodgrains, or on government distribution of grains. When near self-sufficiency, these countries have been known to offer foodgrains at lower prices than offered by Government ration shops.

In Bangladesh, on the other hand, subsidized wheat and rice are usually much less expensive than rice sold on the open market. And these subsidized prices are very

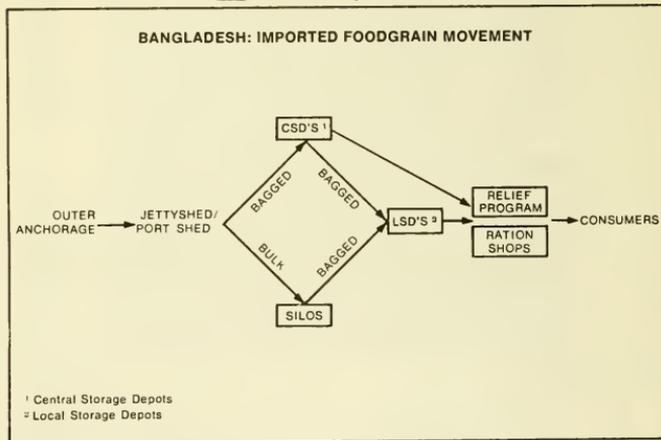
difficult to increase since salaries are often tied to them. (A February 7, 1976 increase in the price of rations has reportedly caused much unrest among low-income groups.)

The Bangladesh food distribution program is broken down into several types, based on recipient's ability to pay for the foodgrain, seasonal shortages, or abnormal market conditions.

Statutory rationing is the main avenue for distribution of subsidized grains in the major urban areas of Dacca, Naranyanganj, Chit-

tagong, Khulna, and Rahshahi. The first four cities, encompassing some 4 million fulltime rationees, have received rationed foodgrains since Bangladesh was created in 1971. Rahshahi was added to the list, in 1975, despite Government intentions earlier to reduce the number of areas subject to statutory rationing.

Under the system, foodgrains are sold to ration cardholders at fixed prices. This involves about 45,000 tons a month of Government-stock grain at a weekly quota of 3 seers



**MONTHLY FOODGRAIN OFFTAKE FROM BANGLADESH GOVERNMENT STOCKS
FOR FOOD DISTRIBUTION PROGRAM 1972 THROUGH JUNE 1975**
[In 1,000 metric tons]

Month	Year			
	1972	1973	1974	1975
January	80	140	127	140
February	129	154	121	127
March	191	171	131	143
April	183	206	137	128
May	227	252	130	225 ¹
June	246	214	153	175 ¹
July	251	151	152	—
August	293	153	182	—
September	302	171	177	—
October	280	187	151	—
November	193	146	155	—
December	152	123	121	—
Total	2,527	2,068	1,737	938

¹ Estimated.

(or 6.15 lb) per adult—usually half wheat and half rice. Prices amounted to about 5½ cents per pound of rice and 4½ cents per pound of wheat before the February increase.

In 1974, when world foodgrain prices were soaring, lower priced wheat became a disproportionate part of the ration, but in the past year the rice component has risen, owing to the availability of U.S. rice imported under Title I of Public Law 480, plus the country's bumper 1975/76 rice crop. (Wheat supplied through this system is a coarse ground product called *atta*, produced by Government flour mills.)

In addition, the ration system provides subsidized foodgrains during periods of short supplies to areas outside the statutory ration areas. At its peak, usually in September-October, this system may feed more than 16 million rationees.

The program works like this: The Controller of Food in each district of Bangladesh allocates foodgrains, based on seasonal requirements, to the Food Department offices in district and subdivisional headquarters. These offices distribute the foodgrains to the union councils and municipalities, who turn the foodgrains over to the fair price shops (ration shops) for sale to rationees.

The rationees are classified by the union committee. Salaried employees are classified according to gross income, and all others, according to their Union Council tax (which is based upon ability to pay). Residents with gross incomes of less than Tk50 per month (US\$1= Tk14.5) or in the "nontax" group are in category "A." Category "B" is composed of those with monthly incomes between Tk50-150, or a union tax of up to Tk3 per year. Those in category "E" have monthly incomes between Tk50 and Tk200, or a yearly tax of up to Tk5.

All other residents with monthly incomes over Tk200 or who pay more than Tk5 per year union tax are classified in category "D."

Foodgrains are distributed on a priority basis, with first call given to the lowest income categories. During emergencies arising from weather, disruption of communications, or other difficulties, fair price shops are authorized to sell to all residents in their areas.

Foodgrains are also distributed as "gratuitous relief" (free distribution) for victims of natural disasters and, more recently, for those without purchasing power. All told, donations under the gratuitous relief program usually exceed 10 percent of annual Government foodgrain distribution.

Most of these foodgrains are usually imported, either commercially or concessionally. The United States is the main supplier, with Canada, Australia, the European Community, and others shipping much smaller quantities. In fiscal 1975, for instance, the United States arranged to ship 850,000 metric tons of foodgrains—550,000 of wheat and 300,000 of milled, bagged rice—under Title I, P.L. 480 programs.

To meet requirements of its extensive rationing system, the Government must have large quantities of these imported foodgrains on hand for continuing distribution. The arrival of huge vessels, such as the 125,000-ton ship that recently brought wheat from Canada, helps fulfill these needs, as does an extensive system of silo and warehouse storage in the port areas—a distribution system often referred to as "ship to mouth" feeding.

All of these imported grains are handled by the Government, which at the height of the modified ration system (September-November) employs every means of transportation available to move the grain to the people.

After receipt at the country's two harbors—Chittagong and Khulna—the foodgrains are either stored in grain silos, which currently have a capacity of about 200,000 metric tons, or at the docks and are then moved by rail, boat, or truck to central storage depots. There are 425 of these

depots, with a total capacity of 353,277 tons.

The foodgrains are then moved to local storage depots, which number 1,048 and have a combined capacity of 460,348 tons. The Government owns 778 of the depots, and private concerns, 270. These facilities are usually located alongside railway lines, waterways, or other convenient locations so that foodgrains can be distributed to the fair price shops.

The Government also procures some domestically produced foodgrains, mainly rice. In average years, this amounts to only about 100,000 tons, milled-rice equivalent, a year and is procured over widely scattered areas. (This year's bumper harvest will allow procurement to exceed that level.) The rice is usually procured as wet paddy and must be dried, stored, consolidated, milled, (unless distributed as paddy) and then shipped. But while a useful supplement to the imported grain, this domestic rice can not meet the country's ration requirements.

Unfortunately for Bangladesh, the country's independence came just before the worldwide spiral in grain prices, with the result that prices of commercially imported grains were more than the retail market could cover, necessitating greatly subsidized prices. But even at sharply reduced world prices, the landed cost would be above the ability of the average rationee to purchase foodgrains without a subsidy. In fact, the low, subsidized prices of foodgrains have generally been in lieu of salary increases, with salaries tied to the issuance of subsidized foodgrains. The Government has not felt that it can afford, politically, to remove the subsidy or stop the ration.

Potential to increase output definitely exists, but any substantial gain would require concerted efforts, a large capital outlay, and increased production incentives. This is especially true since Bangladesh has relatively small areas of new land to bring into cultivation

Continued on Page 20



The "Chicago 56" joined Mr. and Mrs. George Brown, Jr., Morris, Illinois, farmers, on American Agriculture Day, March 22nd, to graphically depict that the average U.S. farmer feeds 56 Americans plus many abroad, according to the USDA. The "Chicago 56" was an accurate cross-section of the U.S.: 49% male, 51% female, 84% white, 11% black, 4% Latin, 1% Oriental; age range from two to 75.

The role of women has changed considerably over the past few years, and it continues to change. But has the women's rights movement affected women on the farm?

In order to learn the answer to this question, International Harvester brought together nine farm wives for a farm forum discussion on how they have been affected by changes in agriculture and changes in the role of women. The women represented different parts of the country, different backgrounds and different age groups.

In general, the nine women enjoyed their lifestyle. "We have the best of both worlds," said Margaret Griner, 32, of Moultrie, Georgia. "I don't think there's a whole lot of difference between the lifestyle of farm wives and women who live in town. We do club work like they do, but at the same time, we have the advantages of the great outdoors."

Sally Kinneberg, 40, of Spring Grove, Minnesota, agreed. "City women look to farm women in our area as business women," she commented. "A lot of my town friends say, 'I couldn't keep up—I couldn't do it all.' City people not only admire us; I think they actually envy us. They feel we have a closeness on the farm which they don't get in the city."

The nine women agreed that one key role farm women can and should play is talking to consumers and explaining the facts about agriculture to them. "Our city



A group of Kansas wives have organized a tractor driving safety course for women only.

counterparts see farm women as being very independent, very up on issues, and really involved in the farming business with their husbands," noted Mary Salopek, 42, of Las Cruces, New Mexico. "On top of really understanding issues, I think we as farm women realize that we need to talk to consumers more instead of just being around agriculture. Not only are we involved in our farms, but in our communities as well." Mrs. Salopek is very actively involved, and is a member of the school board.

"This year, some of the Iowa Pork Producers and the Porkettes went on six promotional trips to big cities across the nation," added

Peg Lefebure, 36, Fairfax, Iowa, who is active in the Porkettes. "This farm group went out and met consumers in stores and answered questions about pork. They felt it was a worthwhile way to have some conversations with city people."

The women discussed women's liberation and, naturally, had varying opinions on the subject. "I just don't have any liberation problems," said Sally Kinneberg, who is the International Flying Farmer queen. "I have my own checking account. I often do the banking. I make decisions with my husband—I know what is going on in our business."

"Farm women for the most part are very liberated," added Mary Salopek. "They do what they want to do, and yet they can work with their husbands. The key is that the relationship between husband and wife is built on mutual respect. If the wife wants to drive the tractor, fine. If she just wants to keep house and take care of the family, fine. Everyone should be able to be an individual in his own right."

Close Family Life

The family is very important to farm women, and these nine representatives felt strongly about the closeness of the family. "There is no place better than the farm for the whole family to work together," said Sue Telaak, 43, of Hamburg, New York. "Farm families just communicate more with each other. They work together and make decisions together," added Lenora Leitzy, 47, of Bucyrus, Ohio.

"We have more conversations and settle more problems out on the ditch bank irrigating," commented Betsy Wilhelm, 30, of Ault, Colorado.

"I think the farm is the greatest place in the world to raise children," agreed Margaret Griner. "The children learn to work. They have responsibilities. Their specific jobs help the family unit, and because of it they feel important to the family. They can identify with your life because they know how hard you work for the money you get."

Has the role of the farm wife changed? And what about the image of the farmer's wife? Does it accurately reflect the current role she plays? One of the women quoted a recent comment she had heard: "I've heard a lot about the farmer's daughter, but I haven't heard much about the farmer's wife."

In fact, the women felt that farm life has changed considerably over the years. For one thing, today's farm women are often actively involved in the actual work on the farm. "When we first started

farming, you never saw a woman out in the field," noted Lenora Leitzy. "Today, many of us drive tractors and do field work. As a matter of fact, I do all the cultivating. At a grain elevator, it's hard to see a man driving a truck."

Elaine Watkins, 55, of Welsh, Louisiana, agreed, and felt that part of the reason for this increased participation was due to modern technology. "When my husband and I started out, we didn't have electricity or running water," she commented. "I washed my clothes on a rub board. We had to feed 30 men every day during threshing time. Needless to say, things have changed. Today we have modern conveniences, nice homes and efficient machinery."

Farm women today are also involved in making decisions about the business. "At our place, there's constant change," said Jennie Visser, 40, of Sunnyside, Wahington. "I think my husband is renewing something all the time. You must be constantly updating just to keep up with equipment needs. Otherwise, you get so far behind there's just no way to catch up. Of course, my husband knows what's new and what he wants but we talk about the final decision to buy."

Happy with Choice

Are the nine women happy with their lifestyle? Would they choose the same life again? A resounding yes. "I was brought up on a farm," said Sue Telaak. "I married a farmer. That's the way I wanted it, and I wouldn't have it any other way."

"Farming is a relaxed sort of life," added Elaine Watkins. "That's what I've enjoyed most about it. Sure it gets hectic at times, but you still have time to enjoy life together as a family."

Lenora Leitzy agreed: "Farming is very rewarding. You go out and start plowing your fields—then you watch the crops grow. It's not only you—the Good Lord has to help you. You have to have faith. You're the biggest gamblers born."

Betsy Wilhelm likes the variety farming offers. "It's never boring," she said. "You're never in want of something to do. Every day is different. Every season is different. No two years are alike. Even through all the bad times, you can sit down and chuckle—really have some good laughs at things that at the time seemed like disasters."

"Women today play a number of important roles on the farm," said Stanley F. Lancaster, vice-president, marketing, Agricultural Equipment Division, International Harvester. "Some work out in the fields, doing the physical labor of farming, beside their husbands. Many handle bookkeeping and other similar jobs. And most still have responsibility for the house and the family."

"Increasingly, farm women are going out in the community—meeting consumers and explaining the facts about agriculture to them. In fact, there is a coalition called American Agri-Women; its member organizations are actively involved in such work as lobbying, attending meetings and talking to consumers."

"Women are playing an increasingly important role in agri-business as well," concluded Lancaster. "International Harvester applauds the strong efforts women are making on behalf of all of agriculture."

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OBITUARY

MARCUS URANN

Marcus Urann, 59, of Indian Neck, a former leader in the cranberry industry, died April 1 in the Jamaica Plain Veterans Administration hospital.

Before his retirement 6 years ago, he was a director of Ocean Spray Cranberries, Inc., Hanson, and president of that company's Canadian subsidiary. He also was president of the United Cape Cod Cranberry Co., Hanson.

Mr. Urann was a direct descendant of Charles Urann, one of the participants in the Boston Tea Party. He attempted to trace his family tree back to Marcus Morton, governor of Massachusetts from 1840 to 1841 and from 1843 to 1844 but was uncertain whether he was related.

Born in Braintree, he lived in Duxbury for many years before moving to Indian Neck a few years ago. He graduated from the Huntington School, Boston, and was a 1941 graduate of Bates College.

He leaves two sons, Marcus M. and David W., both of Wareham and Kingston.

Services were held at The First Parish Church.

HERBERT L. DUDLEY

Herbert L. Dudley, 77, of R25 Leach Pond Rd., Plymouth, Mass., formerly of Old Plymouth St., North Carver, died April 11 at the Mayflower Nursing Home. He was the husband of Louise (Bassett) Dudley.

Mr. Dudley retired in 1972 after working 45 years as a laborer and foreman for the A. D. Makepeace Cranberry Co. He was born on March 16, 1899 in Rockland, Maine. He attended the Farm and Trade School on Thompson Island in Boston Harbor. He lived most of his life in Carver and Plymouth.

Mr. Dudley was a member of the Mayflower and Delta Masonic lodges.

Besides his widow, Mrs. Louise Dudley; he leaves two sons, Wallace of South Weymouth and Gordon of Weymouth; two brothers, Robert of St. Petersburg, Fla., and William Holmes of Plymouth; a sister, Mrs. Sara Kerti of St. Petersburg, five grandchildren, and two great-grandchildren, and several nieces and nephews.

THOMAS M. GALLAGHER

Thomas M. Gallagher of Vincentown rd., Pemberton, N. J., died

recently at Burlington County Memorial. He was 63.

Mr. Gallagher resided in Pemberton for 20 years. He was a blueberry grower and a member of the Tru-Blue Blueberry Association.

Surviving are his wife, Janette; one sister, Mrs. Betty Meyers of Palmyra and five brothers.

DONALD E. HULTIN

A lifetime resident of Bandon, Oregon, Donald E. Hultin, 62, died April 2 in Portland.

Funeral services for Mr. Hultin were held in the Bandon Chapel.

Officiating was Pastor Gordon Reoch of the Bandon Seventh Day Adventist Church. Interment followed in the IOOF Cemetery.

A resident of the North Bank Road, Mr. Hultin was born October 8, 1911, at Randolph. He was a retired logger, fisherman and cranberry grower, and was very active in the Ocean Spray Cranberry Growers Association. He was a member of the Coquille Eagles Lodge and the Bandon Grange.

On June 25, 1938, he was married to Dorothy Wiggins, who survives.

In addition to his widow, he is survived by one daughter, Sonja Cram of Bandon; three brothers, Ted and Jack, both of Bandon, and Mervial of Charleston. Three grandchildren also survive.

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AGRICULTURE NOTES

Food price indexes for 13 countries were higher in January than in December. Only Canada experienced a decrease (0.2 percent). The January index for Argentina was not available.

The increase in the U.S. index was 0.1 percent—the smallest among 14 countries where food prices have been trending up.

On a yearly basis, food prices in nine countries reflect double-digit inflation, while single-digit inflation is apparent in six.

Copenhagen's food prices jumped by 5.29 percent on items included in the FAS shopping basket, mainly as a result of an increase in the Danish value-added tax from 5 percent to 15 percent.

Price increases in Buenos Aires were not far behind those in Copenhagen, with rises recorded for 13 of the 19 foods surveyed in the Argentine capital.

However, prices of two items remained steady, and apple prices declined because of plentiful supplies.

Despite the seasonal factors influencing prices of some food items in Buenos Aires, the dramatic increases in most food prices in that capital are a reflection of rampant inflation.

In London, prices have stabilized in recent weeks as a result of Government restrictions that limit price increases to 5 percent for 6 months.

These controls affect only about half of the items in the FAS food basket, but they are far reaching in that they apply also to nonfood consumer items and are expected to affect the country's consumer price index to a significant degree.

Sweden on February 27 extended its price freeze to include canned meat and vegetables, frozen foods, jam, marmalade, fruit syrup, mustard, and baby foods.

Prior to February 27, Sweden's price control program had been confined mostly to such basic foods as beef, pork, sausage, milk, and cheese. Prices of the items added to the control program in that country have increased 15 to 50 percent during the past 2 years.

In the European Community (EC) and in some other countries, prices of milk and dairy products have increased steadily since November. Many consumers, searching for lower priced products, have substituted margarine for butter. Reflecting this trend, margarine is now included in the FAS price survey. Canned ham has been omitted.

A serious shortage of potatoes is being experienced in EC countries. Potato production during 1975 in those countries is estimated to be 8 million tons less than in 1974.

In view of this shortage, the EC

Council has suspended the 18 percent tariff on potatoes, and in Sweden the government has authorized a higher ceiling price for potatoes.

In Canberra, meat prices have remained fairly stable since the previous survey. Beef prices are not expected to show much change at the retail level over the next few months because of the large supplies that have resulted from a reduced level of exports.

Brasilia and Ottawa reported declines in beef prices, reflecting abundant supplies accumulated during the slaughter season.

In Canberra, bread prices were higher by 2 Australian cents per loaf than in the previous survey, bringing the total increase in Australian bread prices to 8 cents over the past year.

—Sidonia R. DiCostanzo, FAS

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FIEI SETS PLANS FOR SPRING MARKETING AND MANAGEMENT CONFERENCE

United Auto Workers president Leonard Woodstock will head the late of speakers for the May 20-21,

1976, Spring Marketing and Management Conference of the Farm

and Industrial Equipment Institute (FIEI) to be held at the Holiday Inn of Fargo, North Dakota.

Other Thursday afternoon speakers include: Dr. Laurel D. Loftsgard, president, North Dakota State University, on education; Mr. Bobby Tucker, Future Farmers of America national president, on youth; and Mr. Harley Taylor, president, Brown County Implementation, Aberdeen, South Dakota, on distribution.

The Hon. Mark Andrews (R., N.D.) will be the first speaker of the Friday morning session. He will be followed by Nancy Steorts, special assistant to the Secretary of Agriculture for Consumer Affairs, on consumerism; and Louis O. Kelso, investment banker, Kelso, Bangert and Company, San Francisco, on corporate finance and economic reality.

Don L. Douglass, vice president marketing, Massey-Ferguson, Inc., will conclude the session with the State of the Industry Update Report.

Steiger Plant Tour

Jack E. Johnson, president, Steiger Tractor, Inc., and program chairman for the meeting, will lead a tour of the Steiger Tractor plant in Fargo starting at 8:15 A.M., Thursday, May 20, 1976. Buses will then depart for a tour of Congressman Mark Andrews' farm, returning to the Holiday Inn by 12:00 noon.

Thursday evening, May 20, Steiger Tractor, Inc., will host a special centennial concert by the Fargo-Moorehead Ambassadors, an 80-voice chorus.

The women's program features a Thursday, May 20, afternoon tour of Bonanzaville, a frontier town.

The twice-yearly FIEI Marketing and Management Conference attracts some 200 top farm and industrial equipment executives. The Farm and Industrial Equipment Institute, founded in 1893, ranks among the nation's oldest trade organizations. FIEI serves more than 275 member firms by coordinating industrywide activity in safety, statistics, engineering, legislative activities and other areas of common concern.

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CHICAGO, March 22—A spokesman for the Agriculture Council of America (ACA) urged the American people today to "insist that their government stop treating farm exports and imports like a faucet that can be turned on and off by bureaucratic whim."

Dale Hendricks, ACA Chairman-Elect, made his American Agriculture Day remarks before some 300 members of the National Agri-Marketing Association Midwest Chapter and the Chicago Farmers' Club.

"Three times in the past three years the Administration has clamped down on farm exports and each time it has pulled the rug out from under farm prices," the Bloomfield, Iowa, dairyman said. "Eight times in the last four years heavily subsidized foreign dairy imports have been bought until they finally broke our price. It put thousands of dairymen across the country out of business—18 a month in my home state alone."

"In the long run, not only farmers but consumers are affected," he said.

Mr. Hendricks told the NAMA audience that farmers have been "by-passed in decision-making, and must have more input if we expect to make intelligent use of our export capabilities—one of the world's greatest economic assets."

He said that one farm group, the National Association of Wheat Growers, is considering legal action against the government on the grounds that it acted illegally when it put a moratorium on the grain sales to Russia and Poland last year.

"Recent estimates indicate that American farmers lost over \$1 billion in sales because of that moratorium," Mr. Hendricks said. "That's income out of the farmer's pocket—income that could have bought more tractors, fuel, fertilizer, clothing, and other goods that mean jobs for consumers."

"The keystone of our government's full agricultural production

policy has been the promise of free access to export markets," Mr. Hendricks said. "If these markets are preserved, if agriculture is allowed input in decisions affecting its future, then the farmer can continue to do the job he is supposed to do. We can continue to

perform as America's most efficient producers. That would be the most meaningful way to celebrate American Agriculture Day," he said.

American Agriculture Day is an annual event sponsored by the National Agri-Marketing Association to salute the contribution agriculture makes to our national economy. The Agriculture Council of America is a non-political, non-

profit association formed to communicate the farmer's story to consumers and build better understanding of both rural and urban points of view.

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Drip irrigation tubing is now being made from a tougher, more resilient form of polyethylene that is immune to one of the grower's worst enemies: stress cracking caused by weathering, kinking, farm chemicals and other hazards.

The new tubing, latest member of the Orangeburg SP line, is not

even stress cracked by forcibly attached fittings and emitters, and easily withstands abrasion, temperature extremes and freeze-thaw cycles. It has exceptional ultraviolet resistance.

The polyethylene formulation used is P34 (3406), a high density ultra-high molecular weight type. Its performance characteristics are far superior to commonly used P33 (3306) and P23 (2306), which are easier to extrude but lack the molecular weight necessary to preclude stress cracking.

Strength of the Orangeburg SP 3406 persists at temperatures that soften ordinary drip tubing. It maintains a PPI design stress rating of 315 psi even at a scorching 180° F. Tensile strength of the

material is 4500 psi. Chemically, the new tubing was unaffected by over 1000 hours in the industry's standard Igepol test.

Orangeburg SP 3406 is made in 1000-ft. coils with an inside diameter of .580 in. to match standard fittings. It will accept almost any style of emitter, and is available with working pressures of 60, 75 and 90 psi at 73.4° F. For complete data, price and location of nearest source contact the manufacturer: The Flintkote Company, Pipe Products Division, 2101 E. Washington Blvd., Los Angeles, CA 90021.

NOVEL NEW COMPENSATION PLAN ANNOUNCED

A novel new deferred compensation program called the KEY-PER Plan tailored primarily for younger select and difficult-to-replace technical specialists and middle management personnel has just been introduced by Bernard P. Vissing & Association, employee benefit specialists.

The plan is described as having no adverse IRS, ERISA or EEOC

restrictions, even though selection is permitted.

The basic purpose of the plan is to provide a means not found elsewhere to assist in keeping the loyalties of valued employees. Recipients, in addition to their regular salaries, may select a 10-year payout period, after vesting, that best suits their personal situation, such as the years their

children are in high school and college.

Of further importance to the employer is the fact that by the time the program expires, the employee will probably have reached a point of substantially decreased mobility in the marketplace.

Funded entirely by the employer, the plan can be as selective as desired and can be set up for any number of employees. KEY-PER (keeper) is based on a minimum of ten years' vesting. The employee receives his additional income after this 10-year or more vesting period in 10 equal yearly payments, giving the plan 20 years of holding power. Because of tax leverage, the company's contribution to the plan amounts to less than half the payout to the employee. The total payment can also be varied.

If the employee leaves or is discharged during the vesting or payout period, the company's appropriate investment balance is fully recovered or can be switched to another employee.

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DOUBLY FRUITFUL CRANBERRY DESSERTS

America's native cranberry is a good mixer and proves it by flavorfully combining with a variety of other fruits for desserts that are both a treat to the eye and the palate. Here are five doubly fruitful cranberry desserts which will add both color pizzazz and the pleasure of homemade goodness to many a menu.

Sweet 'n tart "Cranapple Apricot Ribbon Pie" is created with tapioca, apricots, apples, cranberry-orange relish, cinnamon and nutmeg. Its ribboned, latticed open crust top is appealing, and this fine pie is sure to become a favorite.

For a tea, luncheon, or perhaps a bridal shower party, consider preparing "Cranbanana Frozen Mousse" for your dessert. Made ahead of time and frozen, it will give you those hours you need for special preparations on such occasions. This pretty mousse, shaped in a loaf, combines ladyfingers, vanilla pudding, milk, ripe bananas, jellied cranberry sauce and whipped cream into a fluffy, party perfect delectation.

"Cranberry Pineapple Cake" is an easy mix which is refrigerated, and you will have a moment of gourmet glory when you serve it to family and guests. It piquantly combines cranberry-orange relish, chopped walnuts, cranberry juice cocktail, sugar, gelatin, graham cracker crumbs, crushed pineapple, melon, and sour cream. It's particularly pretty when garnished with puffs of whipped cream.

Another tempting and color bright dessert is "Cranberry Orange Meringue Glace." This delicious recipe is made in individually scooped orange cups. The mixture for the orange cups combines orange pulp, whole berry cranberry sauce, and orange liqueur. After they are filled, the cups are topped with swirls of meringue and then baked.

And lastly, "Crusty Cranberry Apple Cups" are a delicious new version of classic baked apples. In this case, cored apples are stuffed with whole berry cranberry sauce and raisins, and then topped with a mixture of cornflake crumbs, butter and lemon juice. This wholesome dessert treat will be as welcome at a family meal as on a company occasion.

—Recipes courtesy of Ocean Spray Cranberries, Inc.

CRANAPPLE APRICOT RIBBON PIE

(Makes 1 - 9 inch pie)

- 1 package (11 ounces) pie crust mix
- 1/4 cup minute tapioca
- 1 can (1 pound, 14 ounces) apricot halves, drained
- 1 jar (14 ounces) cranberry-orange relish
- 1 can (1 pound, 4 ounces) sliced apples, undrained
- 1 teaspoon each cinnamon and nutmeg
- 2 tablespoons melted butter or margarine

Prepare pie crust mix according to package directions. Roll out 3/4 of the crust on a floured surface into a round large enough to line the bottom and hang 1 inch over the edges of an ungreased 9 inch pie pan. In a bowl, mix remaining ingredients and spoon into pie shell. Roll out remaining crust on a

floured surface and cut 8 strips, each about 10 inches long and 1/2 inch wide. Arrange strips like spokes of a wheel on top of pie. Fold over edge of pie and flute edge of crust all around. Use another 8



inch strip to make a bow in the center of the pie. Bake in a preheated hot oven (400° F.) for 40 to 45 minutes or until richly browned. Serve warm topped with sweetened whipped cream or vanilla ice cream.

CRANBANANA FROZEN MOUSSE

(Makes 1 - 9x5x3 inch loaf pan)

- 2 packages (3 ounces each) ladyfingers
- 2 packages (3-3/4 ounces each) instant vanilla pudding
- 3 cups milk
- 1 cup mashed ripe bananas
- 1 can (16 ounces) jellied cranberry sauce, cut into 1/2 inch cubes
- 1 cup (1/2 pint) heavy cream, whipped

Split ladyfingers. Line a 9x5x3 inch loaf pan on the bottom and sides with plastic wrap, letting it extend 3 inches on each side. Use ladyfingers to line the bottom and sides of the pan. In a bowl, beat pudding mix and milk until smooth. Let

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stand until thick. Fold in bananas and 3/4 of the cranberry cubes. Fold in whipped cream. Use mixture to fill loaf pan, heaping it high. Use remaining cubes of cranberry sauce to decorate top. Freeze until hard. Remove loaf from pan using over hanging plastic wrap. Press wrap to cover top of mousse and freeze until needed. Remove wrap and place mousse on serving platter. Let stand at room temperature for 30 minutes before cutting into thick slices.

CRANBERRY PINEAPPLE CAKE

(Makes 1 - 8 inch
springform pan)

- 1 jar (14 ounces) cranberry-orange relish
- 2 cups graham cracker crumbs
- 1/2 cup finely chopped walnuts or pecans
- 3 envelopes unflavored gelatin
- 2 cups cranberry juice cocktail
- 1/3 cup sugar
- 1 can (1 pound, 5 ounces) crushed pineapple, undrained
- 1 package (10 ounces) frozen melon balls, undrained and diced
- 1 cup (1/2 pint) sour cream

In an 8 inch springform pan combine relish, crumbs and nuts. Pat mixture evenly onto the bottom of pan. Refrigerate. In a saucepan, stir gelatin and cranberry juice over low heat until gelatin is dissolved. Stir in sugar, pineapple and juice, melon and juice. Beat in sour cream. Chill until mixture thickens slightly. Pour gelatin mixture onto crust in springform pan. Chill until firm. Run a sharp knife around the outer edge of the cake and remove sides of pan. Serve cake garnished with spoons of whipped cream; if desired.

CRANBERRY ORANGE MERINGUE GLACE

(Serves 6)

- 6 large navel oranges
- 1 can (16 ounces) whole berry cranberry sauce
- 1/3 cup orange liqueur
- 3 egg whites
- 6 tablespoons sugar
- 1 tablespoon cornstarch
- White grape juice

CRUSTY CRANBERRY APPLE CUPS

(Serves 6)

- 6 large baking apples
- 1 can (8 ounces) whole berry cranberry sauce
- 1/3 cup raisins
- Grated rind and juice of 1 small lemon
- 1 cup corn flake crumbs
- 1/4 cup melted butter or margarine

Cut peel off apples about 1/3 of the way down. Core apples leaving apples whole. Place apples into a shallow baking pan. Mix cranberry sauce and raisins and use mixture to stuff apples. Bake apples in a preheated moderate oven (350° F.) for about 40 to 45 minutes or until easily pierced. In a bowl, mix rind and juice of lemon, crumbs and butter. Sprinkle crumb mixture over apples. Continue baking for another 10 minutes or until richly browned and crusty.

Slice about 1/4 from tops of oranges and scoop out pulp with a sharp knife, leaving an orange shell. Reserve shells. Dice orange pulp, removing membranes. Stir in cranberry sauce and liqueur. Drain fruit and place juices into a measuring cup. Spoon fruit into orange shells. Beat egg whites until stiff. Gradually beat in sugar, 1 tablespoon at a time until meringue is stiff and glossy. Place meringue into a pastry bag with a star tip and press meringue in a pretty design, on top of oranges covering filling completely. Bake in a preheated moderate oven (375° F.) for 12 to 15 minutes or until meringue is lightly browned. Place cornstarch in a saucepan. Add enough grape juice to drained fruit juices to make 2 cups. Stir into cornstarch. Stir constantly over low heat until sauce bubbles and thickens. Spoon warm sauce over oranges and serve at once.

WISCONSIN

Continued from Page 1

peratures moderated and became unseasonably warm with a record high of 76 degrees at Madison on the 19th. Temperatures turned considerably colder again on the 21st before starting another warming trend. Precipitation was light during the week of March 14-20, mainly as snow in the north except for a few thunderstorms. The last week of the month had more substantial rainfall as heavy thunderstorms occurred in central and southern areas on the 26th. Rainfall was heaviest at 1 to 2 inches in the southeast but averaged less than a half inch in the west and north.

BANGLADESH

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and must depend on more intensive cultivation for any increase achieved.

In exceptionally good crop years, such as 1975/76, the country can approach self-sufficiency, but it will have difficulty maintaining this for more than 1 or 2 years in the face of its 3-percent annual population growth rate. Moreover, in years of higher domestic production, farmers retain more for their own consumption as a safety factor.

An additional problem is the illegal export of domestic rice to India and Burma. It is unlikely that imported foodgrains are smuggled since all the imported bagged rice is bought on Government account and policed from arrival to actual distribution point. And neither India nor Burma wants wheat, especially if locally produced rice is available in the open market. However, illegal traffic in Bangladesh rice is at times extensive, with some sources estimating that Bangladesh could meet current basic minimum requirements if regimented distribution were instituted and the smuggling stopped.

Finally, the Government finds it cheaper to subsidize foodgrains than to increase wages. The present ration price of rice would have to increase 400 percent to reach the current domestic market price.

Based on employees spending 30-50 percent of their income for food, the needed increase in Government salaries would be far in excess of the cost of the subsidy.

As a result, Bangladesh for the foreseeable future, must depend on imported foodgrains to meet the majority of its rationing needs.

MASS. NOTES

Continued from Page 3

Grower Meetings

The March grower meetings were held at the Cranberry Station on the afternoon and evening of March 17. Speakers were Dr. Robert Devlin on "Herbicide Studies," Dr. Bert Zuckerman on "New Treatment for Fairy Ring," Dr. Karl Deubert on "Causes of Algal Blooms," Prof. William Tomlinson on "Cranberry Insect Problems" and Irving E. Demoranville on "The Effects of Casoron, Morcan and Evital on Cranberry Yield."

Officers of the Southeastern Club remained as Clark Griffith, president; Ken Ashburn, vice president and Chris Makepeace, secretary. The South Shore Club also kept the same officers with Wilfred Galleti, president; Ashley Holmes, vice president and Bob Alberghini, secretary.

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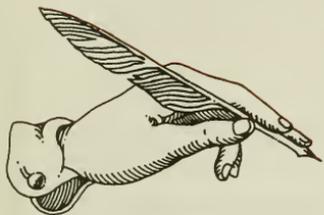
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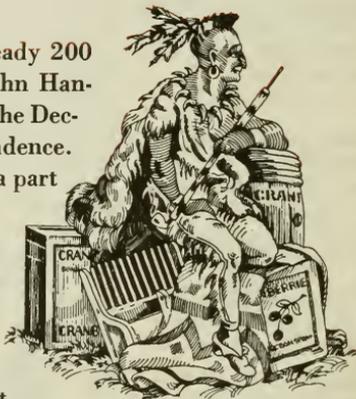
The 400 year old cranberry



Cranberries were already 200 years old when John Hancock was signing the Declaration of Independence.

They are definitely a part

of our country's heritage, for they have the distinction of being a berry native to North America. The American Indian made use of the cranberry not only as a fruit, but also for dyeing their blankets and rugs. Cranberries were originally called "Crane-berries" because



the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-



berry sauce, cranberry juice cocktail or a delicious cranberry blended drink, remember, you are sharing in a small piece of our country's heritage.



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