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# CRANBERRIES

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MAY 1976

Volume 42 - No. 1

I. S. Cobb . . . *publisher*J. B. Presler . . . *editor*

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**REGIONAL NEWS NOTES****NEW JERSEY**

Some of the most unusual weather ever to occur in this state took place in April. From the 16th through the 21st the temperature was actually warmer than it normally is in July. There were three successive days of 90 degree readings with the average maximum daily temperature over the six day period being 89.2 degrees F, almost 3 degrees warmer than the normal July day, and 26 degrees warmer than it normally is in April.

This hot spell was balanced out by unusually cold weather early in the month. Consequently, the average temperature for the month was 53.5 degrees F which is only about 2 degrees warmer than normal.

Rainfall totaled 1.51 inches, which is 1.86 inches deficient from the norm. This was the third successive month of sub-normal precipitation. The accumulated total for 1976 now stands at 12.53 inches or about an inch less than normal for the first four months of the year.

The freakish weather brought about unusual developments in agriculture. The apple flowering period was explosive and lasted only about a week. Subsequently, the apple crop gradually vanished until only an estimated 25% remains. This natural attrition does not appear to have happened in peaches or blueberries.

Blueberry flowering was also unusually early and explosive with open flowering going from 5% to 80% in the Weymouth variety from April 14th to April 19th. In the short history of the cultivated blueberry history in New Jersey there has never been a spring like this and experience on the effect of extreme temperature is lacking. As in the apple, adverse effects may come in a delayed action as the fruit begins to grow and then suddenly drops.

The effect of the high temperatures on cranberries is also of concern. Floodwater on bogs became very warm with temperatures reading into the high seventies. Weed growth was apparent under the water and there was also some cranberry development.

**WASHINGTON**

The Long Beach Cranberry Club entered a float, "The Great Cranberry," in the 26th Annual Loyalty Day Parade, May 2 in Long Beach. Snoopy and the big red cranberry and several children and grandchildren of local growers participated. A second place in the Novelty Float category was the reward for the hard work.

April temperature rose to a 72° on the 28th and 29th at Grayland, 70° at Long Beach. This does not compare with the very high temperatures on the East coast for April, but it is a ten-year high, with a 79° and 77° recorded in April 1966 at Grayland and Long Beach. The minimum of 29° came on the 1st and 2nd at Grayland with 30° in Long Beach on the 2nd.

Precipitation totaled 7.71 inches in Grayland with the greatest recorded amount on the 20th, .70 inch. Long Beach recorded 5.44 inches total with .78 the greatest also on the 20th. The Long Beach total precipitation for the year to date is 39.95 inches.

**WISCONSIN**

Temperatures averaged about 5 degrees below normal during the last week of April. Highs were in the 50's and 60's. Several nights of frost occurred as temperatures fell to the 20's under ideal radiative conditions. Skies were generally fair until late on the 29th when scattered showers developed in the west. Showers moved over the state

*Continued on Page 16*

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# Mass. Cranberry Station & Field Notes

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

## Personals

Dr. Chester Cross attended the 1,000th meeting of the Massachusetts Agricultural Club at Sturbridge Village on April 22nd. This is the oldest agricultural club in the country and was honored by a handsome plaque from the Secretary of Agriculture, Earl Butz.

## Frost Warning Service

The Frost Warning Service sponsored by the Cape Cod Cranberry Growers Association has 171 subscribers to date as compared with 180 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 three warnings issued through May 6. On May 3rd we had temperatures ranging from 21 to 27 degrees and on May 4th from 19 to 25 degrees. This is unusually cold

for a season that is well ahead of normal. The frost tolerance of 20 degrees was set for April 20 which is the earliest for this temperature since the late 40's and early 50's. We are 2 to 3 weeks ahead of schedule at this time.

## Weather

April was warm and dry, in fact one of the warmest and driest in our records. We averaged exactly 3 degrees a day above normal and while the Weather Service in Boston recorded April as the warmest in their history of over 100 years, we had only our third warmest. It was the warmest since 1951 which was exceeded only by 1945. Maximum temperature was 87 degrees on the 17th which was a record for any day in April, minimum was 21 degrees on the 12th. Cooler than average days were the 8th, 9th, 12th, 25th and 26th. Warmer than

average periods were the 14-24th and 29-30th.

Precipitation totalled only 1.43 inches for the month which is nearly 3 inches below normal. This was also the third driest month in our records, exceeded only by 1963 and 1942. There were measurable amounts on 10 days with .49 inch on the 1st as the greatest, which left less than an inch for nearly the entire month. We are now 2-1/3 inches below normal for the four-month period and about 2 inches behind 1975 for the same time.

Water supplies are in surprisingly good shape as we enter the spring frost season; however, with the bogs running ahead we will probably need more water than usual. Winterkill and oxygen deficiency are not problems this year, but there has been a fair amount of vine dessication from the unusual heat.

*Continued on Page 16*

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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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# The Effect of Bruising on the Keeping Quality of Cranberries

by  
John S. Norton

As a byproduct of a study to determine the difference in bruising caused by the Cranberry Station experimental harvester and the Darlington harvester, the extent of quality impairment caused by bruising cranberries was revealed. I am sure that no one will be greatly surprised by these data but I am not aware of a similar study being made for harvest injury.

Data was accumulated over the four year period from 1972 through 1975. The original intent of the study was to determine whether bruising caused by the experimental harvester was too numerous or too severe for the machine to be considered accept-

able from that standpoint. At the initial examinations the indications were that the differences in percent bruising were not great. However, I decided to hold the sorted berries in cold storage for several months and reexamine them at the end of the storage period. It is a composite of the results at the ends of the several storage periods that is presented here.

The storage periods ranged from 28 days to 92 days. However, most of the berries were stored from 65 to 77 days. The rot in the unbruised berries ranged from .6% for Howes stored for 51 days (10/29-12/19) to 9.1% for Bergmans stored for 92 days (10/18-1/21). (This is too long to hold Bergmans). The average rot in

the Bergmans during the 4 years was slightly over 5%. Rot in the bruised berries ranged from 1.4%, for the batch of Howes with the

*Continued on Page 8*

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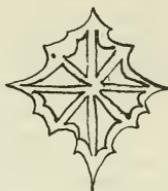
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# FROSTWATCH



by

Jane Presler

"You get a low level low and an upper level low and then they just spin around and stay there," Irving DeMoranville of the Massachusetts Cranberry Experimental Station grimly observed.

It was eight o'clock on Wednesday night, May 26. Demoranville was poised with the telephone receiver in his hand, about to dial Logan airport to get a projected minimum temperature for the night. A fairly large share of the Massachusetts cranberry acreage was represented in the growers who had gathered in the large room at the station that night to get the frost forecast "hot off the wire."

The men were slightly punchy. They had spent the last six nights out on the bogs, running sprinklers, checking local bog temperatures, gazing at the hopelessly clear night skies. All were in strangely high humor as they awaited the inevitable projection of frost.

David Mann, Papa George, Kenny Beaton, DeMoranville, Bill Atwood, Bill Tomlinson, Bob Hammond, Dougy Beaton, Bob and Carmen Alberghini, Nathaniel Wing—all growers, with the exception of Bill Tomlinson, who works on the forecast at the station.

"We come here because you get the scoop quicker," explained Dave Mann, a grower from Buzzards Bay. It seems that the camaraderie is pleasantly sustaining their spirits as some banter passes around the room.

"I never care which way they (low pressure areas) come from, I just care which way they go."

"I saw a bit of a rainbow," someone said encouragingly.

"Couldn't be moisture," said Dee as he dialed the airport's number.

"May we have your readings please? 47, 45, yeah . . . Sure is!" The room is silent while Dee is talking. The growers are exhausted.

"How do you feel about tomorrow night?" he continues. "Well, thank you very much." He hangs up.

DeMoranville turns to the growers and says, "Well, he thinks the clouds and the wind will help us."

"Ha," remarks Kenny Beaton, "That's what he said last night."

"Clearing and calm for tomorrow night," Dee continues. "Looks bad."

The growers brace themselves for another long night, the seventh running.

Dee recalls the district forecaster. "Clouds went out early last

night. There was some wind in some spots. How about tomorrow night? Where is the high located now?"

DeMoranville relays the report to the men: "He's giving us a 48°, variable clouds. More chance with the wind down here than up country. Tomorrow night about the same with less wind. Some good-natured groans are heard from the crowd. "Oh, cheer up," counters Dee. "When it gets hot this summer you'll laugh about it."

"The best indicator of a frost is when Mr. Hammond comes in with his coveralls on," laughs Bob Alberghini.

"And a good formula for figuring the temperature is how many times per second Babe's foot goes up and down," Dave Mann adds.

"It's that week of hot weather that killed us."

"Pushed the plants ahead."

Frosts are not unusual for late May, but the situation in southeastern Massachusetts was made more precarious by an early bout of hot weather in April that caused bud development to proceed prematurely. Now the plants are extra-sensitive, and the growers

*Continued on Page 6*

## FROSTWATCH

Continued from Page 5

have to be on their toes every night to make sure the frost doesn't damage the unusually sensitive buds.

"I don't like to cast any gloom, but we haven't even gotten to Memorial Day weekend yet," Dee reminded the growers. There has typically been a frost on that weekend in the area.

In a state of resignation, all the growers began to file out the door.

"It'll be around 27°," DeMoranville called after them.

The message that went out over the automatic answering service for that night, the seventh continuous night of frost, was as follows:

"This is a frost message for the evening of May 25, 1976. Forecast indicates a very dangerous frost if it clears and winds die out. Minimum bog temperature at 27° F. Balance even. Tolerance for State Bog Early Blacks 29½°. Tomorrow night about as cold."

Any grower could now call the Frost Warning Service telephone number and obtain this forecast.

Many growers are subscribers to the Frost Warning Service. They are called by their area distributors. There are eight of these in southeastern Massachusetts and each is called at one in the afternoon and eight-thirty at night on frost days. Bill Tomlinson and Irving DeMoranville relay the forecast to the distributors and they, in turn, report the bad news to all the growers on their individual lists.

Some of the distributors have been performing this service for 40 years. Mrs. Raymond Syrjala, distributor for the Cape Cod area, has performed her task steadily for about 50 years. Distributors receive a small fee (\$100 per season) and any toll calls are covered. Subscribers' dues and contributions go, in part, toward covering their fees.

"Considering the inconvenience of having to be home every evening during frost season, and every day

at lunch time, the fee is inadequate," remarked DeMoranville. "These people are providing growers with a very important service."

Other distributors are Mrs. Francis W. Trask, Plymouth; Mrs. Patricia Thibeault, Wareham; Mrs. Katherine Bartlett, Kingston; Mrs. Lois Ramsey, Carver; Mrs. Keith Cannon, Wareham; Mrs. Donald Savary, Rochester; and Mrs. Henry Liffers, Middleboro.

Tomlinson and DeMoranville also telephone the forecast to several radio stations: WPLM, WEEL, WBZ, WBSM, WOCB.

The Frost Warning Service has been in existence for over 50 years now. The Cape Cod Cranberry Growers Association took over sponsorship in 1934. The idea was conceived by Dr. Henry J. Franklin, one-time director of the Experimental Station. He had come up with a system for forecasting bog temperatures in the early 20's. At that time he had a small list of subscribers. Growers who subscribe



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to the service now pay according to the number of acres they have. Dr. Franklin's tried and much tested formulas remain true and are still used to compute the nightly temperatures.

Several figures are needed to plug into the formula. In the likely event of frost, DeMoranville will make several calls; one to Mr. Smith in West Boylston, Mass., (90 miles to the northwest), and one to the Reverend Ralph Barker in Rockport, Mass., (roughly 70 miles north). These men take readings in their area every day during the frost season. The two geographical points are offshoots of Dr. Franklin's calculations through which he discovered that weather moves from north to south on frost nights. Readings are also taken at the Wareham Experimental Station and used in the calculations.

The U.S. Weather Bureau is contacted for supplemental information such as cloud conditions, winds and forecasts for the next night. The projected minimum at Logan Airport in Boston is also obtained. This last figure is used as a check for the bog temperature forecast, that final figure which is

obtained by plugging the three readings into Dr. Franklin's formula. It was discovered that the projected minimum at Logan is consistently 20° higher than the figure arrived at for the bogs. On the night of the 26th, for example, Logan's temperature was 48°. The projected temperature for the bogs was 27°.

The spring has been a hard one on growers. But despite the uninterrupted string of frost nights, the record has not yet been broken. There were 13 frost nights in the spring of 1969, 14 in 1965 and 16 in 1953. The fall record for continuous frost was broken a couple of years ago.

"As far as I know, we've had very little frost injury so far this spring," Dee said, "but things are getting critical now because some growers are getting low on water supplies. The early warm spell probably hasn't influenced the crop except to make the vines more susceptible to frost. Some areas had some injury as a result of vines being dried out by the hot sun, but there has been no serious damage yet. The warm temperatures also started the insects early."

This is encouraging. And the growers are probably grateful for such optimistic forecasting. But for now their task is all-consuming; night-long vigils out on the cold bogs, keeping watch over the sprinklers and temperatures, driving from bog to bog to keep all the vines checked and covered.

When morning arrives, those who flooded their bogs because they didn't have a sprinkler system must draw off the floods before water injury occurs to the buds. This can cause as much damage as frost. Those with sprinklers turn off their sprinklers. Nearly everyone must greet a full day's work, but without the benefit of a full, or in many cases, even partial night's sleep.

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**KEEPING QUALITY**  
Continued from Page 4

low percent rot in the unbruised, to 42% for the Bergmans stored for 92 days.

Comparison of the percent rot in the bruised berries with that in the unbruised berries from the same samples, revealed ratios ranging from 2.3:1 (for the very good quality Howes referred to above) to 8.0:1. The ratio of rot in the bruised berries versus rot in the unbruised berries for a composite of all the data, regardless of variety, storage time or harvester, is 4.9:1.

Table 1 presents a summary of the four years of data. These data merely verify the long held knowledge that every effort must be made to hold bruising to a minimum in all fresh cranberry handling operations in order to assure the consumer of a high quality product at the fresh fruit counter.

Year	Variety	Harvester	Days in storage	Number of unbruised berries	% rot in unbruised berries	Number of bruised berries	% rot in bruised berries	Ratio of % rot in bruised berries to % rot in unbruised berries
1973	Early Black	Darlington	75	201	3.0	108	24.1	8.0:1
72-75	Howes	Darlington	28-63	2037	5.8	211	31.3	5.4:1
72-75	Bergman	Darlington	76-92	506	5.9	346	39.4	6.7:1
72-75	Howes	Experimental	28-70	5210	2.8	914	11.2	4.0:1
72-75	Bergman	Experimental	65-77	3275	5.0	1893	21.9	4.4:1
All of above combined				11,229	4.4	3472	21.4	4.9:1

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Dear Cranberry grower,

CRANBERRIES magazine often features profile articles on cranberry growers. We feel that these stories have a valid appeal for most of our readers. They promote communication between growers, to a certain degree, and it is our hope that they provide some helpful information of the sort that only one grower can offer another.

In order to truly facilitate communication over a broad geographical spectrum, we are eliciting national response by means of the profile form enclosed.

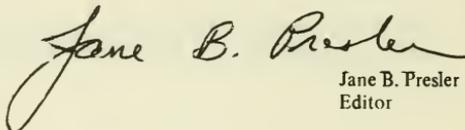
If you are interested in contributing to this series of articles, please fill out the form in as much detail as possible. The more information you can give to us, the more interesting and complete our story will be.

Please include any photographs of your business, and we will return them to you in good order.

You may prefer to send us a story concerning a particular experience you have had during your years as a grower. Please feel free to do so. We appreciate variety and, again, our primary goal is to build communication within the international body of cranberry growers.

We appreciate your participation a great deal. It is an important key in making CRANBERRIES magazine a vital organ of the cranberry industry.

Sincerely,



Jane B. Presler  
Editor

#### CRANBERRIES PROFILE FORM

*Please feel free to ignore those questions about which you would rather not issue a statement.*

1. Property locations and acreage:

How old are the bogs:

2. Varieties of berries grown:

Favorite variety (and why it is your favorite variety):

3. What did you do prior to entering the cranberry industry?

4. When and with whom?
5. Why did you choose cranberries as a livelihood?
6. How many acres under sprinklers?
7. How many acres do you harvest and how do you harvest them (wet, dry, etc.)?
8. When harvesting, what types of equipment do you use?

Any special methods, or types of equipment which are unique to the organic method of cranberry growing (applicable only to those growers who cultivate their crop organically):

9. How long does it take to complete a harvest?
10. Where do you ship your berries for processing?
11. How are your berries marketed?
12. What are your views on the present state of the entire industry and its marketing policies?

13. What types of machines have you devised for your hog use?
14. Who in your family assists you with cranberry growing?
15. Why do you enjoy cranberry growing?
16. What chores do you least enjoy with cranberries?
17. What associations do you belong to?  
Please list offices served with clubs?
18. What do you think the future in cranberry growing holds for you?
19. Do you grow any other crop near or on your property?
20. Do you have any other jobs, interests, occupation, at which you work in addition to growing cranberries?
21. Do you have or rent bees?      What are the benefits of bees, in your estimation?

22. What weeds give you the most problems?

23. How do you control them? Please go into detail on this question.

24. What types of pests give you the most problems, and how do you control them?

25. Are any special weather conditions a problem (hail, etc.)?

26. Please describe your educational background, if you have no objection:

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Supracide controls sunflower moth (sunflower head moth), *Homoeosoma electellum*; banded sunflower moth, *Phalonia hospes*; sunflower seed midge, *Neolasioptera murfeldtiana*; and sunflower maggot complex, principally *Strauzia longipennis*.

To control sunflower moth, banded sunflower moth, and the sunflower maggot complex, make the first application during early bloom, as infestations develop.

To control sunflower seed midge, make the first application during early bud development.

One or two supplemental applications may be necessary, at 7-day intervals.

If ground equipment is used, apply a minimum of 10 gallons of water per acre. Five gallons of water per acre is sufficient for aerial applications. However application is made, be sure the flower heads are thoroughly covered with spray.

Make all applications at the rate of 2 pints Supracide 2E per acre. Do not enter treated fields the same day spray is applied. Do not apply Supracide to sunflowers within 50 days of harvest. Do not graze treated areas or feed treated forage to livestock.

See your local fieldman or Ciba-Geigy salesman. Or write to Agricultural Division, CIBA-GEIGY Corporation, P. O. Box 11422, Greensboro, NC 27409.

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AMERI-CRANBERRY TREATS FOR A STAR-SPANGLED  
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**CRANBERRY FIRE CRACKER**  
(Serves 8)

1-1/2 cups (12 ounces) Seagram 7  
Crown Whiskey  
Chilled cranberry juice cocktail,  
about 2 quarts  
Ice cubes  
Superfine sugar to taste

Divide whiskey equally between  
eight 10 ounce glasses. Fill glasses  
3/4 full with cranberry juice. Add  
ice cubes until glasses are full. Stir  
in sugar to taste.

**CRANBERRY ROCKET CAKES**

(This recipe makes 7  
cakes — molded in varied size cans;  
and two dozen star cookies.) For  
cakes use: 1 (1 pound) coffee can,  
1 (46 ounce) tomato juice can, 1  
(40 ounce) sweet potato can, 2 (1  
pound each) cranberry sauce cans,  
2 (6 ounces each) tomato paste  
cans.

1/4 cup butter or margarine, soft-  
ened  
1/4 cup sugar  
1 egg  
2 teaspoons vanilla  
1-1/2 cups unsifted all-purpose  
flour

1/ 2 teaspoon baking powder

**Cakes**

3 cups (6 sticks) soft butter or  
margarine, softened  
3 cups sugar



12 eggs  
6 cups sifted all-purpose flour  
1 teaspoon baking powder  
1 cup Cranberry-orange relish

**Frosting**

3 cans (16-1/2 ounces each) vanilla  
frosting  
Red food coloring

**Cookie Preparation:**

To prepare cookies, cream butter  
and sugar until fluffy. Stir in egg  
and vanilla. Stir in flour and baking  
powder. Shape dough into a ball.  
Wrap and chill for 1 hour. Roll out  
dough on a floured surface and cut  
with various size star cookie cut-

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ters. Place stars on ungreased cookie sheets and bake in a preheated oven (400° F.) for 7 to 10 minutes or until lightly browned. Cool.

#### Cake Preparation:

These cakes are baked in cans, then unmolded and stood upright on a flat surfaced platter. They are then frosted with red frosting to resemble firecrackers and several star cookies are placed upright on top of each cake to resemble exploding rockets.

In a bowl, beat butter with an electric mixer for 5 minutes until fluffy. Gradually beat in sugar and

then beat mixture for 15 minutes or until very fluffy. Beat in eggs one at a time, beating for 1-1/2 minutes after each egg is added. Beat in flour and baking powder only until mixture is smooth and well blended. Fold in relish. Grease and flour all cans. Fill each 2/3 full of batter. Place cans on a large cookie sheet leaving space for air to circulate around each container. Bake in a preheated slow oven (300° F.) for 40 to 45 minutes for 6 ounce cans, 50 to 55 minutes for 1 pound cans, 75 to 90 minutes for the 40 ounce and 46 ounce cans. Cool in cans for 10 minutes, tap to

loosen and unmold. Cool standing upright on racks.

#### Frosting and Garnish:

Mix frosting with enough red food coloring to make a bright red. Frost cakes on sides and top. Place cakes one at a time on serving platter. Press several star cookies upright into frosting on top of each cake. Garnish bottom of cakes with fresh blue flowers.

### BERRY RED, WHITE AND BLUE STAR MOLD

(Makes one 1-1/2 quart star-shaped mold)

#### Red Layer

- 1 envelope unflavored gelatin
- 1-1/2 cups cranberry juice cocktail
- 1/2 cup cranberry-orange relish

#### White Layer

- 1 envelope unflavored gelatin
- 1/2 cup milk
- 1/3 cup sugar
- 1 package (8 ounces) cream cheese, at room temperature
- Juice of 1 orange

#### Blue Layer

- 1 envelope unflavored gelatin
- 3/4 cup cranberry juice cocktail
- 3/4 cup purple grape juice
- 1 cup washed and drained fresh blueberries or thawed and drained frozen blueberries

Stir gelatin into cranberry juice in a saucepan. Stir over low heat until gelatin is dissolved. Stir in relish. Pour mixture into a 1-1/2 quart star-shaped mold. Chill until firm. In a saucepan, stir gelatin into milk. Stir over low heat until gelatin is dissolved. In a bowl, beat sugar and cream cheese until smooth and fluffy. Gradually beat in orange juice and warm gelatin mixture until smooth. Pour mixture evenly over first layer and chill until firm. Stir gelatin into cranberry juice in a saucepan. Stir over low heat until gelatin is dissolved. Stir in grape juice. Chill until syrupy. Fold in blueberries and spoon mixture evenly over second layer. Chill until firm. To unmold, dip mold into lukewarm water, tap to loosen and invert onto a serving platter. Surround unmolded star with scoops of vanilla ice cream.

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## WISCONSIN

*Continued from Page 1*

on the 30th, but amounts were light and averaged less than a half inch.

The first week of May began cool with frost reported in much of the state on the morning of May 4. A warming trend on the 4th and 5th brought temperatures in the 60's and 70's before a new mass of Arctic air pushed southeastward across Wisconsin. That cold front triggered showers and thunderstorms on the 5th. Freezing temperatures occurred again on the 6th, 7th, and 8th. A mixture of rain and snow fell in the north and east on the 7th before warmer temperatures in the 70's and 80's prevailed on the weekend.

Scattered light showers occurred on the 10th and 13th before heavier rains fell on the past weekend. Temperatures averaged near normal for the week. Rainfall totals for the week were moderately heavy in the northeast, west central, and south. Very little rain fell in the northwest where amounts have been much below normal this spring.

## NOVA SCOTIA

Eastern Canada is experiencing one of the earliest seasons on record. Pears are in full bloom as of this date, May 19, at Kentville and some early varieties of apples which have partial bloom. The lack of snow cover coupled with other unique conditions this past winter have resulted in killing of flower buds in lowbush blueberries in some areas. Cranberry growers are advised to check their vines for possible injury in this crop.

Frost was experienced in some locations on the night of May 16th.

## MASS. NOTES

*Continued from Page 3*

bright sun and drying winds from the 16th through 21st. This has occurred almost entirely on Early Blacks and has never been noted

this early in the season before. There is some spotty leaf drop from a variety of causes such as mites, herbicides, lack of sand and drought last summer. The bud is better than last year and vines in general look very good. Even with the unusual warmth, the Howes have not completely changed color yet and some of the Early Blacks are slow but terminal buds are ready to pop.

### TIPS FOR LATE SPRING AND EARLY SUMMER

1. Keep a sharp watch for cutworms after the late water flood is drawn.
2. Put in flume planks and impound drainage water for 24 hours after using any pesticide. Drainage water must be held 7 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 5 days after the flood has been withdrawn or within 8 days if kerosene is used alone. Less damage will occur to the vines if temperatures are below 65° when these oils are applied.

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5. Casoron, alanap, Chloro-IPC, simazine and morcan 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, especially 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. Do not use Guthion or malathion after hook stage.

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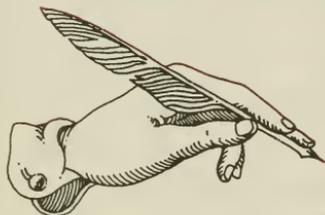
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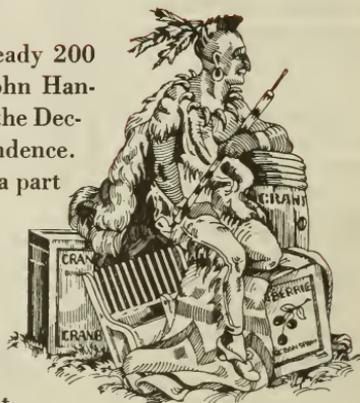
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**REGIONAL NEWS NOTES****NEW JERSEY**

After the record breaking warm spells of April, nature's law of equalization operated to make May cooler than normal. The average temperature was 60.8 degrees, which is 1.3 degrees cooler than normal. The month was drier than normal, with a precipitation total of 2.70 inches, 0.85 inches below normal. The accumulated rainfall for the first five months of the year is 15.23 inches, or 1.61 inches below the average for this period.

An unusual number of frosty nights kept growers almost constantly worried. There were 14 frost calls during May, eight of them occurring after the traditional May 10th date for removing the winter flood. Some growers were short of water for frost reflows but so far only some scattered light frost damage has been observed. This was caused by the "sneak frost" of the night of May 3rd when the forecast was 30 to 34 degrees but bog minimums plunged to 22 degrees.

The cool May has slowed down the phenomenally rapid growth of blueberries. At the end of April a record early harvest was in prospect. The season is now only about a week ahead of normal with some early picking expected in the Hamonton area about June 11th. The advanced flowering season made blueberries very vulnerable to the late April and Early May frosts. Some fields in the Sheep Pen Hill area are badly damaged while the Chatsworth and Hamonton regions appeared to have gotten by. A very good crop is in prospect in these areas.

**WASHINGTON**

Cranberry Field Day, Friday, June 25, at the Coastal Washington Research and Extension Unit, Long

Beach, Washington State University Agricultural Research Station. Program began at 10:00 A.M.

May precipitation totaled 3.91 inches at Grayland with .85 inches the greatest amount for a 24-hour period on the 31st. Long Beach total was 3.38 inches with .69 inches the heaviest amount on the 25th. The year's total at Long Beach is 43.33 inches to date.

The high temperature at Long Beach came on the 16th with 76 degrees F and 75 degrees F at Grayland on the same day. A minimum of 32 degrees was recorded at Grayland on the 18th and 35 degrees at Long Beach. Grayland had 18 days with the bog minimum temperature at 40 degrees and below, Long Beach had 11 days. The cranberry growth is slow overall with the cool temperatures, and 20% bloom will be perhaps the end of June.

As mentioned in the February issue of *Cranberry Vine*, mailing list is to be revised as of June 30. If you wish to remain on the mailing list, need the confirmation. Thank you.

**NOVA SCOTIA**

The mean temperature for the month of May was slightly warmer than the 50-year average. Precipitation at 86.4 mm was considerably greater than the 50-year average of 69.3 mm. Both the heat units and total sunshine were also in excess of the average. No serious frosts were reported and plant development was exceptionally early.

**WISCONSIN**

Wisconsin crops need warm weather and more moisture now that much of the planting has been completed, say farm reporters and county agricultural agents throughout the State.

*Continued on Page 20*

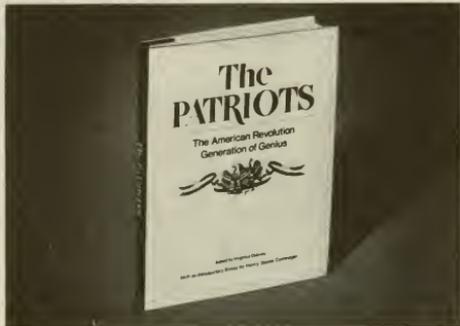
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# Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE  
extension cranberry specialist

## Personals

Dr. Bert Zuckerman was a guest lecturer at a nematode-virus symposium held in Muenster, Germany from May 13 through 18.

Dr. Robert Devlin gave a seminar on growth regulators to biologists and chemists of the FMC Corporation in Middleport, N. Y. on the 25th-26th.

## Weather

May was nearly normal in temperature averaging only 0.2 degrees a day warm. Maximum temperature was 81 degrees on the 28th and minimum 36 degrees on the 9th. Warmer than average days were: 15th, 16th, 28th, 29th and 31st. Cooler than average days occurred on the 2nd, 4th, 7th, 8th, 19th, 25th and 26th.

Rainfall totalled 3.04 inches or about 0.4 inch below normal. There was measurable precipitation on 10 days with 0.94 inch on the 1-2nd the largest storm. We are 2-3/4

inches below normal for 1976 to date and 1-2/3 inches behind 1975 for the same period.

## Frost

The spring frost season arrived early this year with the first warning on April 23rd. This is the earliest in 15 years and there have not been many years before with earlier warnings. The reason was a hot five day period from April 16 to April 21 that pushed everything ahead. The most serious nights were May 4 with a range of 19 to 25 degrees and May 8 with a range of 21-26 degrees. From May 19 through 26 we had eight consecutive nights with warnings which has never happened before. We have issued 24 frost warnings through May compared to none in 1975, seven in 1974, six in 1973, five in 1972 and six in 1971. We have to go back to 1953 to find a year with more warnings. Even with all of this frost activity there has been only

minor and spotty frost injury as of June 1st.

## Final Keeping Quality Forecast

As of June 1, 1976, we have seven points of a possible 16 favoring good keeping quality in the 1976 crop. Prospects have therefore improved since April 1st when we forecast "only fair." It is our feeling that this year's keeping quality will be *good*. However, consistent with the long tradition of this Station's announcements, we hedge a bit. Some factors for good quality were gained by narrow margins, and seven points itself is narrow for a "good" forecast. Therefore, in view of the improved market and the bright prospect for a sizeable crop, we urge growers to help in making it a good quality crop by using fungicides on those bogs where quality has been a problem in the past, and wherever the crop is destined for sale as fresh fruit.

---

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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the insecticide. The virus product also appears to have no adverse effects on beneficial insects, birds, or other wildlife that help keep other cotton pests under control. This "specificness" of the insecticide is a major environmental advantage over chemical pesticides approved by EPA for cotton use. Other environmental benefits of the insecticide are that it becomes harmless shortly after application,

and that it is not capable of building up in the bodies of birds or other wildlife that might eat the treated bugs.

The insecticide is produced by raising diseased bollworm and budworm insects in a laboratory, then extracting the virus and mixing it with other materials. It may be applied by either ground equipment or airplane. The insecticide is trade-named "Elcar." It is produced by Sandoz, Incorporated, Homestead, Florida. In cotton growing areas where other pests such as the boll weevil are a problem, research is being conducted on ways of combining Elcar with chemical products for effective treatment.

In addition, other viruses are now being tested for the control of two serious timber defoliating insects, the gypsy moth and the tussock moth. As far as other natural or biological pesticides are concerned, (1) an insect bacterium, *Bacillus thuringiensis*, is gaining widespread use for control of gypsy

moths and several vegetable and crop pests, and recently was EPA registered for use in combating the Eastern spruce budworm; (2) fungus that is a natural enemy of a weed common to rice fields is entering its second year of field testing in Arkansas; and (3) a protozoan, known as *Nosema locustae*, is being evaluated in Montana and Wyoming for the control of grasshoppers.

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# Land Use, Income Assurance Linked in British Columbia

by Clancy V. Jean  
*U.S. Agricultural Attache*  
*Ottawa*

Although Canada occupies an area larger by nearly half a million square miles than that of the United States, its actual and potential agricultural land amounts to only 13 percent (120 million hectares, or 296 million acres) of total area, and only half of this agricultural land is suitable for field crops.

Of Canada's total land area, a mere 2.4 percent (21.9 million hectares, or 54 million acres) meets the criteria set for Classes 1 and 2 (the most desirable farmland) as spelled out in the Canada Land Inventory.

Cities, towns, and roads occupy about 4 million hectares (9.9 million acres).

Although accurate data on the transfer of Canadian agricultural land to urban and industrial development are not available, in British Columbia nearly 100,000 acres of agricultural land were irretrievably transferred to urban development between 1962 and 1972.

It is estimated that every increase of 1,000 persons in urban

population requires about 200 additional acres of land. At this rate, urban growth in Ontario and Quebec in the next 25 years will require between 741,000 and 1.2 million acres of land, half of which is now productive farm land and concentrated in the Windsor-Toronto-Montreal-Quebec City corridor.

In Canada, where the continuing loss of productive farm land to nonfarm use poses a serious problem to Federal and Provincial officials, the Government of one Province—British Columbia—has taken the first positive steps toward arresting the decline in prime agricultural land area.

In Ontario and Quebec, where farm land is disappearing at a disturbing rate, the steps taken by the British Columbian Government are attracting considerable interest.

Urbanization and industrialization in British Columbia in the late 1960's took about 15,000 acres of prime agricultural land out of production each year. Only 5 percent of British Columbia's 250 million acres consists of arable land, and less than 2 percent of this area is now in agricultural use.

The remaining 80 percent of British Columbia's arable land (about 9.75 million acres) has been placed in the Province's Agricultural Land Reserve (ALR)—a land-preservation program that began in 1972 with the placing of a moratorium on all future use of certain agricultural land for purposes other than farming.

In 1973, the British Columbia Land Commission was established to implement the moratorium. The Commission also was assigned the responsibility for certain greenbelt and parklands, and was empowered to approve or disapprove all proposed highway construction plans.

Land owned by farmers was grouped into seven land classes, and the land-classification plans were submitted to local (regional) governments for review. The Land Commission then reviewed each regional government's comments before submitting the final regional plan to the Provincial Cabinet for approval.

*Continued on Page 6*

The agricultural land classifications assigned to a particular farm are integrated by cross reference to legal land titles and to building permits. A farmer wishing to assign some of his poorer land to some nonagricultural use would not be able to obtain a building permit unless his proposed land use had been approved, nor could he sell it by subdivision without approval.

For the farmer wishing to sell his entire farm, no approvals are required, but the new owner becomes subject to the land-use restrictions.

One of the more frequent requests to the Land Commission involves separating the farm home by subdivision and selling the remainder of the farm. Such transactions are not possible, and it has become common for the original owner to arrange leaseback of the farmstead from the new owner, thus avoiding the creation of more rural residences in the ALR by separation of farmsteads from farmland.

When the ALR was set up in 1972, many objections were raised by farmers and farm organizations. Farmers nearing retirement claimed the Government had deprived them of the retirement income to be received by selling to developers—an assumption based on the belief that farmland would command higher prices for its development potential than for its use in agriculture.

ALR officials say farmland values have been maintained since the restrictive regulations went into effect, despite the removal of developer demand from the market. Raspberry land in the Fraser Valley, for example, recently was sold at \$5,100 per acre.

However, it may be too early to be certain that land values have been unaffected by narrowing the buyer market. Sales prices may still be reflecting earlier values that were influenced by developers.

Also, nonfarmers can buy small (e.g., 10 acres) for rural residences

and not farm them. Some home buyers find that they get more house for their money in a 10-acre semirural farm than in a suburban subdivision. While such purchases may be a major factor in maintaining prices of farm land, they are not subterfuges.

Nothing in ALR regulations requires that land be farmed. The objective of the ALR system is to keep the remaining farmland from being irretrievably converted to nonfarm uses. Conceivably, farm land could be approved for development of a golf course, for example, on the basis that such use would not preclude its return to agriculture.

There is provision for appeal from ALR rulings, and from the start of the program through March 31, 1975, some 2,550 appeals were filed by landowners and others.

The ALR program has also hastened the Provincial Government into a Farm Income Assistance program that was put into



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ffect in December 1973. Some observers have noted that once any government says in effect, "This and must be farmed in perpetuity," the owner-operator then can be expected to ask, "What about my income?"

The concept of farm-income stabilization in Canada has been in existence for some time. An official British Columbian publication states, in part:

"Besides preserving the agricultural land-base of the Province, one of the objectives of the Land Commission Act was to encourage family farming. The Farm Income Assurance Act is a corollary to the Land Commission Act and is a new concept in agribusiness, benefiting both producers and consumers."

At present, income-assurance programs are in effect in British Columbia for nine commodity groups: Dairy, broiler hatching eggs, greenhouse tomatoes and cucumbers, hogs, beef, table eggs, tree fruits, field tomatoes, and blueberries.

These programs operate on the basic insurance concept of protecting farmers against uncontrollable increases in prices of purchased inputs and severe decreases in market returns.

At the same time, the consumer is ensured of a continuing supply of high-quality farm products at relatively stable prices.

Participation in these programs is on a voluntary basis, except for those commodities covered by marketing boards (of which there are several), where participation is mandatory.

To participate in the income-assurance program, a producer must apply to the British Columbia Government through the B.C. Federation of Agriculture, which the Government looks to as the exclusive representative of Provincial farmers.

Industry and Government then develop a model to serve as the basis for determining production costs. The model is designed to be representative of the upper 25 percent of producers, measured in terms of efficiency. Production costs are determined by using this model and data of the 5 latest years.

Premiums, which are shared one-third by producers and two-thirds by Government, are paid into an assurance fund. Indemnities are paid when the market price falls to 95 percent of the negotiated cost of production.

Indemnities cover about 75 percent of the deficit between the cost of production and market returns.

Should there be insufficient funds to cover any deficit, the Government advances the amount needed and subsequent annual premium rates are adjusted to recover the deficiency over the next 5 years.

All income assurance contracts negotiated between the British Columbia Department of Agriculture and the B.C. Federation of Agriculture are for 5-year terms.

Basically, the recent land and income developments in British Columbia include a land-classification program that controls use of farmland for nonfarm use, coupled with an income-assurance program as the approach to farm-income stabilization that is arrived at through negotiation between the Provincial Government and an organization representing farmers.

British Columbia's package approach to land and income matters is receiving serious consideration in other provinces. One Federal agricultural official observed recently that not only is the integration of land use and income assurance programs news, but the process involving government recognition of land negotiation with one farm organization also is new.

In the past, governments received the views and recommendations of farm organizations and merely took them into consideration in formulating programs.

The land and income developments adopted by British Columbia may well be forerunners of new national approaches to Canadian agricultural policies. It is possible that British Columbia's recent experience in land and income legislation may be used as a model by other provincial governments as well as by the Federal Government.

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On every side we are beset by appeals that are reasonless in nature. Esoteric cults abound that appeal to the irrational. An astrology thought to have been discarded in the Middle Ages has been revived

and many people would not think of beginning their day without consulting advice associated with their sign in the Zodiac.

Candidates for the presidency multiply, some talking as though they think of the American public as mindless. The tough issues are avoided, and the man on the street or the family before the television screen are "talked-down to."

Within our established groups, there are those who tell us it does not matter what we believe with our minds, it is how we feel with our emotions that counts. For others, faith is a blind acceptance of what would otherwise offend our sense of reason.

Against this background of our life and times, we should examine an important incident recorded in the New Testament, Luke 10.

A young Jewish lawyer, baiting Jesus, asked, "How shall I inherit eternal life?"

"Thou shalt love the Lord thy God with all thy heart," replied the lawyer, "with all thy strength, and with all thy mind, and thy neighbor as thyself."

Jesus affirmed this by saying, "Do this and you will live."

Apparently, a mindless love of God was abhorrent to Jesus. The mind is also a faculty of love. In another instance, when Jesus sent out His disciples on a tour of some villages in Palestine, He said, "Be wise as serpents and innocent as doves" (Matthew 10:16).

If we were to call the roll of the great minds of Western civilization, we would have to include St. Augustine, bishop of Hippo; Martin Luther, initiator of the Protestant reformation and translator of the Hebrew and Greek Bible into German; Albert Schweitzer, theologian, organist, physician, missionary and philosopher; and Martin Buber, Jewish philosopher who laid down the basic principles of dialogue between religious groups. These were all men with first-rate minds who placed their minds in the service of God.

Thinking people belong in the religious communities of the world. Seldom has the world needed a biblically-oriented rational faith more than now. Love God with all your faculties, *including* your mind.

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# Butz Sees Need for Expanded Farm Trade

Secretary of Agriculture Earl L. Butz called for a more rapid expansion in world trade in farm products on his return May 2 from a trade mission to 10 countries.

"This would require a major effort to liberalize worldwide trade restrictions," he said. He went on:

After 20 days of conversations with government leaders, including five heads of state, I am more convinced than ever that the world needs to trade more freely in agricultural products. The countries we visited vary widely in their agriculture—from tropical to temperate—from major exporters to large net importers—yet a common denominator is the need to trade.

In New Zealand, I met with Acting Prime Minister Talboys, and with principal ministers there and in Australia. It is apparent that both Australia and New Zealand need greater access to traditional markets in Europe and Asia for their meat, wool, and dairy products. The European Community and Japan have tightened their borders to these products. This is putting severe pressure on farmers in Australia and New Zealand. This leads the two countries to seek larger exports to the United States,

especially for beef. We are already the world's largest importer of beef, and there is a real need for other countries to lower their border restrictions on meat.

Malaysia and Indonesia are expanding their palm oil industries rapidly. They need larger and more diversified markets for this oil. At present, the United States is receiving a disproportionate share of world palm oil exports, especially from Malaysia. In our talks in Djakarta and in Kuala Lumpur, we emphasized the need for those countries to diversify their markets, seek new uses for palm oil, and to lessen their rate of expansion in palm oil production. Otherwise, we run the risk of a worldwide depression in vegetable oil prices.

At the same time, we made it clear that the U.S. Government does not want to limit imports of palm oil. We are the world's largest exporter of vegetable oil, particularly soybean oil, and it is not in our best interest to take a restrictive position in world trade. Our interests are quite the reverse.

While in Indonesia, we signed a P.L. 480 Title I Agreement for 100,000 metric tons of wheat and 100,000 metric tons of rice. This

agreement will help the Indonesians meet their import requirements for these two commodities while at the same time enabling them to pursue their economic development programs more effectively. In Djakarta, I met with President Suharto, and found him very much committed to agricultural development in his country.

Spain and Portugal are large importers, and their trade problems are quite different from those in the net exporting countries. Both Spain and Portugal have large trade deficits with the United States, and they would like to reduce their deficits. At the same time, they want to continue improving the diets of their people, and this will require substantial imports of farm products, including grains and proteins, to maintain their growing livestock and poultry industries.

Spain is among the top 10 export markets for U.S. farm products, purchasing more than three-quarters of a billion dollars in fiscal 1975 and probably will purchase a like amount in the current year ending June 30. Spain is making a major effort to develop its own

*Continued on next page*

agriculture further, and while in Madrid, we talked about the need for greater cooperation in the exchange of agricultural technology.

Portugal takes more than a quarter billion dollars in U.S. farm products annually. While in Lisbon I met with Prime Minister Azevedo, and we amended the Title I Agreement under which that country had recently purchased 56,400 metric tons of U.S. rice. The amendment will provide \$5 million worth of cotton—about 16,000 bales. This assistance will help Portugal as it struggles with very difficult economic and political problems.

In Bulgaria, we were impressed with the dedication of Government leaders to expanded livestock production, especially swine and poultry, but also dairying. In order to accomplish this, it will be necessary

for the Bulgarians to import grains and protein supplements. Later this year, a Bulgarian mission will visit the United States to explore future

opportunities for cooperation in agriculture. In Sofia, I met with the Chairman of the State Council Todor Zhivkov.

In Greece, we visited the American Farm School at Thessaloniki. This school, founded more than 70 years ago, has made tremendous contributions to agriculture in Greece. That country is now planning 10 additional institutions patterned after the American school.

In Singapore, I met with Prime Minister Lee. Singapore is a small but dynamic market for U.S. farm products. In addition to its position as a commercial crossroad in Asia, it maintains a sizable animal agriculture, particularly swine, within its small area.

In Geneva, we met with heads of delegations from about 70 countries represented at the multilateral trade negotiations. We talked with them about the need to eliminate nontariff trade barriers. The question is a fundamental one—whether agricultural products are to be traded in a world where the rules

are different for them than they are for other products.

The need for trade liberalization in agriculture was a subject that we reviewed in each country we visited. Another major topic was the Commodity Credit Corporation (CCC) export program. In seven of the 10 countries we visited, CCC credits are being used to facilitate additional U.S. exports of commodities, including breeding cattle, feedgrains, wheat, soybeans, and tobacco.

One of the purposes of the trip was to become personally acquainted with the governmental leaders and agricultural leaders of these countries. Once you establish personal relationships, it is easier from then on to work together to develop trade, share technology, smooth out irritations, and promote peace. The trip has helped us to further the future working relationships of the United States with these 10 nations.

*Foreign Agriculture*

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# Productive UW Career in Foods to End for Weckel

A hard working University of Wisconsin scientist who has worked to improve the quality of American foods for nearly half a century is retiring this June. He is Kenneth G. Weckel of 3400 Topping Rd

Weckel's richly productive career has shown no sign of slowing down ever since he began helping to eliminate rickets as a public health hazard in the 1930s.

"I was a student under Professor Harry Steenbock then," he recalls. "Of course Steenbock discovered that when cholesterol in milk is exposed to ultraviolet light, it converts to vitamin D. My job was to adapt the Steenbock process of vitamin D fortification for use by the milk processing industry." In 1938 Weckel received the Borden Award from the American Dairy Science Association for his efforts.

His colleagues also credit Weckel as the originator of a broad food technology curriculum at the UW.

"That was a very interesting phase of my work," he says. "I spent a year looking at the needs of food processors and how the University might be able to help them. At that time, as World War II ended, the food processing industry was expanding rapidly, and many veterans and other students were entering the university for training. During the first year of the program

we started here, I developed four courses in food technology and taught a total of nine!"

Among both students and fellow instructors and researchers, Weckel is known as an exacting taskmaster and a "real bull" for both hard mental and physical work. Even when he and wife Genevieve are

following their hobby of rambling around the world on tramp freighters, Weckel is just as likely to be down in the hold trouble-shooting a refrigeration problem as he is taking his ease up on the passenger deck.

The food scientist has attacked nearly every conceivable food processing or quality problem from

candied cranberries to smoked chub. He is an authority in the fields of dairy products, fruit and vegetable processing, confectionary technology, nutrition-vitamin technology and regulatory practices and procedures. He is especially respected for his knowledge and contributions in the area of food sanitation.

Weckel belongs to a score of technical and professional organizations and has received citations from such diverse groups as the Wisconsin Society of Professional Engineers, the National Confectioners Association and the Interna-

*Continued on next page*

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Nites & Weekends

tional Association of Milk and Food sanitarians.

Like many other food science specialists, Kenneth Weckel is deeply concerned about recent public distrust of the American food industry. "I think the public has a tendency to take for granted the tremendous advances in food quality our improved technology has made possible," he ventures.

"It seems we may have forgotten," he continues, "that a few decades ago rickets crippled thousands every year. Now the incidence of the disease has been so greatly reduced it is not really a serious public health hazard in the U.S." He thinks it is important not to let our present concern about food quality overshadow recognition of the real benefits modern technology has made possible.

Forgetting these advantages is impossible for Weckel. He has worked nearly 50 years improving the quality of food Americans eat.

Weckel was born in Canton, Ohio, in 1905 and completed high school there. He then studied at UW where he earned his Ph.D. in dairy science in 1935.

The Weckels are keen sailor-travelers and so far have logged 18

freighter trips to faraway places. "And we're looking forward to more," smiles the professor who also "collects" rides on steam driven trains.

Although he is 70 and officially retiring, his colleagues and friends are sure that the eminent research worker will continue to make important contributions to the field of food science.

A symposium of "Food Regulations: Present and Future" held

here recently honored Weckel's contributions to U.S. food technology. At a recognition dinner at the Wisconsin Center, Glenn S. Pound, dean and director of the College of Agriculture and Life Sciences;

Harold E. Calbert, chairman of the department of food science; and other colleagues recalled Weckel's contributions. They presented the scientist with leather bound volumes containing all his professional publications.

*The Capital Times, Wisconsin*



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# FARMERS OPPOSE OSHA INTERFERENCE IN FARM OPERATIONS, SURVEY REVEALS

A recent survey, conducted by International Harvester's FARM FORUM Magazine, indicates that almost two-thirds of farmers polled are against OSHA (Occupational Safety and Health Act) regulations to help protect hired farm help from accidents.

And more than half (56%) believe that OSHA and other governmental safety regulations have absolutely no effect on making farming operations safer.

These and other conclusions are based on a random sampling of 829 U.S. farmers who voiced their opinions on a variety of questions concerning farm safety.

In response to the question, "How do you feel about government enacting OSHA regulations to help protect hired farm help from accidents," the farmers responded as follows:

I'm for OSHA regulations 100%—1%.

OSHA is necessary because farmers haven't corrected safety hazards themselves—4%

Although I can't say I'm for OSHA regulations, I think the good points outweigh the bad—30%

I'm against OSHA interfering in farm operations—65%

Asked if they felt OSHA and other governmental safety regulations really made their farming operation safer, only 4% answered definitely yes. More than a third (37%) said somewhat, and 56% said absolutely no effect.

To date, OSHA regulations apply only to hired persons working on a farm, and do not apply to a farmer or members of his immediate family. The farmers were asked if OSHA or OSHA-type regulations should be extended to include the farmer and members of his family as well. Their responses were as follows:

Definitely yes—2%

Yes, if that's what it takes to get persons to be more safety conscious—9%

No. A farmer's safety should be his own responsibility, and no law is going to make him more safe—62%

Under no circumstances does the government have any business telling a farmer whether to practice safety—26%

Yet more than three-fourths of the responding farmers had had some sort of farm or farm-related accident. Most (58%) had received only minor cuts, bruises or sprains; 15% had had a serious accident; and 4% had had an accident causing permanent injury.

The responding farmers were divided on how dangerous an occupation they feel farming is, answering as follows:

Extremely dangerous occupation—4%

More dangerous than the majority of other jobs—35%

No more or less dangerous than any other jobs—52%

Less dangerous than most other occupations—8%

The farmers were asked which was the one most hazardous job or situation in their farming operations. Responses included: driving or operating tractors or self-propelled equipment on roads and highways (21%); operating, adjusting or repairing combines, corn pickers or other farm machinery (20%); handling herbicides, insecticides or fertilizer (16%); and handling livestock (12%).

Despite the dangers, 32% of the respondents indicated that they do not practice as good a farm safety program as they should, while 65% said that they do. And only 9% are personally involved in an organized safety education program in their communities.

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# AGRICULTURE NOTES

## Current comments

Agribusinessmen and farmers tell us . . .

"You deserve a break today" represents a theme that has for many years typified to the public the goals and even responsibilities of the American food system. This system long ago discarded an image of supplying a daily *need* in favor of selling its *promises* of the abundant life, the bountiful table and the proverbial, but as we all know, non-existent "free lunch."

Is it really so shocking, then, to find that today, food-price villains lurk in the minds of many well-meaning citizens? They are feeling honestly deprived of what they consider to be their rightful due.

These consumer expectations appear unrealistic to those of us who live in constant daily contact with the production and distribution realities of our food system. But is it really so surprising that a widespread psychology of entitlement abounds? We have, with few exceptions, become accustomed over decades to unrealistically-low food prices. Our media convey the image of our world as one of boundless plenty. The television screen exhibits daily an abundance of food for man and beast with no end of boil-in-the-bag convenience, services, flavors and sizes. All of this offered in the chromium gleam of superstores, convenience stores and fast-food emporiums.

There exists hardly a man, woman or child in any walk of American life who has had to seriously question the availability of his or her next luscious meal at affordable prices . . . until now.

We all know, of course, the many valid reasons why the "free

lunch" cannot exist and thus has suddenly been erased from the national menu. But this is small consolation for the pain of dashed expectations being suffered by the millions of "believers" you and I helped create.

As farmers and agribusinessmen, our situation is that of one lover telling the other that the romance is over. There is simply no way it can be done without causing pain. It is not that rational explanations do not exist, but simply that such answers are extraordinarily difficult to communicate.

To explain the food situation effectively and candidly is perhaps

the fundamental challenge facing each of us as a part of the food system. Until we accomplish this goal, farmer, cooperative executive, food processor, advertiser and retailer will be the scapegoats as people satisfy an inherent drive to rationalize who or what is causing an upsetting change in their lives.

*Prof. John W. Allen  
Michigan State University*

It is apparent that evaluations which are being made of milk-order and price-support programs differ a great deal. Regulation—like beauty—is in the eye of the be-

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holder. What is viewed as protection from ruinous competition by the dairy farmer is viewed as undue price-enhancement by the consumer. This, of course, raises the very sticky question when it comes to evaluation of programs such as milk orders—who is going to do the evaluating? Evaluation made on the basis of a one-sided point of view or without full investigation of all sides of the issue can only serve to widen the misunderstandings which exist.

*Donald Wilson  
recently appointed administrator of  
USDA's Agricultural Marketing Service*

Just five years ago, the free market was restored to much of agriculture. The Agricultural Act of 1970 discontinued acreage allotments and marketing quotas for wheat, feed grains and some cotton. And as a result, many farmers for the first time competed in a free market to sell to the highest bidder.

The federal government then encouraged "full production" to meet food needs here and overseas. The prospect for increasing farm income looked brighter than it had in years.

And then came the embargo on wheat sales . . . a product of political pressure and political expediency.

Are we playing Russian roulette with American agriculture? Are we pointing the proverbial gun, with one bullet in the chamber, at the heads of the American farmer and the American consumer?

As you know, the wheat farmer depends on a strong export market, since the United States can consume only about one-third of a normal wheat crop here at home. A free market for exports is critical to sustaining the farmer's income.

### Prediction

It is not difficult to imagine what will happen if the farmer fears his export market will be closed off. The farmer will reduce production. There will be less supply, in the face of constant or rising demand. And the result, as any first-year economics student will tell you, is higher cost to the consumer.

On the other hand, a free market system over the long haul encourages the lowest possible price to consumers, because the free market encourages full production to meet demand. But there is no place in the free market for a moratorium on exports.

Perhaps the embargo was good politics . . . but it was bad economics. The federal government cannot cry wolf very often . . . and

that's what it did, urging farmers to go for full production, and then impairing their ability to market their crop and recoup their investment.

### What Next?

Today, farmers and their bankers must wonder, where will the next embargo be imposed? On corn? Soybeans? Beef? This year? Who knows?

After all, the federal government had three years since the 1972 Russian wheat deal to formulate a policy that farmers and consumers could rely upon.

And yet, when wheat exports and Russian demand emerged as an issue earlier this year, political pressures took over and the embargo was hastily imposed.

It is no small matter that control over agricultural exports has been transferred in effect from the Department of Agriculture to the Department of State.

As a result, we have transformed our tremendous food production capabilities into a diplomatic weapon, a foreign-policy tool. The domestic needs of our agricultural sector are now subordinated to foreign policy needs, and the political pressures.

*J. Rex Duwe, President  
American Bankers Association*

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# FOOD IN COLONIAL AMERICA NOT AS GREAT AS REPUTED

In spite of the celebrated Thanksgiving Day feasts of Colonial New England, and the bountiful table set by Virginia plantation owners like George Washington and Thomas Jefferson, the food supply of early America was more often beset by problems of "inadequate yields, seasonal availability of produce, nutrition-robbing preservation techniques, constant labor, continual attention to schedules and danger of contamination," according to a new booklet called *Food of Our Fathers*, produced by the Institute of Food Technologists here.

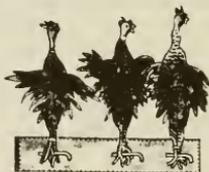
The Pilgrims found many foods they had never seen before when they landed in the new land, including corn (as every schoolboy knows), sweet potatoes, pumpkins, squash, peanuts, sunflower seeds and cranberries. They also found unfamiliar new ways of cooking, such as roasting meat on spits and slow baking in rock-heated pits for baked beans and clams.



As colonists settled in other parts of the country, and as settlers pushed back the frontier, other new foods were discovered, such as tomatoes, peppers, okra, crayfish, catfish and salmon. These foods were quickly adopted by the new Americans, and adapted into their diets. Creole recipes adapted tomatoes to French cooking, for example, and corn found use everywhere in hundreds of recipes for main dishes, breads and desserts.



The early settlers weren't accustomed to eating much meat in their homelands, according to the IFT booklet, yet it formed a large part of the diet in early America, where game was abundant. Many frontiersmen lived almost exclusively on meat they could kill as they went, or carried along dried as pemmican or jerky. Frontier wives even processed calves foot jelly into an early version of boullion cubes called "portable soup."



The booklet, prepared for release in conjunction with IFT's Annual Meeting in Anaheim, Cal., picks up the theme of the meeting, "Food: America's Bountiful Heritage," and the role of food technology in adding to that abundance, because—in spite of the many new varieties of food—the diet of our forefathers was very limited and would have seemed boring by our standards. Climate played a major role in the availability of fresh fruits and vegetables, and life for the housewife was very much oriented around preservation techniques to help provide variety.

Nutrition, of course, was an unknown science, and many of the processes used virtually destroyed vital nutrients and led to deficiency diseases. Typical winter diets of cornbread, molasses, beans and salt "fat back" led regularly to pellegra. Scurvy was common in the winter and on the frontier, since vitamin C was frequently lacking, and preserved fruits and vegetables such as dried apples and sauerkraut had little vitamin content to relieve the diseases.



The 24-page booklet, available on request, describes the various food preservation processes in common use, including drying, salting, pickling and brining, as well as dry storage in root cellars. It also describes the somewhat surprising extent to which early American housewives used chemicals in preserving their foodstuffs, in their continuing efforts to supply a varied, year-round nutritious diet.

The Institute of Food Technologists is a professional scientific society devoted to the discovery and application of new and existing knowledge to improving the world's food supply. Its 15,000 members are active in academic, industrial and government organizations.

Write to: Institute of Food Technologists, Suite 2120, 221 North LaSalle St., Chicago, Illinois 60601.

# NEW PRODUCTS:

## Citrus Industry Finds Slip-Plate Protects Equipment From Water, Acid "Tortures"



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In actual field use, SLIP-PLATE has resulted in a 30 percent reduction in the wear of sprocket teeth. It has lengthened the life of chains, sprockets, and other metal-to-metal wearing points, and resulted in greatly reduced equipment downtime for maintenance. One user has completely eliminated mid-season maintenance downtime.

For more information on Slip-Plate, contact Superior Graphite Co., 20 North Wacker Drive, Chicago, Illinois 60606.

## Voluntary Equipment Identification Program Important Way to Discourage Thieves

Widespread adoption of a voluntary equipment identification program by the farmer "offers the best immediate solution to discourage theft and identify stolen equipment."

Emmett Barker, executive secretary of the Farm and Industrial Equipment Institute, told members of the National Farm and Power Equipment Association managers at their annual meeting that an ID program would also aid in recognizing stolen equipment. Such a program would protect farmers, dealers and contractors alike.

"It is simple, it is quick, it is voluntary and it does not open up the door to special tax assessments as would a state registration law," Barker said.

A voluntary program in Iowa is already underway. First, the FBI assigns a number to each county in the state. A farmer then registers at the county sheriff's office and receives a "farm identification" number (which includes the FBI number). He also then purchases a small stamping kit to mark each piece of his equipment.

(A similar program is available to identify grain by mixing confetti-like tabs of coded paper with the grain.)

If a theft occurs, the local sheriff immediately reports the number and description of the stolen item into the Law Enforcement Teletype System (LETS) which is accessible to every law enforcement officer in the nation.

Barker solicited the cooperation of the association executives in encouraging responsible groups within their own states to copy the "Iowa" program.

"The details have already been worked out, the mechanism is easily put into operation and we do not end up placing an added cost and time burden on farmers and dealers who would have to pay registration fees, etc.," Barker said.

For a pamphlet describing the voluntary crime prevention equipment identification system, send a stamped, self-addressed envelope to:

Iowa Farm Equipment Assn., Inc.  
2716 Grand Avenue  
Des Moines, Iowa 50312



Creole cookery, uniquely American, was derived from a variety of sources. The sophisticated recipes brought to the New World by the French and Spanish were adapted to the herbs, spices, fruits, seafood and game found in this semi-tropical region now called Louisiana. Particularly meaningful to the creation of this new cuisine was the incredible natural cooking ability of African slaves, and the discovery of unusual foods and seasonings from American Indians. Thus an inventive and delicious new manner of food preparation was developed that can be found only in America.

For summer recipes with a southern, Creole-style flourish, here are some which have the added flavor zest of tangy native American cranberries. "Berry Spicy Shrimp Creole" will become a family favorite, and is a perfect choice to serve for a summer buffet.

A fine accompaniment to your shrimp dish, or to prepare for a light summer lunch, "Leafy Salad L'Orangerie with Lemonberry Dressing" is refreshing and bright. The salad proper consists of crisp young spinach leaves, sliced oranges and chopped red onion. Lightly tossed with a dressing of jellied cranberry sauce, lemon juice and salt it is a taste sensation.

For a superb dessert finale, "Cranberry Walnut Pie Orleans" is easily prepared ahead of time and combines a mixture of eggs, sugar, butter, whole berry cranberry sauce, and chopped walnuts. Serve it with a bowl of whipped cream or vanilla ice cream for topping.

A highlight to any dining occasion is a refreshing drink, "Cranberry Sazerac." It combines cranberry juice cocktail, bourbon, sweet vermouth, benedictine and Angostura bitters. Mix the ingredients in a pitcher over ice, and serve in tall glasses filled with crushed ice and garnish with cherries and lemon slices.

Whether you choose to serve just one or all of these recipes a la New Orleans, each will add the special magic of Creole creativity to your summer table.

Recipes courtesy of Ocean Spray Cranberries Inc.

### CRANBERRY WALNUT PIE ORLEANS

(Makes 1 - 9 inch pie)

- 4 eggs
- 1/2 cup sugar
- 1/4 teaspoon salt
- 1/3 cup melted butter or margarine
- 1 can (16 ounces) whole berry cranberry sauce
- 1 can (8 ounces) shelled walnuts, coarsely chopped
- 1 unbaked 9 inch pie shell with a fluted edge or snipped edge

In a bowl, beat eggs until fluffy. Beat in sugar, salt, melted butter and cranberry sauce. Fold in walnuts. Pour mixture into unbaked pie shell. Bake in a preheated moderate oven (375° F.) for 40 to 50 minutes or until center of pie is firm to the touch. Cool thoroughly before cutting into wedges. For a party touch serve topped with whipped cream or scoops of vanilla ice cream.

### LEAFY SALAD L'ORANGERIE WITH LEMONBERRY DRESSING

(Serves 6)

- 8 cups trimmed and washed young spinach leaves, raw
- 3 navel oranges, peeled and cut into thin crosswise slices
- 1 red onion, chopped
- Dressing:
  - 1/2 cup corn oil
  - 1/4 cup jellied cranberry sauce
  - 2 tablespoons lemon juice
  - 1 teaspoon salt

Use spinach leaves to line bottom and sides of a large salad bowl overlapping leaves. Fill center with orange slices and sprinkle with chopped onion. In a jar with a tight fitting lid, mix remaining ingredients until well blended. If the dressing remains lumpy, beat with a rotary egg beater until smooth. Pour dressing over salad when ready to serve. Toss to coat all particles and serve at once.

### BERRY SPICY SHRIMP CREOLE (Serves 6)

- 1/4 cup butter or margarine
- 2 large onions, chopped
- 1 clove garlic, minced
- 1 can (1 pound, 14 ounces) tomatoes, undrained and chopped
- 1 cup cranberry juice cocktail
- 1 can (8 ounces) whole berry cranberry sauce
- 1 teaspoon curry powder
- 1/2 teaspoon thyme
- 3 tablespoons cornstarch mixed with 1/4 cup water
- 2 pounds shrimp, cooked, shelled and deveined
- 2 cups hot cooked rice

In a Dutch oven or large skillet melt butter and cook onions and garlic until golden. Stir in tomatoes, cranberry juice and sauce, curry and thyme. Simmer for 5 minutes. Stir in cornstarch mixture. Cook-stirring constantly until sauce bubbles and thickens. Stir in shrimp. Season to taste with salt and pepper, if desired. Simmer until bubbly, stirring occasionally. Place rice on serving plates. Spoon shrimp mixture over rice. Serve garnished with dill sprigs and lime slices, if desired.

Cranberry soup was served to the Queen of England as the appetizer in a lunch given in Her Majesty's honor at City Hall in Boston, Massachusetts on July 11, 1976.

The Queen visited Boston in honor of the United States Bicentenary. She is the first reigning British Monarch to pay a visit to the colonies since they won their independence in 1776.

## CRANBERRY SAZERAC

(Serves 6)

2 cups cranberry juice cocktail,  
chilled  
1 cup bourbon  
1 tablespoon sweet vermouth  
1 tablespoon benedictine  
Dash Angostura bitters

Maraschino cherries and lemon  
slices

blended. Fill tall glasses with  
crushed ice and pour cranberry  
mixture over ice. Garnish with  
maraschino cherries and lemon  
slices.

In a tall pitcher combine all  
ingredients and stir until well



# USDA Adopts Uniform Grade Name Policy for Fresh Fruits and Vegetables

To make U.S. grades for fresh fruits and vegetables more useful to consumers and marketers, the U.S. Department of Agriculture (USDA) has adopted a policy for establishing uniform grade names for these products.

Effective July 1, the terms U.S. Fancy, U.S. No. 1, U.S. No. 2, and U.S. No. 3 will be the grade names used in establishing or revising grade standards for fresh fruits and vegetables and nuts. The grade names will be adopted in the normal process of revising or establishing standards for individual products.

USDA's Agricultural Marketing Service (AMS), which develops grade standards for food and farm products, proposed the uniform grade nomenclature for fresh fruits and vegetables in the Oct. 6, 1975 Federal Register.

Under the new policy, the grade names represent the following levels of quality: U.S. Fancy—Premium quality; covers only the top quality produced. U.S. No. 1—The chief trading grade; represents good, average quality that is practical to pack under commercial conditions; covers the bulk of the quality range produced. U.S. No. 2—Intermediate between U.S. No. 1 and U.S. No. 3; noticeably superior to U.S. No. 3. U.S. No. 3—The lowest merchantable quality practical to pack under normal conditions.

AMS officials explained that consumers are not likely to see immediate results of the new policy because few fresh fruits and vegetables are labeled by grade in retail stores. Use of the U.S. grade standards and official grading services is voluntary, and grade labeling is not required by Federal law.

Floyd F. Hedlund, director of AMS' fruit and vegetable division, said the new policy for uniform nomenclature is the same as that proposed except that raw products for processing are excluded and requests for minor revisions in grade standards will not necessarily trigger the requirement to revise grade names of a commodity.

Standards for raw products for processing, which are entirely separate from those established for fruits and vegetables for the fresh market, are excluded because these standards are used exclusively in contracts between growers and processors of canned, frozen, or other processed products.

A total of 224 comments were received and considered in adopting the proposal. The majority of the comments came from consumers. Most commenters supported the proposal, saying that adoption of uniform grade names would help consumers select the quality of fruit or vegetable they desired. Those who opposed the proposal said that changing long-established grade names would hinder marketing, or that the grade names were not of use to consumers. Some commenters wished to eliminate U.S. Fancy as the premium grade and have U.S. No. 1 as the top grade, saying that this would reduce confusion.

The policy for uniform grade nomenclature for fresh fruits and vegetables is scheduled for publication in the May 25 Federal Register. Copies may be obtained from the Fruit and Vegetable Division, AMS, USDA, Washington, D.C. 20250.

## GRASS MOWING

around cranberry bogs

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Lakeville, Mass.

## FAIRY RING

There is a recommendation of the fertilizer chart for treating vine injured by fairy ring. The fertilizer recommended is listed as 0-0-40. This is incorrect and should read 0-0-22. Growers can make this change on their charts. The fertilizer in question is most commonly known as Sul-Po-Mag which is a trade name for double Sulfate or Potash Magnesia; another trade name is K-Mag. The amount to apply as listed on the chart is correct for the 0-0-22 (Sul-Po-Mag); namely 25 pounds per square rod or 4000 pounds per acre.

## WISCONSIN

*Continued from Page 1*

Temperatures averaged about 2 degrees above normal during the first week of June. High temperatures were in the 70's and 80's with sunshine prevailing after Tuesday. Low readings were in the 40's and 50's. Rainfall was very light. A few scattered showers fell early on May 31st in the north central and northeast but the remainder of the week was warm and dry.



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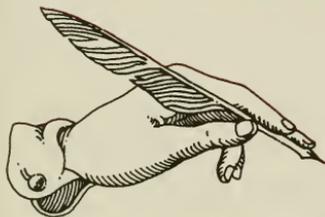
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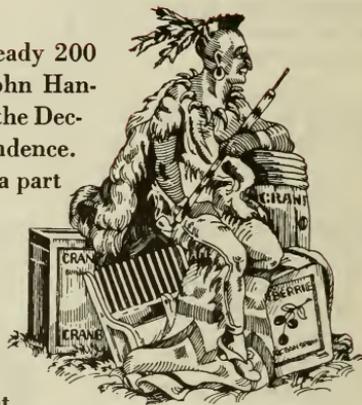
# The 400 year old cranberry



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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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

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**Aerial view of bogs in West Plymouth, Massachusetts**

*Photo by Anthony Baker*

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 3.energetic 4.eager  
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## REGIONAL NEWS NOTES

## NOVA SCOTIA

It was a pleasure for me to visit the cranberry bog of Chase and Bezanson on the morning of July 15. The stands of Stevens established about six years ago were nearly weed free and much bloom was still evident. Green berries a centimeter in size were also present. The owners have recently cleaned the ditches and improved the road around the edges of the stands. With plenty of moisture in the last week it looks like a good crop of cranberries in Nova Scotia this year.

On July 2 the British Columbia Dept. of Agriculture reported there was the potential for an average crop on the lower mainland. A heavy frost on the night of June 1 caused some damage to new growth in that area.

## WISCONSIN

June began quite warm and dry in Wisconsin. May was cooler and drier than normal which was good for planting crops but bad for development. Soil moisture supplies the first week of June were reported 75 percent short and 25 percent adequate in the State. The moisture shortage has been most serious in the western third of the State, particularly the northwest where rainfall since April 1 has been less than a third of normal. Moisture conditions is best in the southeast where rainfall has been near normal. With so many clear nights in May, temperatures were often below 32 degrees, resulting in several frosts.

Temperatures averaged 10 degrees above normal during the second week of June. High readings were in the upper 80's and lower 90's. Overnight lows were in the 50's and 60's. Widely scattered showers and thunderstorms oc-

curred early in the week in northern counties and again at mid-week in the northwest. Rainfall amounts for the third week in June were heaviest in the north, west, and southeast. Park Falls reported 3-1/2 inches of rain and Mercer had over 4 inches.

Temperatures averaged near normal the last week of June. Scattered showers and thunderstorms occurred nearly every day somewhere in the State. However, rainfall amounts were spotty and generally light as the more substantial rains fell to the west and south of Wisconsin.

## NEW JERSEY

June was a month of extremes, alternating with very cool and very warm periods, but consistently dry. There were record low temperatures of 38 and 39 degrees on the 4th and 5th of June in the weather shelter on the upland; bog temperatures on these days were 30 and 32 degrees. Hot, muggy ninety degree days (a total of 8) in the middle and end of the month more than balanced out the cold spells. The average temperature was 72 degrees, 1.30 above normal.

Total rainfall was only 1.98 inches, 1.24 inches below normal. It was the 5th consecutive month with deficient precipitation. Since March 1st the deficiency has been 6.14 inches. The mini drought was causing some concern but it was ended by a storm on July 1st which dumped 2.73 inches of rain at New Lisbon. This brought relief to the many blueberry fields in this area but the large concentration of bogs around Chatsworth had only about a half an inch of rain in the same storm.

Continued on Page 20

CRANBERRIES is published once a month by Pilgrim Publishers at R-55 Summer Street (P.O. Box J) Kingston, Massachusetts. Second Class postage paid at Plymouth, Massachusetts Post Office. Price is 50¢ per copy, \$5.00 a year in U.S., \$6.00 in Canada; all other countries \$8.00 a year. Foreign remittances must equal U.S. funds.

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# USDA NAMES CRANBERRY MARKETING COMMITTEE

Seven members and alternates have been named to the Cranberry Marketing Committee by the U.S. Department of Agriculture (USDA). They will serve from Aug. 1, 1976 through July 31, 1978.

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

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

Members and their alternates are:

**District 1 (all from Massachusetts)**—Gilbert T. Beaton, Buzzards

Bay, and George C. P. Olsson, Plymouth; 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., Vincetown, and Alvan R. Brick, Medford.

**District 3 (all from Wisconsin)**—Craig I. Scott, Warrens, and Clare L. Searles, Wisconsin Rapids; Richard M. Indermuehle, Manitowish Waters, and Charles V. Goldsworthy, Eagle River.

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

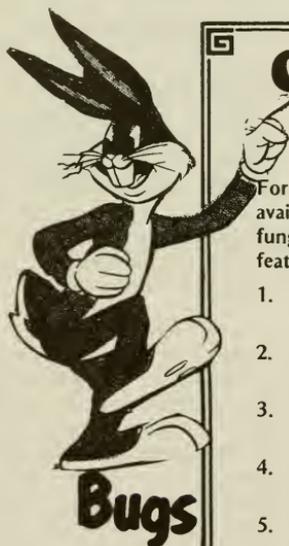
## USDA booklet explains marketing orders and agreements

A highly informative booklet is available to fruit and vegetable producers and producer groups who want to bone up on, or learn more about marketing agreements and orders that affect their operations.

Issued by the U.S. Department of Agriculture's Agricultural Marketing Service, the booklet describes the purpose of the agreements and orders, the roles of the government and producers, regulation of quantity and quality, com-

modities covered, marketing research and development and a host of other important facts about the programs. The booklet also contains a map showing the states and commodities under marketing agreements and orders.

For a free copy of "Marketing Orders and Agreements for Fruits and Vegetables" write to: Information Div., AMS, U.S. Dept. of Agriculture, 26 Federal Plaza (Rm. 1653), New York, NY 10007.



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# Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE  
extension cranberry specialist

## Frost

There were a total of 25 frost warnings released during the spring of 1976 including afternoon warnings. The first warning came on April 23 and the last on June 12. In between there was a series of eight consecutive nights from May 19 to May 26. The most serious occurred on May 9 with temperatures ranging from 18-22 degrees and on June 12 with temperatures as low as 25 degrees. This is the largest number of warnings since 1953; to compare with recent years there were only 4 in 1975, 8 each in 1974, 1973 and 1972 and 10 in 1971.

As is usual, our thanks to the many responsible for the success of the Frost Warning Service: the weather observers, telephone distributors, radio stations and National Weather Service personnel. The service is sponsored by the Cape Cod Cranberry Growers Association.

## Weather

June was warm, averaging 2.3 degrees a day above normal, but not nearly so warm as the record 6 degrees a day above normal in Boston. In fact, as recently as 1973 we had a warmer June in East Wareham. Maximum temperature was 88 degrees on the 24th and minimum 40 degrees on the 3rd. The only cooler than average days were the 1st, 2nd, 6th and 13th. Warmer than average periods were the 8-9th, 15th, 18-19th and 21-26th.

Rainfall totalled only 1.66 inches which is 1.6 inches below normal. This is only our sixth driest June and the driest since 1971. This is somewhat misleading because 1.01 inches of the total came on June 2nd which left only 0.65 inch

for the rest of the month. There was measurable precipitation on only six days. We are now about 4-1/3 inches below normal for half the year and 4-1/2 inches behind 1975 to date.

## Annual Meeting

The 89th Annual Meeting of the Cape Cod Cranberry Growers Association will be held on Tuesday, August 17 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, and industry reports. The guest speaker will be Dr. Ross Whaley, Dean of the College of Food and Natural Resources, University of Massachusetts, Amherst, and Mr. Byron S. Peterson of the Crop Reporting Service will give the official crop forecast.

## Crop Prospects

Reports and observations show a very heavy bloom on nearly every bog this year. There has been no injury from winterkill and oxygen deficiency and considering the season, frost injury is very minor. Pollination weather is good with an abundance of bees except where some of the wild bee population has been hurt from spraying with Sevin. The berries are setting fast but some sanded areas are somewhat spotty. Wareham and Cape Cod areas are dry and need rain soon. Last year at this stage the prospects appeared good for a large crop and we got our necks chopped, but not having learned from experience, we think that the prospects are the best in several years and expect a very large crop.

## Insects and Weeds

The first fruitworm moth was caught in Bill Tomlinson's black-light trap on June 9. This is rather late considering that the season is ahead for many things.

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 in the summer. Bill Tomlinson advises that diazinon treatments 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 15 or shortly after when most of the bloom is gone.

Bogs infected with fairy ring disease will show the effects to a greater extent when the bog is dry. Affected areas should be fertilized

*Continued on Page 20*

## GRASS MOWING

around cranberry bogs

5 ft. Rotary or  
Sickle Bar

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# CIBA-GEIGY SUES EPA OVER PESTICIDE TRADE SECRETS

Ciba-Geigy and the National Agricultural Chemicals Association (NACA) have filed suit in Federal Court against EPA Administrator Russell Train to prevent the EPA from releasing trade secret and confidential information that had been submitted in support of registration for three Ciba-Geigy pesticides.

Complaint for declaratory judgment, filed in the U.S. District Court for the Southern District of New York, also seeks to prevent the release of similar data submitted by all member companies of the NACA.

The action was filed against the EPA after the Agency notified Ciba-Geigy that it intended to release information on PRINCEP (simazine) which is used primarily as a herbicide on corn, fruit and nut

crops, and as an algicide in water, ACARABEN (chlorobenzilate) which is used primarily as a miticide on citrus, and EVIK (ametryn), a herbicide used primarily on corn, sugarcane and pineapple.

The information the EPA intended to release consists of metabolism, toxicity, efficacy, and environmental studies conducted by Ciba-Geigy over long periods of time at a cost of millions of dollars. The EPA intended to release the information to three companies which requested the data to support their petitions to register the products. Amvac Chemical Corporation requested the data to support its petition for three formulations of simazine, Occidental Chemical Company filed a request for data to support the registration of ametryn, and Colorado International Corpor-

ation requested data to support the registration of chlorobenzilate.

In the complaint Ciba-Geigy demands judgment declaring that all test data on these products which were submitted to EPA or its predecessors (a) was developed through the substantial expenditure of Ciba-Geigy's time, effort, or money, (b) that the test data has been and is maintained as confidential, and (c) that the data is trade secret and confidential commercial information and that the disclosure of the data by the EPA is prohibited by the Freedom of Information Act and by the Federal Insecticide, Fungicide, and Rodenticide Act and will deprive Ciba-Geigy of property without due process of law in violation of the 5th Amendment of the U.S. Constitution.

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Representatives from the firm of Julius Tofias & Co. of Brockton, hired by Ocean Spray, presented the final architectural plans of the proposed Ocean Spray national headquarters to be built on the old clam factory site on Water Street in Plymouth, Massachusetts on July 27, 1976. Following a thorough and impressive presentation by architect Alan Moore, the Plymouth Board of Appeals voted, unanimously, to approve the project.

The Ocean Spray Board of Directors will make the final decision of whether or not the new headquarters will actually be built at a meeting on August 18, 1976. If

presently in bad repair and yet it occupies a valuable section of waterfront property in a commercially zoned district in the historic town.

The plant would house Ocean Spray's national headquarters. Those offices are presently housed in the building at Hanson, Massachusetts. The new building would also provide the public with an opportunity to become thoroughly acquainted with the history of the cranberry industry and the modern methods of growing, harvesting and processing. This would be accomplished through the use of several working bogs which would be built on the property as well as a museum, coffee shop and gift shop

mously approved the project and "applauds the regard of the architectural features" employed by the design for the building.

The stone section of the building would be preserved in the design but the wooden section, added on by the Colley Cranberry Co. in 1942, would be torn down.

While the project seems to have found unanimous approval among Plymouth residents and Boards, the Ocean Spray growers who will finance the undertaking are a bit more divided and hesitant in their approval.

A meeting was held during the first week of August to present the project to grower members in



Clam factory on Water Street in Plymouth.

the plans are approved, work could begin as early as November 1, 1976. According to architect Moore, contractors are already being interviewed and everything is proceeding on schedule.

The proposed design makes good use of the waterfront property which, presently owned by Marine Realty of Plymouth, has lain idle since the International Shoe Machine Corporation sold the building in 1970. The building is

inside the building. A series of footpaths would connect the property with other waterfront land, thus enabling tourists to wander over from other areas of historical interest that line Plymouth's waterfront to the immediate south.

The indisputable improvement that this undertaking would effect on Plymouth's waterfront makes the plant very attractive to the town. The Design and Review Board in Plymouth also unani-

southeastern Massachusetts. Presumably this meeting will help the Directors to make a truly representative decision concerning the plant at their August 18th meeting.

At the moment opinion among Directors and growers is divided. Some growers welcome the project as an exciting and aggressive step in public relations and marketing development. These growers are of

the opinion that it's time to make such a move despite the Cooperative's less-than-rosy financial situation, and that such a move may enable Ocean Spray to come out of its present slump. Other growers are understandably concerned about the expense and feel that they cannot possibly support such a project at this point. Still other growers, at the time of our survey, had not received enough information regarding the project to form any opinion.

Thorkilson, Executive Director of Ocean Spray, said during a recent telephone interview that he "... can understand the economic pressure that the growers are under, but it's time to make the move. We can generate more business and therefore more benefits to the growers."

Thorkilson feels that the Plymouth location will be a big advantage because of the tourist traffic there. The Plymouth location will help in terms of marketing because Ocean Spray will be able to tie into an historic area, a town whose name and significance is familiar to most people in this country.

"People expect to find Ocean Spray in that kind of surrounding."

No official marketing research study has been undertaken by Ocean Spray that would indisputably support the move, but Thorkilson said that consumer research people who have been consulted have generally felt that the move would be worthwhile.

In addition to improving public relations, the building would replace what Thorkilson referred to as the "inefficient and filled to capacity" offices at Hanson, Mass.



Arched windows in stone section of building. Details such as these are preserved in the architect's design.

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Wooden addition, built in 1942, will be eliminated according to the new plan.

**Plymouth Appeals Board**

*Continued from Page 6*

Thorkilson felt that part of the problem that reluctant growers have in regard to the building project is a result of the fact that the facts are not all understood. It is Thorkilson's opinion that Ocean Spray can "... almost not afford to wait any longer."

The entire facility at Hanson, including the production plant which has been replaced by the new plant at Middleboro, is presently for sale. Interest has been shown in the property.

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An illustration of the joining of the original stone building with the more recently built wooden section.



Looking east toward Plymouth Beach and Clark's Island from the clam factory site.

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# PINEAPPLE TO PAPAYA EARNS HAWAIIAN EXTENSION AGENT NATIONAL RECOGNITION AWARD

*Cooperative organized to save failing papaya farms in Hawaii*

A classic piece of extension work which helped save the income of more than 100 Kauai County residents earned Dennis K. Ikehara, Lihue, Hawaii the 1976 National Association County Agricultural Agents/CIBA-GEIGY Agricultural Recognition Award.

In December, 1973, when Hawaiian Fruit Packers ceased operation, 65 full-time, 100 part-time, and many student workers lost a source of employment. In addition, 12 independent pineapple growers contracted by the cannery were left without a market.

Ikehara realized that papayas for export may be an alternative crop to pineapples. However, it appeared that papaya growers and prospective growers did not have adequate acreage to produce the necessary volume for economic operation of a fumigation/packaging plant.

An owner of considerable acreage formerly in pineapple and sugarcane, but suitable for papaya production was located. He was interested in leasing his land. The papaya growers were all small operators who could not possibly lease the entire 750 acres as individuals. Undaunted, Ikehara launched a program to provide information on a farm cooperative as a tool for obtaining and operating such a large parcel of land.

He also developed courses on producing and marketing papayas and detailed production costs and irrigation information.

As a direct or indirect result of Ikehara's efforts, a cooperative was organized in October 1973. In addition, a 25 year lease on the 750 acre tract was obtained with 200 acres currently planted in papayas—more than three times the previous county acreage. Nine of

the 12 independent pineapple growers who attended his short course are currently growing papayas, as well as 13 of the 16 papaya growers who attended.

The cost of production guide Ikehara developed was used by several co-op members to develop their plan and budget for loan applications. On request he also drafted a loan proposal for the cooperative which resulted in a state loan of \$536,000 for a papaya export venture. Another proposal for water transmission lines netted a state grant of \$178,000.

Construction of a fumigation/packaging plant started in January, 1976. State agriculturists estimate the plant when fully

operational, will employ 50 people and have \$4 million gross sales per year.

Ikehara's efforts helped overcome what many islanders felt were insurmountable obstacles. It represents the best of every known extension method.

For his work, Ikehara will receive a 10-day expense paid educational trip to Europe. The trip includes visits to international organizations including the European Economic Community and the Food and Agricultural Organization of the United Nations. Other tours include a visit to CIBA-GEIGY's world headquarters and research facilities in Switzerland.

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# WORLD FERTILIZER SUPPLIES SEEN ADEQUATE TO 1980/81

*World production capacity scheduled to increase substantially up to 1980*

By RICHARD B. REIDINGER  
*Foreign Demand and  
Competition Division  
Economic Research Service*

This study was prepared as preliminary reports on actual 1974/75 fertilizer consumption were becoming available. The 1974/75 estimates and the forecasts in this report reflect trends and apparent consumption. These estimates and forecasts were developed by the FAO-UNIDO-World Bank Working Group on Fertilizers in April 1975, and thus do not fully reflect the widespread farmer resistance to high fertilizer prices that has occurred.

\* \* \* \* \*

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Less than two years ago, world fertilizer supplies were short and prices were at record highs. Now supplies are adequate and prices have fallen almost to pre-1974 levels. If plans for additional fertilizer production capacity are not cancelled and if developing countries do not unexpectedly accelerate their rate of fertilizer consumption, a recurrence of tight world market conditions in the next few years is unlikely.

Strong world demand and limited production capacity share the blame for the sharp price rises that occurred in 1974. The fertilizer industry's financial losses of the late 1960's had discouraged any expansion of plant capacity, and by 1974 the demand created by crop shortfalls, record grain prices, and projections indicating continuing fertilizer shortages resulted in speculative and panic buying.

Many developing countries in 1974 imported fertilizer at prices their farmers could not afford.

In 1975 shortages disappeared and prices fell in response to weak demand. Fertilizer consumption dropped substantially in several major countries, including the United States, France, and India.

Most of the small increase in world consumption was concentrated in the centrally planned countries. Inventories in exporting and importing countries rose rapidly.

Many developing countries, faced with large inventories and weak domestic demand, began to

reduce their fertilizer imports. Fertilizer import embargoes were put into effect in India, Brazil, Indonesia, and the Philippines.

Further nitrogen and phosphate fertilizer price declines in world markets are likely during 1976 if grain prices remain at current levels or fall off or until large inventories are reduced—particularly in the developing countries, which account for roughly two-thirds of world nitrogen imports and half of world phosphate imports.

At present, however, the estimated world balance is still close—especially for nitrogen. The short-term supply situation could tighten rapidly in the face of a strong revival of demand.

World production capacity—especially for nitrogen and phosphate—is scheduled to increase substantially up to 1980. Current projections indicate continuing improvement of the world fertilizer supply-demand balance until the late 1970's.

However, these expectations could be altered if a sufficient amount of the existing capacity is closed or planned new capacity should be cancelled, or if developing countries increase their fertilizer consumption more rapidly than is now expected in their efforts to produce more food.

In addition, much of the new supply is expected in the developing countries, and thus depends on their ability to complete their new plants on schedule and to operate them efficiently.

# Trapping Pollen from Honey Bee Colonies

Between now and 1980/81, the developing countries are expected to increase their share of world fertilizer consumption and production steadily, while the production-consumption shares of the developed countries probably will decline.

Growth rates for fertilizer production are projected to exceed those for consumption, particularly in the developing countries. Some developing countries will approach

and may achieve self-sufficiency in nitrogen and phosphate—especially the three largest fertilizer importing countries of China, India, and Brazil.

During the next four years, Indonesia, Mexico, Venezuela, and the Mideast countries are expected to become significant exporters.

Current projections indicate that by 1980/81 the developing countries as a group will greatly reduce their import dependence on nitrogen and eliminate it for phosphate, although their imports of potash will roughly double.

The world's future potash situation is unclear, primarily because of the Saskatchewan Government's decision to nationalize Canada's potash industry, which dominates world potash trade.

The outcome of this step is vitally important to the United States, which in 1973/74 imported nearly three quarters of its potash from Canada.

Because of large inventories, supplies this year should be adequate, but future renovation and expansion of Canadian potash capacity will depend directly on Government decisions.

Potash prices have remained relatively stable during the past few years, compared with prices of other types of fertilizer. However, recent statements by Saskatchewan officials indicate higher returns on the Province's potash exports are expected.

*Foreign Agriculture*



Traps for removing pollen pellets from legs of honey bees are described in a new publication from the USDA's Agricultural Research Service.

All traps must have two basic elements: a grid through which pollen carrying bees must crawl to separate the pollen pellets from the bees' legs and a container to store these pellets, according to Benjamin

F. Detroy, agricultural engineer, Bee Management and Entomology Research, Madison, Wisconsin. The size, shape, and arrangement of parts, location of trap on the colony, methods of installing, and

other factors can be varied to suit individual management practices.

In addition to showing the basic design of a trap, the publication also describes the care of the pollen and formulas for pollen supplement mixing and feeding in stimulating brood rearing in early spring when comb-stored pollen is unavailable or the supply inadequate.

The traps are described in Production Research Report, No. 163, *Trapping Pollen from Honey Bee Colonies*. Copies of the booklet are available for 35 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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# AGRICULTURE NOTES

## EPA CROP DAMAGE RESEARCH MAY INCREASE FARM EARNINGS

The American farmer may end up with a substantial increase in farm earnings, thanks to new EPA research into crop damage from air pollution. This special research program, using methods more closely approximating real-world agricultural conditions than ever before, is investigating such subjects as the impact of (1) atmospheric pollutants on the rate of organic decomposition and the natural production of nitrogen fertilizer in soil; (2) acidic rain on plant nutrients and plant-soil changes; and (3) lead, mercury, and cadmium on the growth and metabolism of vegetation and domestic animals. The results of these and other studies will form the basis for more accurate assessments of the economic damage of air pollution to agriculture, estimated by EPA scientists as ranging from tens to possibly hundreds of millions of dollars lost per year. The improved economic loss figures can then be used, if necessary, as justification for revising air pollutant emission laws to prevent crop damage and increase farm earnings.

Air pollution damage to farm crops has been recorded in the United States since the turn of the century. What was once a problem associated only with specific sources of pollutants such as factories and power plants, has evolved into the highly complex pollution problems accompanying urban expansion. In many areas, the continued commercial production of crops has been jeopardized and, in some cases, has ended altogether.

Although translating the statistics on physical crop damage into actual economic loss figures involves a complex set of variables not easily measured, recent years have seen substantial documentation of financial harm from air

pollution. A Stanford Research Institute (SRI) nationwide survey (1969-1971) of air pollution damage to vegetation showed a United States loss of \$150 million in 1970. Another SRI study reported the average loss in market value of crops to California alone was \$35,230,000 in the years 1969-1970, and the loss to Pennsylvania was \$7,391,000 in the years 1969-1970, and again in 1970 and 1971.

Another 1971 study showed an annual agricultural loss to New Jersey totaling \$1,183,000, and a survey conducted in New England showed estimated losses for that region of \$1.1 million for the period 1971-1972.

Recent studies by the Boyce Thompson Institute for Plant Research on the effects of photochemical oxidants (the main ingredient of smog) on agricultural growth in Yonkers, New York showed that alfalfa and sweet corn yields were reduced by fifteen percent, while bean yields were reduced 25 percent and tomatoes, 33 percent. The estimated economic loss for beans was approximately \$385 per acre, while tomato losses ranged from \$1,000 to \$4,500 per acre (depending on how this vegetable was sold). Sweet corn losses approximated ninety dollars per acre, while alfalfa losses were around twenty dollars per acre. (These and all the above-mentioned studies were either fully or partially funded by EPA or its predecessor agencies.)

Although valuable, these and other previous economic loss studies were based on physical damage research usually deficient in approximating real-world growing conditions—generally being concerned more with the short-term effects of abnormally high pollutant levels on plants under artificial laboratory conditions. To help rem-

edy this deficiency and provide a more realistic picture of the devastating economic damages of air pollution, EPA's Environmental Research Laboratory at Corvallis, Oregon is now busy studying the long-term impact of naturally-occurring pollutant levels on important crops throughout their whole growing cycle. These crops are being observed under circumstances as closely simulating actual field conditions as technologically possible, and preliminary results of this research show that air pollution has pronounced effects on the growth of certain crops. This breakthrough program is being carried out by twenty EPA scientists and professional staff (the largest unit in the nation, dedicated to agricultural air pollution research), working under Dr. A. F. Bartsch, Director of the Corvallis Laboratory. This effort, in turn, receives its overall direction from Dr. Roy E. Albert, head of the Health and Ecological Effects Division of EPA's Research and Development Office in Washington, D. C. Since EPA was founded in 1970, the Agency has spent around \$1.2 million a year for agricultural air pollution research.

The current EPA agricultural damage program encompasses a wide variety of research activities, the results of which, when completed, will provide the most accurate basis ever for developing economic loss figures. For example, EPA scientists have uncovered a dangerous, and heretofore unrecognized effect of atmospheric contaminants—they may severely limit natural nitrogen conversion, a process vital to life on earth. Nitrogen is an essential part of all living things, and the conversion of atmospheric nitrogen to an organic form by legumes such as alfalfa and soybeans is an essential natural

process wherein nitrogen is added to the soil. To test the effects of air pollution on this process, alfalfa plants were exposed to low levels of ozone (a component of photochemical oxidants) and sulfur dioxide throughout the growing season. It was found that ozone, even at a concentration well within national air quality standards, reduced nitrogen conversion by forty percent; the presence of sulfur dioxide also significantly reduced this conversion when the median concentration of this pollutant exceeded 0.06 parts per million.

EPA research on nitrogen conversion in the roots of red alder trees indicates that this essential process is also inhibited by cadmium, a pervasive element in the earth's crust with no known nutritional value. The effect of cadmium may occur directly during the conversion process, or through the effects of conversion on other processes within the tree. Cadmium compounds, also toxic to many animals and other plants, are generated by auto exhausts, tire residues, coal-fired power plants, and rock material used to produce phosphate fertilizers. Further research on this problem is in progress.

EPA studies have also shown that cadmium and selenium (a chemical element of the sulfur group) are two common pollutants adversely affecting the rate of soil litter decomposition—a process wherein dead organic matter is made available (mineralized) for plant use. This is an essential biological process without which life on the planet would cease. Research also suggests that ozone is capable of indirectly decreasing nitrogen in some forest soils—seriously affecting tree growth. Further studies will be conducted in this area.

In another research direction, Corvallis is addressing an indirect and ever-growing danger resulting from air pollution—acidic rain. The problem of acid in rain is increasing geographically as well as in severity, due primarily to the impact of man's activities. Vast areas of the United States are hit by rain that is

consistently ten to one hundred times more acidic than the geologic average. Research is underway by EPA to determine the effects of acidic rain on the availability of plant nutrients and the development of plant-soil processes over a three-year period. Simulated rain treatments containing varying amounts of acid are applied for three to four hours, three days each week. Processes being measured include the washing out of needed nutrients from plant foliage and soil; decomposition of organic matter; nitrogen conversion; the rate of nutrient absorption by plant roots; and the effects on productivity. Results from this work will provide a sounder basis for future sulfate control strategies on a regional level. (Sulfates, a prime contributor to acidic rain, are pollutants formed in the atmosphere from various sulfur compounds, mainly sulfur dioxide.)

Corvallis scientists are also working to improve the measurement of physical air pollution damage to plants. Up to now, measurement has generally been based on observations of visual injury; experience has shown, however, that these calculations are insensitive and cannot be standardized. One technique EPA developed to solve this problem measures output of ethylene—a substance a plant produces in amounts positively correlated with the intensity of pollutants affecting that plant. Although ethylene production increases when visible injury occurs, it also increases when the injury cannot be seen. The test to measure ethylene is more sensitive than visual observation, and may be used as a standardized quantitative method by all researchers in the future.

Those engaged in farming activity near our oceans should be interested in EPA research on the agricultural effects of sea-salt aerosol as it moves through the atmosphere. Full-term growth effects and sea-salt tolerance levels of certain crops were examined by exposing them to an aerosol concentration approximating that from salt water mechanical cooling devices at the

Turkey Point Nuclear Power Plant complex near Homestead, Florida. The results established the period of time necessary for a given salt concentration to cause foliar damage and reduced production.

Another major research effort involves developing guidelines to predict the impact of air pollution from electric power generating plants on grassland biological systems. The project, scheduled for completion in 1978, will include investigations of the effects of coal-fired power utility emissions upon plant and animal health, disease, community structure, grazing, and ranching; beneficial and harmful insects; indicators and predictors of pollution; and green plants—the entities that consume them and the microbes that decompose them to a natural state.

Although not directly related to air pollution, an effort has been initiated by the Corvallis program to provide a more effective way for chemical manufacturers to evaluate the environmental impact of new pesticides. Radioactive tracers are being used to follow pesticides as they move through soil, plants, and animals, in order to provide information on pesticide rates and routes of movement, and on chemical and biological alteration and storage. An underlying premise of this work is that valid judgments on pesticide use depend on the accurate determination of how that pesticide is transformed as it ages or is absorbed by plants and animals.

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# SLUDGE HELPS A GARDEN GROW

Washington, D.C.'s new tourist attraction, Constitution Gardens, on the Mall near the Lincoln Memorial, is built on soil enriched with carefully-composted sewage sludge. Beneath the Gardens' 42 acres of trees, grass, and flowering shrubs are approximately 30,000 cubic yards of sludge from the District of Columbia's Blue Plains treatment plant. Sludge is the residue left after sewage is treated. Using sludge and other composted organic materials to lighten and improve the soil has saved the taxpayers about \$200,000, according to officials of National Capital Parks, the branch of the National Park Service that operates most public parks and monuments in the Washington, D.C. area.

In May, the last of 2,400 trees and about 3,000 shrubs were planted, a six-acre lake was filled with water, grass plots were sodded, and walkways, steps, and benches installed. The area is now ready as a place of relaxation for Washington, D.C.'s Bicentennial visitors, and for the presentation of musical and other entertainments arranged by the District of Columbia's Summer in the Parks Program.

The composted sludge technique was developed by the National Capital Parks Ecological Services Laboratory, in cooperation with the Agriculture Department's Research Station at Beltsville, Maryland, and EPA experts in waste water treatment. EPA also provided approximately two million dollars to help finance the sludge treatment research. The sludge is not applied to the land directly, according to James C. Patterson, research agronomist for the Ecological Services Laboratory. It first must be composted, or allowed to decompose. This was done at Beltsville, where the sludge was mixed with wood chips, spread in long windrows, or piles, and turned over periodically by bulldozers. The

wood chips were added (about one part of chips to three parts of sludge) to aerate the mixture, keep it from caking, and hasten its decomposition by air-breathing bacteria. After several months of composting, the mixture was friable, homogenous, and virtually free of odor, ready for trucking to the site.

At the Gardens, the basic grading operations were completed first. The lake hole was dug and lined with concrete. Small hills and valleys were contoured. Then the composted sludge and wood chips were further mixed with leafmold and existing soil. The leafmold was obtained from leaf piles collected the year before by the Park Service, the District of Columbia government, and Arlington County, Virginia. All these spreading and mixture operations were planned to provide a 14-inch layer of compost-soil mixture after compaction by machinery throughout the Gardens, Mr. Patterson said. On top of this was spread a four-inch layer of topsoil. Only about one fifth of the needed topsoil was obtainable at the site; the rest was purchased. The total cost of soil preparation and topsoil was \$205,000. Without the compost layer, the Gardens would have needed eighteen inches of topsoil, at a cost of \$408,000, said Mr. Patterson. Continuous testing of the reconstituted soil will be carried on to make sure the trees and grass will flourish, Patterson said. Some nitrogen fertilizer will be required, but the sludge-leafmold mixture is rich in phosphorus and potassium compounds, so these fertilizers will not have to be added.

One cause of concern when sewage sludge is used as a soil conditioner is the content of heavy metals—salts of zinc, manganese, cadmium, mercury, lead, and other elements—that may be hazardous to plants and human beings. The metallic content of the Blue Plains sludge is low compared to that of

most large cities, Mr. Patterson explained, because there is little heavy industry in Washington, D. C.

Moreover, the sludge is diluted with wood chips, leafmold, and soil. Careful measurement on a test plot showed that soluble salts and heavy metals, presumed to come mainly from the sludge content, were reduced to acceptable levels by natural weathering and leaching in less than six months. Pathogenic bacteria are destroyed by heat during the composting process.

The soil underlying Constitution Gardens has had a checkered history. It was once a tidal marsh of the Potomac River, draining into Tiber Creek which began just about where the Washington Monument now stands, ran east toward Capitol Hill, and then south to the Potomac. It was deepened to form a canal to the foot of Capitol Hill in 1802. (There are two Canal Streets in southwest Washington, D.C., a few blocks from EPA headquarters.) In 1831, the canal was extended along the creek's path as far as the Potomac River. The Tiber Creek Canal was intended for commercial traffic, but proved unsuited for heavy barges, and soon fell into disrepair and became an open sewer. In 1882, when the Army Corps of Engineers began to dredge deeper channels in the Potomac along the southwest waterfront and Georgetown, the dredged silt was used to fill the Tiber Creek Canal and to make two parks along the river, East and West Potomac Parks.

During World War I, "temporary" office buildings were erected on the filled land along Constitution Avenue. They stayed in use until 1969. After the "tempo" were torn down, more fill was added from various excavations, principally the Library of Congress Annex, and the level plot was seeded to grass. The Gardens construction began in August 1974.

# PESTICIDE BENEFITS AND RISKS

*EPA administrator, Russell Train, defends controversial and often questioned, EPA pesticide regulation politics.*

Pesticide regulation by EPA is intended "to enable us to enjoy the benefits of pesticides, while protecting the public from unreasonable risks as a result of their use," EPA Administrator Train said recently. The Agency's aim "is not—and never has been—to 'get' pesticides," Train stated. Speaking to the Association of American Pesticide Control Officials in Washington, D. C., Train cited EPA decisions made "in ways that do protect the public from exposure to unreasonable risk while at the same time not imposing unreasonable costs or burdens upon the agricultural effort that is vital not only to our own well being, but to the well being of millions upon millions abroad."

Train said EPA recently sent a letter to the U. S. Department of Agriculture proposing several measures on the pesticide mirex that would provide "adequate relief" to Southern residents from the fire ant "with the least possible risk to the environment and to human health."

Regarding the 1975 ban on most uses of chlordane/heptachlor, Train stated that, "while continued use of these compounds constituted a cancer risk to man, the benefits from some specific uses outweighed these risks, and that these uses could be continued" pending the outcome of cancellation hearings. Uses still approved include corn treatment until August 1, 1976; treatment of citrus fruit, strawberries, pineapples, peanuts, and certain other crops; some pest quarantine programs; and underground termite control.

"There is, in the long run at

least, no inherent conflict between our agricultural and our environmental needs and goals," Train said. "And the most effective way to reconcile the short term conflicts that occur is through convergent strategies that seek, over time, to enable us to achieve our environmental and agricultural goals at one and the same time."

Mr. Train recommended agricultural practices that: (1) "will place the highest priority upon the breeding and growing of food crops that can fix their own nitrogen and ward off pests and diseases; (2) will . . . invent and employ pesticides that affect only specific pests, and that break down quickly once their job is done; (3) will rely more and more on the principles of integrated pest management (combinations of natural and chemical controls); and (4) will make use, whenever it can, of the growing amounts of municipi-

pal and other wastes to replenish the soil." Difficult pesticide decisions "finally come down to a matter of human judgment," Train said. "We cannot find the answers in a computer; we cannot find them by some kind of mathematical or scientific formula."

A new Pesticide Policy Advisory Committee has been established by Administrator Train to provide him with the advice and viewpoints of a wide spectrum of interests on pesticide programs. In addition, a task force of EPA officials and executives of the National Association of State Departments of Agriculture has been organized to enable EPA "to keep in much closer touch than we have before with the state agricultural offices, upon whom we are relying to help us achieve more realistic and practical regulatory approaches," the federal official concluded.

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"Cranberry Gazpacho" is delectably spicy. It's prepared in a whiz in a blender combining stewed tomatoes, lemon juice, olive oil, cranberry juice cocktail, minced onion, chopped green pepper and cucumber and condiments. It would make a super beginner for a dinner of barbecued spareribs, or chicken. Serve your well chilled Gazpacho in earthenware bowls and top with crisp croutons.

Another marvelously chilling and pleasing soup is "Cranberry Borscht." A perfect luncheon starter which might be followed by a salad, herbed omelet or sandwiches. Quickly made, it combines pickled beets, cranberry juice cocktail, dehydrated vegetable broth and salt and pepper. Topped with sour cream or yogurt and chopped chives, it's a color bright sight. Serve it in bowls nested over crushed ice, or in tall glasses or mugs.

An enchanting idea to begin an elegant repast by candlelight is "Berry Fruitful Soup." It is a tasteful blending of cranberry apple drink, prunes, apple, peach, pear, orange, apricot, sugar, cornstarch and port wine. After it's been well refrigerated, serve it in carved melon halves for a most decorative presentation.

### BERRY FRUITFUL SOUP

(Serves 6)

- 4 cups cranberry apple drink
- 1 apple, peeled, cored and diced
- 1 cup pitted prunes
- 1 peach, peeled, pitted and diced
- 1 pear, peeled, cored and diced
- 12 dried apricot halves, quartered
- Grated rind of 1 orange
- Diced pulp of 1 orange
- 1/3 cup sugar
- 2 tablespoons cornstarch
- 1/2 cup port wine
- 3 honeydew melons

In a saucepan, combine juice, fruits, orange rind and pulp. Simmer gently for 10 to 15 minutes or until fruits are tender but still hold their shape. Stir in sugar. Blend cornstarch with port until smooth. Add to fruit mixture, cook stirring constantly over low heat, until soup thickens slightly. Cover and chill. Serve icy cold in a melon half that has been peeled and seeded and notched with a sharp knife.

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Nites & Weekends



### CRANBERRY GAZPACHO

(Serves 6)

- 2 cans (1 pound each) stewed tomatoes
- 1/4 cup olive or salad oil
- 2 cups cranberry juice cocktail
- Salt and pepper
- 1 small onion, minced
- 1 small green pepper, seeded and chopped
- 1 cucumber, peeled and chopped
- Croutons, optional

In a blender, whirl tomatoes, lemon juice and oil until smooth. Pour into a bowl or soup tureen. Stir in cranberry juice, salt and pepper to taste. Stir remaining ingredients and chill until very cold. Serve in earthenware bowls. May be topped with crisp croutons and on very hot days it is served with an ice cube placed into the bowl with the soup.

### CRANBERRY BORSCHT

(Serves 6)

- 1 can (1 pound) sliced pickled beets, undrained
- 2 envelopes dehydrated vegetable broth
- 4 cups cranberry juice cocktail, chilled
- Salt and pepper
- Plain yogurt or sour cream
- Chopped chives

Whirl beets and their juices in a blender until coarsely chopped. Pour into a soup tureen or a bowl. Stir in vegetable broth and cranberry juice. Season to taste with salt and pepper. Cover and chill. Serve in bowls nested in crushed ice and topped with large spoons of yogurt or sour cream. Sprinkle each serving with chopped chives.



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and kept moist to minimize the damage and then treated with Sub-Po-Mag from mid-August through October as recommended on the Fertilizer Chart or 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 off dodder. Do not use before the end of July.

## NEW JERSEY

*Continued from Page 1*

Cranberry flowering is progressing quite well on most bogs. There had been some concern that the week of hot weather in April might have caused some damage to bogs which were not drawn until May 10th. Water temperatures went well above 70 degrees every day for about a week with oxygen content of the floodwater going below 1 c.c. per liter. Observations so far have not indicated any weakness of flowers. There is prolific bloom and bees appear to be normally attracted to the flowers. Some "cooking" of newly set berries and some blossom blast has been seen on very dry bogs, but this is not general. It is too early to estimate crop prospects.

## OBITUARY

## FORREST D. GIBERSON

Forrest D. Giberson, 43, a farmer of Buddtown rd., Vincentown, New Jersey died recently in Burlington County Memorial Hospital.

He was employed by the Ranco-cas Cranberry Company.

Besides his widow, Elizabeth, the deceased is survived by four sons, Allison, George, Frank and Mark, all at home; his mother, Mrs. Mary Giberson, of Vincentown, and a sister, Miss Sarann Giberson, also of Vincentown.



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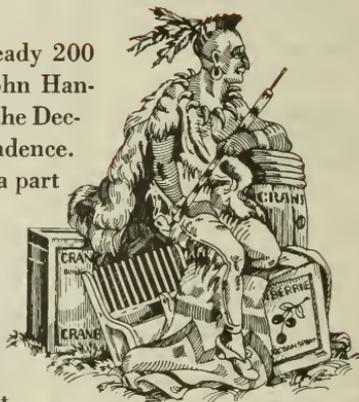
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the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy 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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MAGAZINE

— Our 39th Year of Publication —

AUGUST 1976

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**WISCONSIN**

Temperatures for the first week in July averaged well above normal because of the extremely high readings on the previous weekend when upper 90's and lower 100's were recorded. Scattered showers and thunderstorms spread across northern and west central areas on the evening of July 6th. A few light showers fell on the 7th. A report from the Plant Industry Division of the Wisconsin Department of Agriculture said insect activity and development were accelerated by the heat, and the effects of plant diseases were magnified by the drought.

Temperatures averaged near normal for the week of the 12th as periods of hot weather were balanced by cooler readings after midweek and in the evenings. Record highs of 99 degrees at Madison and 95 degrees at Green Bay were recorded on July 14. Showers and thunderstorms were spotty, with some local amounts in excess of an inch. However, rainfall totals for the week averaged less than a half inch in most areas.

Temperatures averaged 2 degrees above normal during the third week in July. Significant rainfall of 1 to 3 inches fell in the northern two-thirds of the State on the 19th and 20th. Southern areas received considerably lighter amounts on the 23rd. Some farmers are calling the 1976 dry weather the worst since the 30's. A Vilas County report, however, said that cranberries were looking very good.

Significant rainfall occurred during the last week of the month in most areas except the extreme northwest. Heaviest rains fell on the 28th in the southwest and central areas. Beetown reported 5 inches early that morning. Thunderstorms developed again on the 30th with 1 to 3 inches of rain falling in east central and southeastern areas. Hail

and strong winds accompanied the storm that evening. Crops have shown an improvement.

**NEW JERSEY**

There was sufficient heat on clear sunny days to cause some "heat scorching" on some dry bogs but the month of July was actually unusually cool. There were very few of the hot muggy days normally associated with this month. Only one ninety degree day, nine less than the usual amount occurred, and there was not a single day in which the minimum temperature did not go below 70 degrees. The average temperature for the month was 72.5 degrees F, which is 2.5 degrees below normal. It was the coolest July in the past fifteen years and the fourth coolest in the 47-year history of weather recording at Pemberton.

A total of 5.35 inches of rain occurred at Pemberton, most of which was in a thunderstorm of 2.73 inches on July 1st. However, in the main cranberry growing area around Chatsworth there was a deficiency of rainfall in July. The total July rainfall from that area is not yet available. At Pemberton there has been a deficiency of 7.39 inches of rain since March 1st and it is estimated at more than nine inches at Chatsworth.

Despite the dryness crop prospects are still optimistic. Some very dry sandy bogs where there was insufficient water to provide ditch irrigation suffered much blossom blast and have a poor set of berries. However, this condition is not general and most bogs at present have a very good set of berries. A good soaking rainfall is needed very soon and the magnitude of the crop will depend on how soon the present dryness is alleviated.

*Continued on Page 3*

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# WASHINGTON NOVA SCOTIA

Cranberry Annual Field Day, Friday, June 25, was a fine day, the weather cooperated and a good crowd gathered for the day's activities.

A first for the Coastal Unit—the Washington State University Regents held their meeting for July at the Cranberry Research Unit, and had a tour of the area and a fine time, July 16. The Regents meet each month to determine the action for W.S.U., and each year the summer meeting is usually held at one of the outlying stations. President Glenn Terrell, Dr. Robert Gibb, Harold Romberg, Robert W. Strausz, and Mrs. Kate Webster, along with many other administrative people and families, joined for a seafood dinner on the evening of July 15. The meeting on the 16th was held at the Coastal Washington Research and Extension Unit, and open to the public.

The weather in July was wet with 152.2 mm of rain as against the 50-year average of 68.8. We had 78.7 mm on one particular day. Our heat units for the month were slightly below the 50-year average. Temperatures dropped to near freezing on the morning of August 19.

Mrs. Gordon Baker called me recently and said she was selling off all the equipment related to cranberry production and was desirous of selling the bog and property at Margaretville, Nova Scotia as a business or real estate.



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# Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE  
extension cranberry specialist

## Personals

Dr. Robert M. Devlin, former president and now member of the Plant Growth Regulator Working Group Steering Committee, has won a special professional recognition award as a spokesman of the year 1975. The award is jointly sponsored by Orth-Chevron and Farm Chemicals Magazine and is presented in recognition of outstanding efforts during the past year in telling the vital story of agriculture and what it means to our country's health, economy and well-being.

Dr. Bert Zuckerman was chairman of the American Phytopathological Society Plant Nematology Meeting held in Kansas City from July 11 through 14.

## Weather

July was slightly on the cool side, averaging 0.9 of a degree a day below normal. This is not exceptionally cool but it was the only month since January that was below normal and the coolest July since 1968. Maximum temperature was 87 degrees on both the 6th and 20th and minimum 49 degrees on

the 26th. The only warmer than average days were on the 6th and 20th. Cooler than average periods were the 4th, 13-15th, 21-22nd, 25th and 30-31st.

Rainfall totalled 4.79 inches or about 1.9 inches above normal. There was measurable precipitation on 13 days with 1.44 inches on the 30th as the largest storm. This was only the 7th wettest July in our records and the first above normal month since January. We are about 2½ inches below normal for the year and about 2 inches behind 1975 for the same period.

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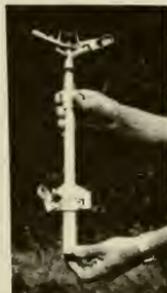
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## OCEAN SPRAY BOARD OF DIRECTORS VOTES TO ACCEPT CLAM FACTORY SITE FOR NEW NATIONAL HEADQUARTERS

by J. B. Presler

The Board of Directors of Ocean Spray cast a majority vote to approve the construction of a new office building for the large cooperative to be housed in a renovated building in Plymouth, Massachusetts commonly referred to as the 'Clam Factory.' The Board arrived at their decision during a two-day meeting in the third week of August.

As reported in the last issue of *Cranberries*, the Plymouth Board of Appeals and other Plymouth boards have given Ocean Spray the go-ahead on the construction project. The town has enthusiastically recognized that the new cranberry center will be a major asset to the town and in particular to the waterfront area in which it will be located.

Photographs of the present site may not look encouraging, but the architectural drawings for the pro-

posed building are impressive. They portray an attractive building which makes use of the basic architectural design of the stone section of the original clam factory complete with arched windows. Also included in the plans are nicely laid out grounds with trails along the harbor looking across the harbor to the outer beach in Plymouth, and working cranberry bogs which will serve as part of the educational program available to the public.

It is not widely known that Ocean Spray has occupied the same building once before. Ocean Spray took over a cranberry dehydration business from the Colley Cranberry Company in 1942. They occupied the building and carried on the process perfected by the Colleys until 1951 when the property was sold to the International Shoe Machine Corporation.

International Shoe held the building, in which they manufactured Keds slip-on rubbers and

adhesive cements and in which they assembled shoe machinery, until January 1, 1970 at which point it was sold to Marine Realty, the present owner.

The property has sat vacant and in a sad state of disrepair for the last six and one half years. It occupies valuable harbor-front acreage and is in close proximity to downtown Plymouth as well as being immediately north of the main historical district in the town. It is considered, consequently, a good spot for the purposes that Ocean Spray has planned, public familiarization with the cranberry industry being one of the major purposes that the plant will fulfill.

The process of dehydrating cranberries is not presently used within the cranberry industry. Immediately prior to and during World War II however, two different methods of dehydration were being carried

*Continued on Page 6*

## CLAM FACTORY

*Continued from Page 5*

out within the industry, one by the Colleys, and another by A. D. Makepeace.

Dehydrated products were widely used to feed troops overseas during the war. They could be shipped easily as they were much lighter and more compact than the fresh or canned product, and they kept indefinitely.

Orin Colley, now head of the Cranberry Institute which is presently located in Duxbury, Massachusetts, said during a recent interview that the dehydration of cranberries, along with the dehydration of many other foods, ceased to be a viable industry shortly after the war as a result of a lack of demand in the consumer market. Colley reasoned that this was because the men and women who had to eat dehydrated everything during the war years were simply oversaturated with that type of food.

"It is unfortunate that the cranberry industry didn't follow up on it (dehydration processes) for the overseas market," Colley mused. He claimed that their product was a good-tasting and convenient one with many advantages over some other cranberry preparation.

The present emphasis is on cranberry concentrate which in part replaces dehydrated cranberries.

Immediately following the war, Ocean Spray obtained sizeable contracts to produce dehydrated tomato soup for Russia, using the same process they had used for the cranberries. The contracts came under the Marshall Plan and it was this production that allowed them to hold onto the site until they sold out to the Shoe Machinery plant in '51.

A curious problem developed during this phase of production. The tomato paste was trucked in, packed in No. 10 tin cans. The paste was then put through the dehydration process, broken up into powder form, repacked much more compactly into No. 10 tins, and shipped out. The result was a tremendous surplus of No. 10 tin

cans such that the local dump was over-flowing. Such were the ecological dilemmas of the day.

The dehydration process used by the Colley family had been developed by the Sardik Company of New York. It was a process commonly used at the time in reducing bananas and citrus pulp to flakes. The Sardik Company experimented with cranberries and perfected a method. Sardik lived in Lexington, Massachusetts and the Colleys heard about him through another cranberry grower, Dave Srager from Kingston, Mass. Sardik and Colley met and the arrangements were made for the Colley Company to purchase the rights to the cranberry dehydration process.

The Colleys were using a building in Plymouth situated nearby the clam factory for a processing plant and so in 1938, the Colley Company moved into the clam factory building with the necessary equipment and started production.

Berries were screened and graded as they came from the vines, some coming from the Colley bogs and, as time went on and demand increased, more berries were brought from other growers. They were then put into large cookers, containing 300 lbs. each, and cooked at high temperatures for approximately 15 minutes. From the cookers, the cooked berries were conveyed by a vacuum method into a hopper which performed the duty of cooling its contents.

The berry sauce was then conveyed to a pulper where the skins and seeds were removed leaving only the essential part of the cranberry for making sauce, jelly, and other cranberry products. The pulp which remained was forced through large, stainless steel drums containing thousands of holes slightly larger than the head of a pin. The skins and seeds which emerged from the bottom of the machine were sold to chemical companies for making lipstick and other by-products.

The pulp traveled on through small pipes to a large feed tube

which ran horizontally over a huge stainless steel drum, 10 feet in width and approximately five feet in diameter. The drum revolved continuously and was heated to a very high degree of temperature.

The cranberry pulp was spread out evenly and thinly over the revolving drum by means of the feed tube. As the drum rotated all of the moisture in the pulp was evaporated leaving only the best part of the cranberry in a dry form.

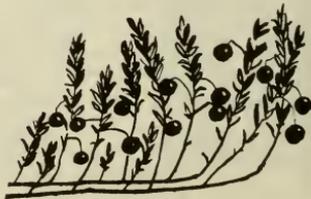
The tissue-paper thin sheet of dehydrated cranberry pulp was sheared off the drum, broken up into flakes and compactly packaged to be shipped.

One pound of this product could produce 22 pounds of cranberry sauce when water and sugar were added.

the dehydrated product was bought by restaurants and coffee counters (particularly Woolworth's where there was usually a coffee counter in every store) because it could be stored so compactly. Sugar and water were always on hand at such places and they were the only other ingredients needed to produce a great cranberry sauce.

A. D. Makepeace had put out an evaporated product which was suitable for making whole berry sauce. They also sold considerable amounts of their product to the armed services.

Not without precedent, therefore, the clam factory site will again serve the cranberry industry. There is a great deal of enthusiasm among Plymouth growers about the project. Said Brud Phillips, an Ocean Spray grower from Kingston, Massachusetts, "Where else can you get an Ocean Spray office where it really gets the ocean spray?"



# The Annual Meeting of the Cape Cod Cranberry Growers Association

Cranberry growers from South-eastern Massachusetts were once again blessed with perfect weather on Tuesday, August 17, 1976 for their annual meeting which is regularly held at the Cranberry Experiment Station in Wareham, Massachusetts. Northwest winds brought in brisk, dry air, a great relief following the previous week's muggy, hot days.

The meeting was an all-day affair with the business portion of the meeting conducted in the afternoon after a chicken barbecue. Agricultural equipment dealers had their displays set up so that growers arriving as early as 9 A.M. could get their fill of new and standard machinery before touring the State bogs with the Station staff.

The business meeting was opened with a prayer of invocation offered by the Reverend Richard Clifford of the Church of the Nazarene in East Wareham, Mass.

The Experimental Station is a division of the University of Massachusetts, a state university, and the president of that large institution,



Dr. Ross Whaley, newly appointed Dean of the College of Food and Natural Resources at U. Mass., addresses Annual Meeting

## ANNUAL MEETING

*Continued from Page 7*

Dr. Robert Wood, was on hand Tuesday. He offered some brief remarks concerning the role of the University's contribution to agriculture and to succeeding generations.

"The work we do (in agriculture and industry), the contributions we make . . . are the most important, healthiest contributions this country can make," Dr. Wood affirmed. "We are committed to carrying on to the next generation those promises . . . we have enjoyed."

Dave Mann, a grower who has always been very active in the affairs of the Massachusetts cranberry industry, brought growers up-to-date on the accomplishments of the Legislative Committee. That committee has been successful in influencing the Mass. Advisory Committee to bring assessment rates back down to a level that is acceptable to growers; values arrived at for the 1976 season were \$550-\$850/acre. Action by the Legislative Committee was taken

following the announcement of the Advisory Committee's values of \$1,800-\$3,000/acre in its second season. The grower's Legislative Committee appealed to growers for donations to hire a legal firm so that the matter could be taken care of in court. Individual appeals were being held up in the courts by this case, however, and so lawyers have withdrawn the case from the Super-

ior Court in order that cases of these individuals would have a better chance of being heard. Though the latest set of values arrived at by the Advisory Commit-

tee is considered satisfactory by most growers, two cranberry growing towns (represented by those towns' assessors) in Southeastern Massachusetts have not accepted



Gregg Finn (l.) talks with Fred Winthrop (r.) following meeting



John Decas

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these values, and therefore the battle continues.

Phil Good from the Mass. Farm Bureau took the podium to bring the growers up-to-date on more legislative news.

"This has been one of the better years in the legislature," Good remarked. "There has been little controversial legislation. A great deal of time has been spent in land

use and development rights. Senator McKinnon and Representative Wetmore are on a committee that is working on those problems."

Good reported that the Farm Bureau has put a considerable amount of work into the bill that would permit cities and towns to buy development rights on agricultural properties.

Labor problems are being anticipated in the approaching years. A merger of organized laborers may be in the works and Mr. Good urged growers to be aware of this development and not to talk to any labor organizers.

*Continued on Page 10*



Phil Good, Chester Cross and Ross Whaley converse on Station grounds



Irving DeMoranville, Secretary-Treasurer of CCCGA



Left to right: Brud Phillips, Ocean Spray grower from Kingston, Mass.; Bill Stearns, Ocean Spray grower from Plymouth, and Dr. Robert Devlin of the Mass. Experimental Station

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## ANNUAL MEETING Continued from Page 9

"Once you start talking and making concessions, you have entered into bargaining," Good warned. "Industry has to protect itself by taking a narrow position of not talking." He asked growers to refer labor organizers to the Bureau where the issue could be ably dealt with.

Nominations for officers of the CCCGA for the year 1976-77 were ready by Clark Griffith, representative from the nominating committee. The slate was unanimously accepted as read: President, Ken Beaton; 1st Vice President, David Mann; 2nd Vice President, John C. Decas; Secretary-Treasurer, Irving DeMoranville; Board of Directors, William Atwood, Arthur Handy, George Andruk, Clark Griffith, Robert Hiller, Paul Morse, Alfred Pappi, Willard Rhodes and Director ex-officio, Dr. Chester Cross.

Experimental Station staff member, Bill Tomlinson, reported the latest news on pesticide certification application. An announcement from EPA, Tomlinson related, has indicated that a schedule has been set up to start testing. The test will be administered in two parts. The first part will consist of general information on safety, etc. County agents are responsible for preparing candidates for the first part of the exam which will probably be administered in November of this year. The exam will be based on a pesticide application training manual which is available for \$2.00.

The second part of the exam will test a grower's knowledge of pesticide use in his particular specialty area, such as cranberries, apples, and so on. The Cranberry Experimental Station in Wareham will be responsible for preparing cranberry growers for the second section of the exam. Part II of the exam will be administered either by the staff of the Experimental Station or by someone from the pesticide board, possibly sometime in the winter, 1976-77.

The entire testing program will begin this Fall and be completed by Spring, 1977.

The Meeting was concluded following reports on marketing prospects, an address by guest speaker

Ross Whaley, a speech from Chester Cross from the Station, and finally the 1976 crop report from USDA statistician, Byron Peterson. These four sections of the meeting are taken up in separate articles elsewhere in this issue of *Cranberries*.



Several growers gather after meeting—among them, John Talcott and Dave Mann



Jeff Kapell and Lyon Carter discuss problems of being newly initiated cranberry growers

# BICENTENNIAL

*An address delivered at the 1976 Annual Meeting at the  
Cape Cod Cranberry Grower's Association*

*by Chester E. Cross*

America is 200 years old, and America has become great, not only in fact but in world-wide repute. I think we incline to take America's greatness for granted. For so long, and in so many enterprises we have been successful. Anniversaries are times for reflection—and if the reflections show accomplishment—it is an occasion for celebration. This is an occasion for celebration.

The Cape Cod Cranberry Growers Association was organized in 1866 and it has exercised a leadership role in cranberry cultivation for 110 years. This association was

active in promoting the establishment of this experiment station in 1909. With Dr. Franklin, I take my place with trepidation and pride as one of the two directors of this station in its 67 years of work for the cranberry industry.

Great men, able men, started this cranberry industry. Henry Hall of Dennis; Abel D. Makepeace founder of the present day Makepeace holdings; John J. Beaton Irving C. Hammond, and Ellis D. Atwood of Edaville. Then Marcus L. Urann and brother Carl B. Urann for whom I worked first on cranberry bogs over 40 years ago. Then these greats got together with John C. Makepeace and others to form the Ocean Spray cooperative to parallel the cooperative for fresh fruit—the American Cranberry Exchange with its two Cheneys, Clyde McGrew and Arthur Benson. This industry had been blessed with outstanding leadership.

It has also had great farmers, eager to cooperate in research, quick to change as know-how developed, and faithful in reporting findings.

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But you know, and I know you are not, and each year sees fewer cranberry growers as America can boast fewer farmers. Americans have become accustomed to varied, abundant, high-quality food at low prices. Farm efficiency has done this so consistently that Americans expect cheap food and I know of churchmen who expect farmers to produce food without a profit for a hungry world.

*Continued on Page 12*

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## BICENTENNIAL

*Continued from Page 11*

Our efficiency stems from controlling losses, from solving problems with frost and winter, to solving problems with pest insects, diseases and weeds.

As an industry we have faced serious problems in the past and found solutions. As Americans we have faced serious problems in the past and found solutions.

I want to speak constructively about America if only because two members of my staff escaped from behind the Iron Curtain to come

here to make new and productive lives in America. I urge you to talk to Dr. Kisiel or Dr. Deubert if you want to sense the difference between there and here.

Let me quote some excerpts from a broadcast editorial by a Canadian in Toronto in 1973:

1. "I have read about floods on the Yellow River and the Yangste. Who rushed in with money and men to help? The Americans did.
2. When distant cities like Managua, Nicaragua are hit by earthquake, it is the United States that hurries in to help.
3. Germany, Japan, and to a lesser extent, Britain and Italy were lifted out of the debris of war by the Americans who poured in billions of dollars and forgave other billions in debts.
4. I can name you 5000 times when the Americans raced to the help of other people in trouble. Can you name even one time when someone else raced to the Americans in trouble? Our neighbors have faced it alone and I'm one Canadian who is damned tired of hearing them kicked around."

We are still relatively free to work, think and express ourselves in this great country. We need urgently to work at this.

It was Winston Churchill who said "Liberty is not a right. It is a duty." I'm convinced of this, and

urge all of you to work at, and for, the freedom of the individual. This concept has made America great, this concept has made American

agriculture the envy of the world, and this concept, backed by hard work, can solve the problems of the Massachusetts cranberry industry.



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Growers listen intently as crop forecast is read

# 1976 CROP FORECAST AND MARKETING REPORTS

The United States Department of Agriculture's agricultural statistician, Byron Peterson, announced the following crop forecast for the 1976 cranberry harvest at this year's annual meeting of the Cape Cod Cranberry Growers' Association on Tuesday, August 17, 1976: Massachusetts—950,000 barrels, the second highest crop in the history of this state.

New Jersey—220,000 barrels, same as last year.

Oregon—95,000 barrels, down 2% from last year's crop.

Washington—132,000 barrels, down 2% from last year's crop.

Wisconsin—860,000 barrels, a 3% increase over last year's crop.

USA Total—2,257,000 barrels, a 9% total increase over last year's crop, equaling the record crop of 1971.

Peterson noted that Dr. Cross of the Wareham Experimental Station had raised the question earlier this year that the crop forecast might be made too early in the season to be really accurate. Peterson said that he considered this a good possibility and further noted that he has been striving, with his co-workers, to improve the estimating service. He thanked the growers who had cooperated with the USDA by allowing samples of their bogs to be taken during the season.

Prior to the crop forecast announcement, which traditionally

closes the CCCGA Annual Meeting, marketing prospects were presented by representatives from various independent handlers from South-eastern Mass., as well as by John Ropes, head of Grower Relations from Ocean Spray.

John C. Decas announced that his (independent) company would be handling a strong fresh fruit market this year with no surplus in sight. He could not predict, however, how strong the returns would be on canned products.

Decas, a member of the Cranberry Marketing Committee, reminded growers that the Commit-

*Continued on Page 14*

## CROP FORECAST

Continued from Page 13

tee would be meeting on August 26, 1976, in Edgartown, Mass. Decas reported that at the present time the committee was uncertain about whether a set-aside would be necessary or not.

Concerning the recent appointment of Gilbert Beaton to the Marketing Committee as the second representative from Massachusetts who will replace Mr. George C. P. Olsson, Decas jocularly remarked that he hoped 'Gibby' would remember that John has seniority on the Committee.

Decas went on to commend ex-committee member Olsson for his dedicated performance in the past.

"George is a man who worked hard to represent his growers," Decas said warmly.

Decas referred to the results of the recent meeting of a Marketing Committee sub-committee which was held earlier in August. Among other things discussed at this meeting, at which Decas, Olsson and Committee secretary Charles F. Hastings, Jr. were present, was an addition to paragraph 929.48 "Base Quantities." It was agreed that a

paragraph describing a rolling base be recommended to the full Committee at the August 26th meeting.

The rolling base would be done by considering the last three years of the existing Base Period as the first three years of the new six year period. This year, 1976, would be

the last year of the new Base Period and also the third year of a succeeding Base Period. This pattern would continue indefinitely with Base Quantities calculated in the same manner as during the original Base Period and at the corresponding date in time.

George Andruk, representing the United Cranberry Growers Association (a recently formed affiliate of Cumberland Farms) reported that his company expected no carry-over this year. UCGA does not deal in any fresh fruit.

John Ropes from Ocean Spray told growers that there had been an "exciting" acceptance of fresh fruit so far with several new buyers showing interest. He reported that Ocean Spray will be trying out the bulk sales method in markets this year.

Ropes noted that a lot of effort is going into the advertising of fresh fruit this year.

Foreign sales are "interesting," Ropes remarked. He concluded by assuring the growers that the 1976 cranberry sales picture appears to be brighter than last year.



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# Farmers: A Minority Trying to be Heard

As less than 5% of the U. S. population, farmers today constitute a minority group. And, as other minority groups, they are searching for ways to make their voices heard to gain greater recognition. Many farmers feel that politicians, consumer groups and government officials are making decisions without the proper input from farmers themselves. Many believe that the rules and regulations being formulated today are not necessarily in the best interests of agriculture.

To examine ways in which this trend can be changed—so that farmers can speak out and give their voices more strength—International Harvester invited nine representative U. S. farmers to a farm forum discussion on this topic. They were from different parts of the country and had varying sizes and types of operations. They agreed that farmers are not speaking out as effectively as they might on behalf of agriculture.

"We've spent all our lives apologizing for agriculture," said Charles Call, 54, of Stow, Ohio. "We've got to put the shoe on the other foot. We've got to promote it. We have every reason in the world to be proud of what we're doing. We've done more to keep the inflation in this country in line than any other

segment of the economy. We have every reason to hold up our head—and to speak out—and to promote. It's a matter of communication."

"It's really a problem of misinformation," agreed Marvin Tierney,

*Continued on Page 16*



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One of the ways in which farmers can make their voices heard is through interviews with the media. Above, Lloyd Mosdal, one of the farmers participating in International Harvester's recent farm forum discussion, is interviewed by broadcaster Dick Helton in Chicago.

*Continued from Page 15*

54, a wheat farmer from Chaffee, Missouri. "Most people think the grass is greener on the other side of the fence. Take the price of groceries—many people think the farmer is getting rich because food prices are way up."

Part of the reason for this lack of communication, according to Roger Hurst, 41, a Johnson, Kansas, wheat farmer, "is that now most city people are two and three generations removed from the farm. They don't have any idea what's going on in agriculture. We as farmers have lost touch with the city people."

A. W. (Dub) Anthony, 59, of Friona, Texas, cited another problem: "The farmer is at the bottom of the totem pole. Politically we don't carry the weight in Congress we did in years past. In other words, today there are not enough votes in agriculture to have a big impact."

This lack of political representation is, of course, a major obstacle for farmers. A partial solution was offered by farmer-legislator Wayne Mixson, 53, of Marianna, Florida, who is a member of the Florida State Legislature. "If we're going to get favorable decisions for agriculture, we've got to persuade a lot of city people to vote correctly," he stated. "and how do we do that? If we can get the facts out so the people will understand that the progress and the growth of agriculture is related to the value of the dollar, is related to employment in our country, is related to inflation, then I think we can make progress. Let's give the urban people truth on which to base their decisions and their votes."

The nine farmers agreed that a focus on world food shortages has placed American agriculture more in the public eye. "Most farmers have opened their eyes and learned that they have to look beyond their own farm gate," commented Herb Korthuis, 40, who raises vegetables in Custer, Washington. "We're no longer in a little corner all by

ourselves. What we do as farmers affects not only America but the whole world. Now we've got to get together and go out and communicate with others."

Agreement came from Lloyd Mosdal, 47, who raises wheat, barley and cattle in Rapelje, Montana: "There's no question, we've got to quit talking to ourselves. And I think the new Agriculture Council of America (ACA) is working in this direction. For example, ACA has a telephone hotline where consumers can call and talk to farmers. They can actually get the facts from farmers themselves." ACA is an organization of farmers and agri-businessmen dedicated to telling agriculture's story to non-farm people.

In addition to the actions being taken by various organizations, the farmers discussed efforts that individual farmers can take to tell the farm story. "There really are lots of things you can do as individuals," said Steve Weber, 27, a Geneseo, Illinois, farmer who is a member of the Advisory Committee of ACA. "It may not be too hard to convince someone if you just take the time to talk to him. For example, there's a cab driver in New York City who became a

member of the Agriculture Council of America because I talked him into it on the way to the airport."

"I've spent considerable time with a slide set I've put together—showing it to schools, service clubs, state organizations and even several national organizations," added Charles Call. "I vary the dialogue, but the message stays pretty much the same."

Jim Tanner, 23, of Ivyland, Pennsylvania, explained how he communicates with consumers. Tanner and his father have their own retail dairy operation on their farm. "We deal directly with many city people at our dairy," he said. "Most of them are curious about the operation. So sometimes we let them come in and watch us milk the cows. With a little conversation, they begin to realize that we have our problems, too. And I would guess that most of them feel we deserve the prices we're getting."

The nine farmers all agreed that farmers and consumers share many of the same concerns, and that it is important to maintain open lines of communication in order to foster a mutual understanding.

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# “MED” IS DEAD IN CALIFORNIA

Southern California has seen the last of its year-old nemesis—the Mediterranean fruit fly. This destructive insect has been eradicated from 100 square miles of Los Angeles County, California, the U. S. Department of Agriculture announced.

Along with the official eradication of “Medfly” comes the end of all emergency regulations and quarantines imposed to reduce the spread of this serious fruit and vegetable pest, says USDA’s Animal and Plant Health Inspection Service (APHIS).

Medfly—a native of Africa—was discovered for the first time in California last September. Immediately after, federal, state and county agencies joined forces there to battle the new infestation.

In what became a giant “birth control” project, this cooperative team supervised massive releases of sterile fruit flies which effectively

halted reproduction of future generations. Some 568 million sterile male flies were eventually set free to find mates. These aerial and ground releases, which ended this past May, covered the entire 100-square mile infestation area in Los Angeles County.

APHIS officials have declared Medfly “officially dead” since three complete pest life cycles (about 6 months) failed to produce any native offspring. The last non-sterile fly was found last November 14. After a two-month monitoring period (June and July) to allow the sterile population to die off, the eradication is now considered complete.

APHIS Associate Administrator Harry C. Mussman credits early and thorough detection methods with limiting the pest’s damage. “Although the 77 wild flies found in California were trapped early in the program, detailed survey efforts continued over a 600 square area,”

he explains. “Even after eradication, these surveys will continue by the state of California.”

California’s Medfly invasion was not the first to hit this country. The insect has been eradicated from the continental United States at least six times previously, although in Hawaii, it continues as an established plant pest.

Mediterranean fruit flies thrive on over 200 soft fruits and vegetables—including peaches, tomatoes and most citrus. If not controlled early, the insects can cause heavy losses to these crops—which, in California, have an estimated annual harvest value of over \$1 million.

Revocation of the emergency regulations were effective upon publication in the Federal Register August 2. Copies may be obtained by writing Plant Protection and Quarantine Programs, USDA, APHIS, Hyattsville, Md. 20782.



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In late June cranberry bogs burst into bloom with delicate pink blossoms that signify yet another bountiful harvest of fresh berries in the fall. Today we are able to enjoy the fruits of the harvest even in the spring and summer, since sweet 'n tart cranberry drinks and sauces are available to create a bevvy of refreshing beverages.

"Cranapple Rose Glow" blends cranberry apple drink, sugar, spiced apple ring and syrup, and soda for an effervescent drink. Garnished with an apple ring and slice of lime it is a pleasing sight. Serve it along with a summer salad lunch or light supper.

For a light, late in the day cocktail, or after dinner, your guests will delight in the piquant flavoring of "Cranberry Cherry Blossom." It combines cranberry juice cocktail, cherry syrup, almond liqueur which is poured over crushed ice and garnished with cherries.

"Saucy Cranberry Crocus" is quickly prepared in a blender with jellied cranberry sauce, red wine, heavy cream, brandy, a dash of cinnamon and ice cubes into a foamy delectation.

All in the family will delight in "Berry Blushing Poppy" which combines cranberry juice cocktail, orange and pineapple juices, and vanilla ice cream.

"Berry Violet" is a mixture of cranberry juice cocktail, grape juice and quinine water. It is prepared in a wink of the eye, and then poured over ice and garnished with lemon slices.

If you are lucky enough to have a garden of pretty blooms, consider garnishing these cranberry drinks with flowers. Family and guests will appreciate your creativity.

Recipes courtesy of Ocean Spray Cranberries, Inc.



### SAUCY CRANBERRY CROCUS (Serves 1)

- 1/3 cup each jellied cranberry sauce, sweet red wine and heavy cream
- 2 tablespoons brandy
- Dash cinnamon
- 3 to 4 ice cubes

Combine all ingredients in a blender and whirl until ice is crushed and drink is blended. Pour into a tall glass and serve at once with straws.

### BERRY VIOLET (Serves 1)

- 1/2 cup each cranberry juice cocktail, purple grape juice and quinine water, chilled
- Ice cubes
- Halved lemon slice

Mix juices and quinine water. Fill glass with ice cubes and add liquid. Garnish with halved lemon slice.

### CRANAPPLE ROSE GLOW (Serves 1)

- 1 cup cranberry apple drink
- 1 teaspoon superfine sugar
- 1 slice spiced apple ring, peeled
- 1 tablespoon syrup from apple rings
- 1/2 cup club soda, chilled
- Ice cubes
- Wedge of apple ring and lime slice

In a blender mix cranberry apple drink, sugar, apple ring and syrup. Whirl until smooth. Slowly stir in club soda. Fill glass with ice cubes and add liquid. Garnish with apple ring and lime slice.



### BERRY BLUSHING POPPY (Serves 1)

- 1/3 cup cranberry juice cocktail, chilled
- 1/3 cup orange juice, chilled
- 1/3 cup unsweetened pineapple juice, chilled
- 1/2 cup vanilla ice cream
- Pineapple spear-fresh or canned

Beat juices with ice cream until smooth. Pour into glass and add pineapple spear. Serve at once.

### CRANBERRY CHERRY BLOSSOM (Serves 1)

- 1 cup cranberry juice cocktail, chilled
- 1/4 cup cherry syrup
- 2 tablespoons almond liqueur
- Crushed ice
- Maraschino cherries with stems

Mix juice, syrup and liqueur. Fill glass with crushed ice and add liquid. Garnish with cherries.

# Train says regulation is inevitable, must be improved

Environmental Protection Agency Administrator Russell E. Train recently told the National Conference on Regulatory Reform that "increasing regulation is an inevitable, if perhaps unfortunate, by-product of any high technology and high economic growth society with high and rising densities of human populations." Train said, "I would suggest that the intrusion of government regulation in our lives is not the real issue before us—at least to the degree that it assumes we have a real choice between regulation or no regulation. To pose the issue in these terms is just as mistaken and misleading as to argue that, as a society, our only alternatives are between growth or no growth. It is *not* a question of growth or no growth. The question is *how* and *where* we are going to grow. Similarly, it is *not* a question of regulation or no regulation, it is a question of *how* and *where* we are going to regulate.

Government programs can be cut out, streamlined, simplified, and otherwise improved," Train said, "and President Ford has, in my view, exercised admirable and effective leadership along these lines. But these are very different things from simply 'getting rid of regulation;' these are ways of making regulation *work*.

I am deeply concerned," Train said, "that while the anti-government rhetoric finds easy and enthusiastic acceptance and is rapidly becoming the common coin of American politics, it may prove difficult, and perhaps impossible in actual practice, to produce the changes promised. It may well be that we have had thoroughly unrealistic expectations of what government could do for us; but I am afraid we may be replacing these with equally unrealistic expectations about how rosy life would be without government. We may, in short, be setting ourselves up for an even more shattering recurrence of

the 'manic-depressive' cycle we went through in the late sixties and early seventies—a cycle of inflated rhetoric and meager results, followed by massive public frustration and resentment.

I think we had better face the fact that increased economic growth, more intensive agricultural production, increased energy usage, more synthetics in the environment, instant global communications, the increasing speed and volume of transportation, more population, crowding and land pressures—all inevitably mean more regulation," Train said. "If we must have nuclear power to insure the supply of energy we feel we need, we had better accept as well the need for regulation to protect the public from accidents, from radioactive wastes (perhaps for thousands of years), and from terrorist acts. If we must greatly expand the use of coal, we had better accept as well the need for regulation to protect the health and safety of miners, to protect the land, and to protect the public health from the products of combustion. If modern agriculture requires the use of highly toxic chemicals to control pests, we cannot avoid regulation to protect human health and the environment. And so it goes. There is no way to accommodate such levels and kinds of activity without regulation. To put it even more bluntly, it is really regulation that makes further growth possible at all.

Once we understand," he said, "that government regulation is here to stay, and that we need to focus our efforts on making it work better, we need to distinguish between two very different kinds of federal regulatory activities and agencies—between what might call the 'social regulators,' such as EPA and Occupational Safety and Health Administration, and the more traditional 'economic regula-

tors,' such as the Interstate Commerce or Federal Power Commissions. These traditional agencies are designed to help get rid of obstacles and inefficiencies that keep market forces from operating freely. EPA was established not to keep these forces from operating, but to make certain that they operate in the public interest by insuring that the market increasingly takes into account environmental costs that it would otherwise exclude from its calculations. Left unregulated in a highly advanced industrial society, all the normal economic incentives of a competitive, free enterprise system work to encourage the disposal of vast volumes of wastes into the environment, at rapidly increasing cost to public health and welfare and the natural environment. Regulation is required to internalize this cost, thus utilizing the free market system to achieve pollution abatement with the greatest economic efficiency."

Train said EPA has taken several steps to improve its regulatory processes with four main objectives: to open up its processes for developing regulations; to simplify its regulations; to streamline its regulations; and to reduce to the barest minimum any adverse social and economic impacts of the regulations. Train said that in a recent review of 125 regulatory initiatives, some twenty to 25 were either deferred, dropped, or proposed in different form.

Train said he is disturbed by various measures now before Congress that would give the Congress what amounts to a direct item veto over regulations issued by EPA and other agencies. "It is essential that the Congress continually assess and review regulations to assure that they do help achieve the goals set forth in the legislation, and that they are justified and authorized by the law," Train said. "But these

*Continued on Page 20*

measures go far beyond the bounds of such thoroughly legitimate Congressional oversight and review. They are unworkable, they would throw an already complex regulatory process into virtual chaos, they would put the Congress into a quasi-judicial position, which could bring it into direct conflict with the courts, not to speak of chaos, the conflicts with the courts that these measures would surely generate, the simple fact is that they are unworkable. EPA promulgates a large number of regulations each year, most of them required by statute. These often include extremely complex standards based on extensive scientific and factual records. It would be an enormous task for the Congress to review all the data necessary to make an informed decision regarding the correctness of the regulations."

## LETTERS

Dear Mrs. Presler:

Since our county is the leading cranberry county in the state of Wisconsin, I read *The National Cranberry Magazine* regularly.

I am writing this letter to let you know I thought the last issue was very educational as well as interesting reading. I appreciated the article on land use and OSHA.

Keep up the good work.

Louis Rosandick  
County Agriculture Agent  
Wisconsin Rapids, Wisconsin  
July 27, 1976

Dear Sirs:

I think your magazine helps to keep the growers informed. Each cranberry growing section has problems, many of which are nation-wide. Research articles, crop reports, etc. are often very useful.

If the magazine could reach the grower more promptly it would be appreciated.

Lee Paul Crowley  
Long Beach, Washington



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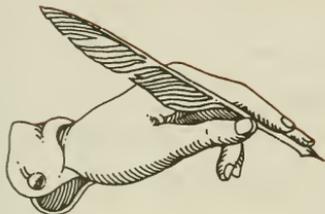
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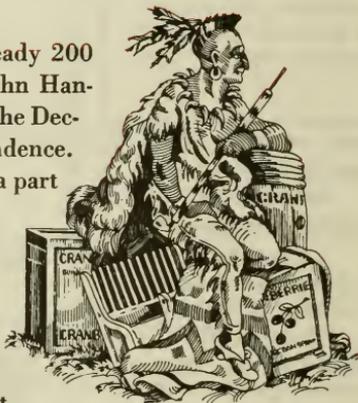
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the Pilgrims thought their blossoms resembled the head of a crane. The idea of serving cranberries with the Thanksgiving dinner is not a new one, the Pilgrims themselves enjoyed cranberries at that very first festive occasion. Today when you enjoy one of the many Ocean Spray products made from the little red berry, be it fresh cranberries, cran-



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**REGIONAL NEWS NOTES****NEW JERSEY**

Weather during August was cooler and wetter than normal. The average temperature was 72.3 degrees F or 1.1 degrees below normal. The extremes in temperature were 92 on the 22nd and 40 on the 31st. There were only four days during which the maximum temperature went into the nineties.

Thunderstorms relieved acute dry conditions in localized areas. At New Lisbon the showers were more frequent than in other cranberry areas and the total rainfall here was 5.36 inches. However, much of this ran off without soaking the ground and the acute dryness of soils was only slightly improved. At the end of August the New Jersey Department of Agriculture crop report showed that the soil in this region contained only 37% of its soil moisture field capacity. Many cranberry properties do not have enough water in the reservoirs to completely water harvest the crop.

A very good crop is in prospect if it can all be harvested. Dry weather has held down size but there is a very heavy set of berries. The crop reporting service estimates a volume of 220,000 barrels, only 1,000 below last year but 12% under the record crop of 1974. Late summer sun scalding of berries has been well below that of last year and this may bring about a larger crop than anticipated.

**Annual Summer Meeting  
of the  
American Cranberry Growers**

The 107th consecutive annual summer meeting of the American Cranberry Growers Association was held at the Rutgers Blueberry-Cranberry Research Center on August 30th. The main feature was a group discussion on the New Jersey Department of Environmental Protec-

tion proposed new quality standards for Pine Barren water. Growers are much concerned over this issue and they feel that the impact of approval of the standards would seriously limit cranberry growing in this region. They contend that the standards are arbitrary and unrealistic. It was pointed out that the proposed new standards would require that Pine Barren water to be more pure in terms of nitrogen and phosphorus than the present standards of both New Jersey and the U.S. for drinking water. A committee of growers was appointed by President George Kudra to represent the growers at formal hearings to be held on the water standards. This consists of Bill Haines, Tom Darlington, Ed Lipman, Garfield De Marco, Walter Fort and Fred Mahn. Sam Race, representing the New Jersey Department of Agriculture and authorities on water quality at the state department station, will act as advisors to the committee.

Dr. David Burns, Assistant Director of the New Jersey Agricultural Experiment Station, gave an outline of the proposed future research for the site. USDA is planning to center its research work on cranberries and blueberries here. A plant breeder has already been assigned to complement the work of Dr. William Welker in weed control and Dr. Alan Stretch in pathology.

After a box lunch there was a tour of the research bogs where demonstrations in cranberry culture were conducted. Growers were impressed with the practical potential of weed wiper tests conducted by Dr. Welker. Tom Darlington has invented a machine which apparently applies herbicides only to the weeds growing above vines without contacting cranberries. Dr. Welker's preliminary tests indicate good control of weeds without harm to cranberries. Rot control tests conducted by Dr. Stretch were also

*Continued on Page 12*

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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 American Society for Horticultural Science and the Plant Growth Regulator Working Group held at Louisiana State University in Baton Rouge, LA from August 10-14th. Bob presented papers at both meetings.

## Weather

August averaged 0.9 degrees a day below normal, the coolest since 1968. Maximum temperature was 91° on the 22nd and minimum 43° on the 31st. The only warmer than average days came on the 21st and 22nd and caused varying amounts of berry softening from bog to bog. Cooler than average periods occurred on the 1st, 3rd, 7-8th, 18-19th, 27th and 29-31st.

Rainfall totaled 5.96 inches which 1-2/3 inches above normal. This was the largest total since 1958 but August can be a very wet month on occasion so that it was only the 9th wettest in our records. The largest storm was 4.24 inches on the 8th and there were only eight days with precipitation. We are now only 0.8 inch below normal for the year and approximately even with 1975 for the period.

## Annual Meeting

The 89th Annual Meeting of the Cape Cod Cranberry Growers As-

sociation was held at the Cranberry Station on August 19. The crowd was estimated at 200. Guest speaker was Dr. Ross Whaley, recently appointed Dean of the College of Food and Natural Resources, University of Massachusetts, Amherst. Officers of the Association re-elected for the coming year were: Kenneth Beaton, President, David Mann, 1st Vice President, John C. Decas, 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 172 subscribers to the frost warning service and 129 contributing to the answering service.

The following radio schedule also supplements the answering and relay services. (See below)

## 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 21 percent from last year. Water supplies are

in good shape, berry size is generally large and color is a little ahead of normal. Quality will be a problem in Early Black as there is some berry softening from heat and also some rot or cooked berries from high humidity and excess moisture and also from flooding caused by heavy rains on the 8th. The deterioration in quality occurred after the preliminary estimate and will cut into the crop; however, size is very good and will probably balance the loss, so that we should make or surpass the estimate. For the other areas, New Jersey is estimated at 220,000 barrels, about equal to last year; Wisconsin 860,000 barrels, up 3 percent; Washington 132,000 barrels, down 2 percent and Oregon 95,000 barrels, down 2 percent. The national crop is estimated at 2,257,000 barrels, up 9 percent from 1975.

## 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 other 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

## Dial

Station	Place	A.M.	F.M.	Afternoon	Evening
WEEL	Boston	590k.	103.3 mg.	2:00	9:00
WBZ	Boston	1030k.	92.9 mg.	2:30	9:00
WPLM	Plymouth	1390k.	99.1 mg.	2:30	9:30
WOCB	W. Yarmouth	1240k.	94.3 mg.	3:00	9:30
WBSM	New Bedford	1420k.	97.3 mg.	3:30	9:00

Continued on Page 10

# Mass. Ag. Engineer Norton Issues Weather Based Crop Forecast

by John S. Norton

The cranberry crop forecast<sup>1</sup>, based on weather conditions from June 15 through July 20 (the bloom period) is for 990,000 bbls. to be produced in 1976. 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, 38 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 38 penalty-points is 860,000 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 spring frost losses. These losses are estimated as approximately 10,000 bbls. Combining the three figures presented above:  $860,000 + 140,000 - 10,000 = 990,000$  bbls. This is my estimate, as of July 22, 1976, of what the 1976 Massachusetts cranberry crop should be. Obviously, if there are losses after the date of the forecast, or if the volume of berries waterharvested varies from the estimate, the forecast will be in error by at least the amount of those effects.

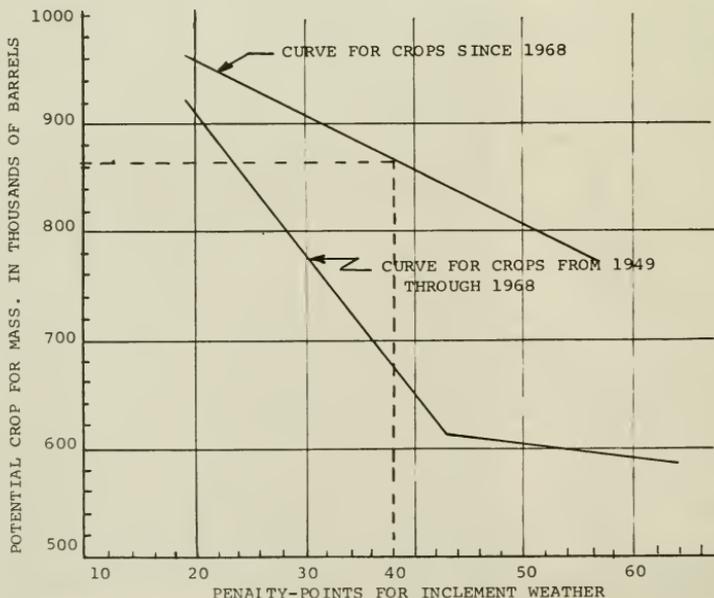


Figure 1. Relationship between weather during bloom period of June 15 through July 20 and the "Potential" cranberry crop for Massachusetts during a 25-year period.

## STUDY AREAS

"How can we reduce costs added by government to the marketing of food—without in any way impairing the high level of purity and wholesomeness of our food supply?"

That was the challenge Secretary of Agriculture Earl L. Butz gave members of the Advisory Committee on Regulatory Programs at their first meeting at the U.S. Department of Agriculture (USDA) recently.

USDA regulatory programs selected by the committee for scrutiny, in response to this challenge, included the following:

1. Marketing agreements and orders; research and promotion programs.
2. Quality assurance programs—standards, grading, inspection, statistical sampling.
3. Labeling, including nutritional labeling and label approval.
4. Economic regulation—Packers and Stockyards Act, Perishable

Agricultural Commodities Act, Warehouse Act, transportation, licensing.

Committee Chairman Richard L. Feltner, USDA assistant secretary for marketing and consumer services, said the committee will be asking these questions in regard to USDA regulatory functions: Are we doing too much? Are we doing too little? Which of our activities may be restricting competition and thus adding to costs?

Secretary Butz directed the group to look for areas where USDA may be doing things that are obsolete, where a need no longer exists, where detail could be eliminated, or where there may be a better way of carrying out a function.

Committee members expressed particular concern with overlapping of functions between government agencies and between Federal and State governments. They also

voiced concern about conflicting regulations and directions from different government agencies.

One member of the panel, Jane Armstrong, vice president for consumer affairs, Jewell Food Stores, Melrose Park, Ill., introduced a resolution that the panel be enlarged from its present eight members to include a ninth member—a "grass roots" consumer. Dr. Feltner said the matter would be taken into consideration.

Members of the public were invited to comment at the opening of the second day of the meeting and several did so. Most of them voiced concern about consumer representation on this and other official advisory committees.

During the first day of the meeting, administrators of four USDA agencies explained their programs, particularly the regulatory aspects of those programs. Donald

*Continued on Page 9*

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# Response of Cranberry Bogs to Sulfur-Coated Urea

by Azmi Y. Shawa  
and

Conrad B. Kresge<sup>1</sup>

Washington State University, Pullman

Nitrogen is a limiting factor in cranberry growth and fruit development. Cranberries in western Washington show a greater response to ammonium-Nitrogen than to nitrate-Nitrogen, especially when ammonium-Nitrogen is applied in small amounts throughout the growing season (3, 4, 5, 7, 8, 12).

A single spring application of 40 lb nitrogen/acre in a readily available form has caused excessive vegetative growth, a reduction in yield and a softening of fruit (5). Also, average rainfall in the cranberry area of Washington State is 85 inches per year which may cause a leaching problem for soluble nitrogen. Ammonium-nitrogen does not normally leach. It would be leached only after it is converted to nitrate. Urea is soluble and non ionic so it might leach, but it is

normally quickly converted to ammonium; therefore, it is not likely to leach unless there is a lot of rainfall immediately after application. A leaching problem could result from the nitrification of ammonium and subsequent leaching of the nitrate (10).

A normal total application of 40 lb/acre nitrogen as an ammonium-nitrogen source annually, divided into four equal applications in May, June, July, and August minimizes runner growth and enhances fruit development and bud set for the following year's crop and reduces the chance for leaching; but walking on the bog in late summer to apply the nitrogen injures vines and damages fruit. In order to reduce labor and the amount of bog traffic it was desirable to find a fertilizer formulation that would uniformly

release an adequate amount of nitrogen for growth, flower bud set, and fruit development throughout the growing season. Sulfur-coated urea (SCU) is a controlled-released nitrogen fertilizer being developed by the Tennessee Valley Authority (TVA) with certain potential advantages over soluble nitrogen sources (1). SCU production cost is estimated by TVA to be 20-30% that of regular urea. SCU granules consist of a urea granule coated with elemental sulfur and wax (2). The rate at which nitrogen is released from SCU may be varied by varying the amount and perfection of the sulfur coating. The release or dissolution rate is characterized by the percent of nitrogen dissolved in water at 100° F in seven days followed by 1% or less daily thereafter. The effect of slow release SCU on Bermuda-grass yields lasted over 17 weeks and increased yield 20% over plots treated with urea (11).

SCU is recommended for use where a single application of soluble nitrogen fertilizer does not give the desired results and for crops grown under high rainfall conditions (9).

## Materials and Methods

In May 1971, four SCU formulations with dissolution rates of 4, 13, 18 and 26% and standard urea were topdressed at rates of 10 to 40 lb nitrogen/acre. The SCU was all applied in May, while the urea was applied in May, June, July and August at the rate of 10 lb N/A in each application. Plots of 100 square feet each were arranged in a randomized block design with three replications on 'McFarlin' cranberry vines at a commercial bog at Long Beach, WA.

In May 1972, the same plots

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were treated as in 1971 replacing the SCU with dissolution rates of 4 and 13% by SCU with 40 and 100% rates. The slower dissolution rate materials were dropped because release was too slow. The 100% dissolution rate (no slow release) material was included to check on a possible crop response to sulfur.

For the third and fourth years, May 1973 and 1974, the same plots were treated as in 1972 except that the SCU with dissolution rate 100% was replaced by a 1:1 mixture of SCU-18 and SCU-40. No response to sulfur in the SCU-100 was obtained in 1972. Each plot was harvested with a cranberry scoop, screened to remove trash and

spoiled fruit and yield recorded on September 24, 1971, September 20, 1972, September 26, 1973, and September 26, 1974. All samples were placed in mesh bags and stored at 37°F for 25 weeks (16 weeks in 1974). Sub-samples of 200 grams were removed, berry volume recorded (using a pycnometer) and berry weight calculated. Other tests made at 5-week intervals included percentage breakdown, firmness, soluble solids, and acidity. Leaf and berry samples from all plots were collected and analyzed for major (N, P, K, Ca, Mg, S) and minor (Cu, Zn, Mn, Fe, B) elements.

In 1975 only the 1:1 mixture of SCU-18 and SCU-40 was compared

to urea and to the check since that SCU combination appeared to be the most desirable for cranberries in Washington. In this year the single annual applications of SCU were made not only in May, but also in July (after fruit set). Four replications were employed in a randomized block design. Besides yields taken on October 1, 1975, other measurements included a number of fruiting buds per unit area, number of flowers per upright, and number of berries per upright.

### Results and Discussion Yields

Yields in all years were put on the basis of 100 for the control plots (Table 1). Nitrogen additions usually resulted in yield increases over the check and most dissolution rates of SCU compared favorably with urea. Since these were the main requirements sought in a new N source for cranberries, the comparisons could be called a success.

Because of the variation in the data in any one year and the resulting insignificance (at the 5% level) usually occurring among

*Continued on Page 20*

Table 1. Relative yield of 'McFarlin' cranberries as affected by N source.

Year	N SOURCE								
	Control	Urea-100	SCU-4	SCU-13	SCU-18	SCU-26	SCU-40	SCU 18+40	SCU-100
1971	100	106	97	108	112	112	---	---	---
1972	100	116	--	---	132	106	125	---	104
1973	100	120	--	---	132	130	123	156	
1975	100	115	--	---	---	---	---	131	
4-year Ave.	100	114	97	108	125	116	124	143	104
4-year Ave.	---	100	85	95	110	102	109	125	91

Table 2. The effect of Urea and SCU on 'McFarlin' cranberry fruit set, 1973

N Source- Dissolution Rate (%)	Rate lb N/acre	Month of Applica.	Per Upright	
			Flowers*	Berries*
Control	0	0	3.3 bc	1.7 d
Urea - 100	10	5	3.3 bc	2.3 bcd
	10	5,6**	3.3 bc	2.3 bcd
	10	5,6,7**	3.7 abc	2.3 bcd
	10	5,6,7,8**	4.0 ab	2.3 bcd
SCU-40	10	5	3.0 bc	2.7 abc
	20	5	4.0 ab	2.3 bcd
	30	5	3.7 abc	3.0 ab
	40	5	3.3 bc	2.7 abc
SCU-18+40	10	5	3.3 bc	2.0 cd
	20	5	3.3 bc	2.7 abc
	30	5	3.7 abc	3.0 ab
	40	5	4.3 a	3.3 a
SCU-18	10	5	4.0 ab	2.3 bcd
	20	5	3.7 abc	2.7 abc
	30	5	3.7 abc	2.7 abc
	40	5	3.7 abc	2.7 abc
SCU-26	10	5	3.3 bc	2.3 bcd
	20	5	3.7 abc	3.0 ab
	30	5	3.7 abc	2.7 abc
	40	5	3.3 bc	2.7 abc

\* Mean separation by Duncan's Multiple Range Test at 5%.

\*\* 10 lb N/Acre applied at each date.

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# EPA's Train Dedicates New Environmental Lab

Russell E. Train, Administrator of the U.S. Environmental Protection Agency, dedicated Region I's new environmental laboratory in Lexington, Massachusetts a few weeks ago.

## Importing Plants Takes Time

Travelers or importers who wish to bring foreign plants, soil, and plant products (fruits or vegetables) into the United States must plan ahead. About six weeks may be required to process an import permit, says the U.S. Department of Agriculture (USDA).

Under federal quarantine regulations, USDA permits must be obtained when plant materials.

Cranberry plants grow wild in the Ural Mountains.

"Issuing permits (which are free of charge) is not an automatic process," explained Jack Lipps, head of the Permit Unit of USDA's Animal and Plant Health Inspection Service (APHIS). "Certain facts must be established to make sure imports will pose no threat of spreading foreign plant insects and diseases to the United States. This often involves an exchange of letters with the person requesting the permit."

When making application for permits, include the following: (1) country of plant origin (if Canada, give city and province; if Mexico, give state); (2) quantity and name of plants; (3) whether import will be plants, cuttings, seeds, fruits, or other plant parts; (4) purpose of import (for planting, consumption, etc.); (5) U.S. port of arrival; (6) means of importation (mail, air freight, personal baggage, etc.); and (7) date of traveler's intended departure or date of order.

For information or permit applications, write to: Permit Unit, USDA, APHIS, Federal Building, Room 638, Hyattsville, Md. 20782.

The laboratory houses EPA's New England Regional Surveillance and Analysis Division. The Division coordinates state air and water pollution monitoring; advises state, local, and private laboratories on quality assurance of techniques and equipment; responds to spills of oil and other hazardous materials; and provides the laboratory support for identification and analysis of environmental pollutants. The Division Director is Edward V. Fitzpatrick. The laboratory serves the six-state New England region, including Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

The laboratory employs about sixty engineers, chemists, biologists, and support personnel, and has an annual operating budget of approximately \$1.5 million. It houses cleaning and preparation rooms for samples, an explosives room, a balance room where temperature and humidity are regulated to

maintain standard conditions, and a room where radio waves cannot penetrate.

One of the more exotic pieces of equipment at the laboratory is a bioassay trailer, or mobile toxicity laboratory, which can perform on-site evaluation of aquatic life. This function is useful in compliance monitoring, in developing criteria for discharge permits, in detecting water quality violations, and in special projects. For example, there are plans to conduct a special study of the effects of chlorine on indigenous aquatic life this summer. The mobile lab is also useful in spill situations to determine the effects on biota of different dispersement chemicals. It can also assess the impact of spills, sewage, industrial effluents, etc., on species of commercial importance, such as shellfish.

Perhaps the most sophisticated piece of equipment housed by the new laboratory is the X-ray fluorescence spectrophotometer. This \$68,000 piece of equipment can scan a sample to determine the presence of all the elements below sodium on the periodic table.

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## PROPERTY TAXES

What farm cost has risen the most since 1967? If you guessed real estate taxes, you were right on target.

USDA economists say that as of March 1, 1976, these taxes had vaulted an estimated 53 percent over the 1967 mark—and 1,186 percent since 1909-13.

In a recent report, economists noted that State and local taxes charged on farm property cost the Nation's producers \$2.58 billion in 1974, 5.5 percent more than the year before. That worked out to \$2.70 an acre, versus \$2.56 in 1973.

Accelerating real estate taxes reflect what economists call "cost-push" inflation, where stepped-up costs of supplies and salaries have made it more costly for State and local governments to provide existing services. Expansion of these services and development of new programs have also driven up expenses.

To cope with spiraling costs, State and county officials have had to look for bigger tax receipts—the bulk of which come from real estate taxes.

Nationwide, property tax receipts grew as assessments caught up with the rise in real estate values. Nonetheless, the past 10

years have seen income from real estate taxes account for a declining share of total tax receipts.

During 1974, taxes per acre levied on farm property increased in 41 States, with 14 States reporting hikes of over 10 percent. Farmers in 13 States faced increases ranging from 5 to 10 percent, while taxes in 14 other States climbed less than 5 percent.

In contrast, farmers in Indiana, which has become less reliant on property taxes as a source of receipts, saw their real estate taxes cut by more than 17 percent.

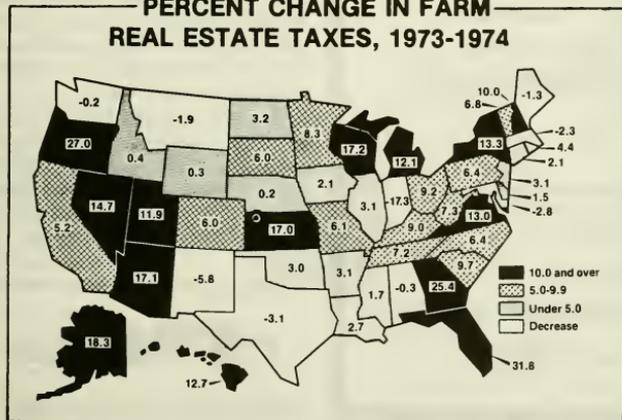
New Mexico rolled back per acre taxes by nearly 6 percent due to reduced tax rates and unchanged farm real estate values. In seven remaining States, taxes per acre decreased less than 5 percent.

Oddly enough, the greatest disparity of change occurred in neighboring cranberry growing states on the West Coast, Oregon and Washington.

Oregon taxes jumped a whopping 27 per cent in one year, according to the survey, the largest increase noted. Washington, however, noted a .2 per cent decrease.

Other cranberry states: Massachusetts, 2.3 per cent decrease; New Jersey, 3.1 increase; and Wisconsin, 17.2 increase.

**PERCENT CHANGE IN FARM REAL ESTATE TAXES, 1973-1974**



E. Wilkerson, who is executive secretary of the advisory committee, explained the program of the Agricultural Marketing Service, of which he is the administrator. Frank Mulhern, administrator of the Animal and Plant Health Inspection Service explained the programs of that agency. Administrator Marvin L. McLain explained the regulatory functions of the Packers and Stockyards Administration and Seeley Lodwick, Associate Administrator of the Agricultural Stabilization and Conservation Service, recounted its functions.

Members of the advisory committee, in addition to Ms. Armstrong, are: 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.

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Carl Gourley (left), plant pathologist of the Kentville Research Station, N.S., Canada, discusses cranberry diseases with Dr. Donald Boone, a noted authority on cranberry diseases from the University of Wisconsin. Professor Boone visited Kentville early in September and reported that bogs in the valley were 'bearing a good crop of high quality fruit.'

## Names R. S. Sexton 'Berries' Editor

Richard S. Sexton, of Duxbury, Mass., has been appointed editor of *Cranberries*, according to I. Stanley Cobb, publisher.

The appointment is effective with this issue of the magazine. Sexton replaces Ms. Jane B. Presler of Plymouth, Mass., who held the position for the past two years.

A native of the cranberry growing region, Sexton joins the staff after a 17-year career elsewhere in the field of business publications. He began his career with IBM Corp.



RICHARD SEXTON, Editor

in New York and has worked in the Boston area for the past half-dozen years as a communications consultant to business and industry. He will continue to serve as a writer and journalist for a variety of business publications. He specializes in corporate periodicals.

Sexton is married and the father of four children. He holds a bachelors degree from the University of Mass., Amherst, and completed his graduate studies in journalism at Boston University.

### MASS. STATION FIELD NOTES

*Continued from Page 3*

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, or by applying a coat of sand sometime before the start of the next growing season. 5) Plan on treating areas infected with Fairy Ring using the Sul-Po-Mag recommendation on the fertilizer chart.

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# AGRICULTURE NOTES

Comments of Dr. Chester Cross, head of the cranberry experiment station in Wareham, Mass., were widely reported in the press recently.

"Sensationalism at its disgusting worst" is how he described a recent program on NBC TV, "What is this Thing Called Food?"

Annoyed with the network's failure to laud U.S. agriculture for what it has accomplished, he "let 'em have it" at NBC.

He says the program should have reported on "how we have succeeded in feeding a doubled population here (in the U.S.) alleviated starvation elsewhere, and kept that food clean enough to have helped increase the life expectancy from 47 to 72 years in this century."

Asked Dr. Cross, "This is an historic achievement. Why hide it?"

\* \* \* \*

Wisconsin growers will be assessed 1¢ per barrel, based on 1975 crops, to be placed in a fund for use by the special committee on water and wetlands of the Wisconsin Cranberry Growers Association.

The decision was made by a 93 to 0 vote of members taken at a recent meeting. Payment is voluntary.

The new funds were voted as a result of recent cases on wetlands still pending and a meeting with the state's secretary of natural resources and the attorney general.

Mr. Tony Jonjak, chairman of the special committee, says the committee must continue to function "in view of past history and future uncertainty.

"Either we continue to fight united or do it alone.

"It's cheaper and more effective to do it united."

\* \* \* \*

For historians, "Cannonballs and Cranberries" is a new book that's

fun and informative.

Written by F. A. Burrows and published by Wm. S. Sullwold, Taunton, Mass., the book tells in pictures the story of the iron ore in Massachusetts bogs that was the source of cannonballs fired in the Revolutionary War and the War of 1812.

\* \* \* \*

Another publication has been started as an "ever-changing catalog of what is worth knowing and buying in the countryside." It's called the Mass. Farm Bulletin, published bi-weekly by the non-profit New England Farm and Home Assn., a non-profit corporation dedicated to "the preservation of small-scale agriculture."

Editor Robert Kaldenbach reports that subscriptions jumped from 800 to 5,000 since the bulletin debuted nearly four months ago.

For details or subscriptions, write Kaldenbach at 80 School St., Acton, Mass. 01720.

Proposed new rules of practice under the Perishable Agricultural Commodities Act (PACA) would clarify hearing procedures for persons who claim they are not responsibly connected with a PACA licensee undergoing adverse action under the law.

Responsibly connected persons may not be relicensed or employed by another licensee when the firm they are connected with fails to satisfy any PACA reparation award or when the firm's license is suspended or revoked.

All applicants for licenses under PACA, and those already licensed, are required to report the names of all partners in a partnership, and all officers, directors, or holders of more than 10 per cent of the outstanding stock in a corporation or association.

Interested parties will have 30 days from the date of publication of the proposed rule changes in the Federal Register to file comments, in duplicate, with the Hearing Clerk, Room 112-A, U.S. Department of Agriculture, Washington.

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The "Watermark"<sup>TM</sup> is a cylindrical tube used in open ditch irrigation to detect low-lying water. Also used as an early warning of flood control. Enables fields to be monitored continually from one location.

Developed by the Weldon Instrument Company, of Burbank Calif., the patented "Watermark"<sup>TM</sup> signaling unit shows exactly how water is running in irrigation ditches without having to visually inspect the ditches. Field tests have shown that a signal from a Watermark<sup>TM</sup> unit is clearly visible over 200 yards away.

According to the manufacturer, the use of this device helps eliminate overflowing or lack of water in irrigation areas.

A farmer normally estimates the amount of water required for sufficient irrigation, then releases that amount of water. As a result, due to unseen circumstances, the water may not run its full course, either flooding certain areas and wasting water, or letting some of his crops receive little or no water.

This tubular instrument, highly effective and relatively trouble-free,

is merely inserted into the ground at the end of an irrigation ditch. As the water runs the length of the ditch and enters into the Watermark's<sup>TM</sup> base, an inner float is raised, releasing an easily seen brilliantly fluorescent red flag at the top. This signifies that the ditch is being sufficiently irrigated. This device is portable and may be moved from one ditch to another and installation time is about 30 seconds.

With Watermark<sup>TM</sup> units placed around the borders or at the end of each ditch, a farmer can look down the rows, from more than 500 yards away, and instantly know if his crops have been fully irrigated. And, he can do this without wasting hours tramping through muddy fields.

Watermarks<sup>TM</sup> are available in three different heights.

## Model 715 Backhoe

Precision handling, compactness and economy are three of the features mentioned in a new piece of literature about the Model 715 backhoe loader from the industrial tractor division of Allis-Chalmers Corp.

The brochure describes the one-piece integral frame and 20,000 lb. (9070 kg) load capacity front axle which combine for strength over and above designs basically taken from farm tractors.

The Model 715 has a 65-hp (50-kw) diesel engine, planetary axle, torque converters and shuttle clutch for reliable usage and long life. It also offers a 7/8 cu yd (2/3 m<sup>3</sup>) bucket and 7,000 lb (3175 kg) breakout capacity. The loader is self-leveling and has a 30 degree rollback for fast, efficient loading or backfilling.

For a copy of the literature, number 1196-ITD-76, contact the Agricultural Equipment Divisions, Allis-Chalmers Corp., Box 512, Milwaukee, Wis. 53201.

REGIONAL NEWS-Cont. from p. 1 demonstrated. The variety trial plots made good displays with several having crops much better than the standard Early Black.

## WASHINGTON

June, July, and August precipitation (2.65, 3.30, 4.88 respectively) totalled 10.83 inches, not a record, but enough to maintain a good water table! Along with the moisture an average high of 65 degrees F and an average low of 51 degrees F giving a mean of 58 degrees sustained warm moist growing conditions. The fruit set was good occurring in a compact period so that the berries are quite uniform in size and sizing up well. Local growers are looking for a crop to match 1975 or better.

Azmi Shawa presented a paper "Response of Cranberry Bogs to Sulfur-coated Urea" at the American Society for Horticultural Science annual meeting at Louisiana State University, Baton Rouge, August 9-15th.

Grayland area will begin harvest about the last week in September, with Long Beach growers anticipating harvest about the second week in October, with a few beginning the first week.

## WISCONSIN

The mid-August forecast of 1976 cranberry production in Wisconsin indicates a crop of 860,000 barrels, 23,000 barrels more than in 1975. Development of the crop is a week to 10 days ahead of normal as growing conditions have been good to excellent. Little hail or insect damage is reported, and winter damage was limited. Early freezes have forced growers to sprinkle more often than usual, further lowering already below normal water supplies. A good rain would be helpful in replenishing adequate water supplies.

*Continued on Page 15*

# DARLINGTON PICKERS AT WORK IN MAINE

Twenty-five-year-old cranberry technology has just been discovered by blueberry growers, according to a recent wire story by the Associated Press.

Darlington pickers have been modified to pick low-bush blueberries in eastern Maine, a back-breaking job that's been done by hand for the past 100 years.

A farm equipment dealer in Ellsworth, Maine, sold 25 pickers in August as the harvest grew near.

According to the dispatch, the move toward mechanization stems from the increasing problems growers face in obtaining sufficient hand pickers, because of rising costs of labor and because of increased government regulations affecting farm labor.

Del Merrill, the Ellsworth dealer, says the automated pickers are going to "revolutionize the blueberry industry."

According to him, the machines can harvest 40 to 50 bushels of berries per day, about twice the amount of a good man with a hand rake.

Merrill, an old hand at blueberry picking, recalls that he tried the Darlington picker when it was introduced on Cape Cod 25 years ago. He concluded then that it wasn't feasible.

But times have changed. "This year we thought it was time that the picker be brought in because of a labor problem and the difference in the fields."

Most of Maine's 20,000 acres of cultivated blueberries are now reasonably flat, much like cranberry bogs. (The machine is just not adaptable to cultivated hillsides.)

The 1976 crop is forecast at nearly 18 million pounds of berries, an increase of about 50 percent more than 1975, but still about five percent less than 1974.

Merrill said that at \$1500, the machines are inexpensive enough to be used by small and medium-sized growers, some of whom have been considering giving up blueberry production because of labor costs.

Much of the hand raking is done by local people, although Indians from Maine and the Canadian Maritimes have traditionally participated in the five-week-long harvest. With some growers paying \$4 per bushel, a good picker can earn as much as \$300 a week.

The living and working conditions of the migrant pickers became a state-wide issue two summers ago when investigators from the Maine Human Rights Commission visited the barrens.

The uncertainty of the labor supply became more of a problem last year when Federal laws took effect barring children age 12 and younger from working in the fields.

"Some years there is adequate labor for picking blueberries; some

years there is not," said Amr. A. Ismail, blueberry specialist for the Cooperative Extension Service at the University of Maine's Orono campus, who suggested that there was excellent potential for both the mechanical harvester now in use and the one being developed at the university.

## CARLTON SHURTLEFF

Carlton Shurtleff, 88, of Shurtleff Rd., North Eastham, Mass., died Sept. 6 at the Newfield House in Plymouth after a brief illness. He formerly operated the Meadow Lea Cranberry Co. in Easton, where he resided for many years. He summered in North Eastham where he retired.

He was the husband of the late Mildred (Spooner) Shurtleff. He was a Navy veteran of WWI, and a member of the Carver Sons of Union Veterans.

He was born in Carver on May 8, 1888, the son of the late Albert and Maria (Davis) Shurtleff. He was educated in the Carver school.

Survivors include several nieces and nephews.

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*This autumn will be the most bountiful harvest ever for our native, crimson bright cranberries. That's good news for all who enjoy the culinary versatility of this piquant fruit.*

Whether or not goblins, ghosts and witches wickedly wander on Halloween as believed by the ancient Druids, a modern All Hallows Eve is a perfect time for an autumn party filled with spirited good fun, games, and cranberries.

So plan a celebration which will delight all the young in heart. One doesn't have to be a sorceress to conjure up a menu full of tasteful treats that aren't a bit tricky to prepare.

"Berry Devilish Hot Dog 'n Bean Casserole" is an easy to prepare, hot from the oven dish, which is made with kidney beans, chick peas, baked beans, whole berry cranberry sauce, mustard, chopped onion and frankfurters. This tangy casserole will hit the spot on that brisk October night.

"Cranberry Corn Bread" is a nice idea to accompany your casserole. The batter combines diced bacon, chopped onion, cranberry-

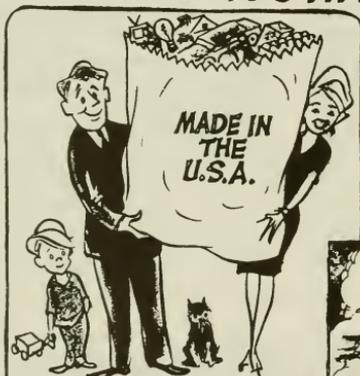
orange relish, cornmeal, flour, baking soda and powder, salt, an egg and buttermilk. Cut into squares after baking and serve in a basket along with a crock of butter.

Your dessert "Cranberry Witch's Hat Cake" can serve as an enchanting centerpiece for your table throughout the party. It is made with butter, cream cheese, sugar, eggs, flour, baking powder, fresh cranberries, chopped nuts, nutmeg and mace. It is baked in two parts: in a cone-shaped mold and a layer cake pan. After the bottom and top of the hat have been trimmed and placed together, the cake is covered with a chocolate frosting and decorated at the brim with rows of fresh cranberries. If you like, frost your fresh cranberries in sugar before garnishing the cake.

For sipping from the beginning to the end of your Halloween revelry, "Cranberry Broomstick Brew" is a flavorful sweet 'n tart mixture which will complement your casserole as well as cake. It combines cranberry apple drink, spiced apple rings, ginger ale and orange soda. Pour the mixture over ice cubes into a punch bowl or pitchers. Garnish with floating slices of orange, and for a perky touch create a small broomstick to use as a stirrer.

So here you have a quartet of cranberry recipes that are sure to bewitch and please the palates of all on All Hallows Eve.

## DID YOU KNOW?



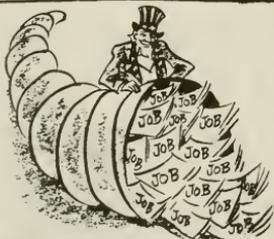
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In a skillet, fry bacon with onion until bacon is crisp. Pour bacon, onion and drippings into a bowl. Stir in remaining ingredients and beat until well blended. Pour mixture into a greased 9 inch square baking pan. Bake in a preheated moderately hot oven (425° F.) for 20 to 25 minutes or until puffed and brown. Cut into square and serve while hot with pats of butter.

\*\*\*\*\*

**CRANBERRY WITCH'S HAT CAKE**

(Serves 12 to 14)

- 1-1/2 cups butter or margarine
- 1 package (8 ounces) cream cheese
- 3 cups sugar
- 10 eggs
- 4 cups unsifted all-purpose flour
- 1 teaspoon baking powder
- 2 cups fresh cranberries
- 1 cup chopped nuts
- 1 teaspoon each nutmeg and mace
- 2 cans (1 pound, 1 ounce each) chocolate frosting
- Fresh cranberries

Cream butter and cream cheese until light and fluffy. Gradually beat in sugar. Beat in eggs one at a time beating well after each addition. Beat in flour and baking powder. Fold in cranberries, nuts and spices. Grease and flour one - 1-1/2 quart cone-shaped mold and one - 10 inch layer cake pan. Spoon dough into layer cake pan filling it half full; spoon remainder of dough into cone-shaped mold. Place mold into a saucepan or other heat-proof container to hold it upright. Bake layer cake and mold in a preheated moderate oven (350° F.) for 20 minutes, then lower heat to 300° F. and bake another 30 minutes for layer and another 40-45 minutes for mold. Cool both in pans for 5 minutes then un mold and cool on a rack. Trim bottom of cone-shaped mold flat with a sharp knife so that it can stand straight on top of cake layer. Place cake layer on serving platter and cover with frosting. Place cone-shaped cake in center of layer and frost entire cake. Use cranberries to make the band on the hat and the buckle.

**MAINE BLUEBERRIES**

The 1976 Maine blueberry crop is expected to be between 17.5 and 18 million pounds based on a mid-August survey of growers. This is about 50 percent more than last year and about 5 percent less than 1974.

Moisture has been adequate throughout the growing season (abundant from mid-July on) with worm and blight damage remaining light. The harvest began during the first week of August, and is yielding berries of good to excellent quality and medium to large sizes.

**REGIONAL NEWS NOTES**

*Continued from Page 12*

\*\*\*\*\*  
**NOVA SCOTIA**  
 \*\*\*\*\*

The month of August was slightly warmer at 19.3 degrees Celsius as compared to the 50-year average of 18.2. Rainfall during this period was below average.

Our cranberry crop is coloring well and local berries are selling in the supermarkets. British Columbia reports that an above average crop is expected this year.

\*\*\*\*\*  
**OREGON**  
 \*\*\*\*\*

The 30th annual Bandon Cranberry Festival was held (Friday, Saturday and Sunday) Sept. 24, 25 and 26 with the coronation of the Cranberry Queen Friday night highlighting opening day of the festival.

A special feature of this year's Bicentennial event was the appearance of most of the past queens who were honored at a special banquet, and also rode in the Grand Festival Parade Saturday morning in individual cars to signify the year they were queen.

**BERRY DEVILISH HOT DOG 'N BEAN CASSEROLE**

(Serves 8)

- 1 can (20 ounces) kidney beans, drained
- 1 can (20 ounces) chick peas, drained
- 2 cans (28 ounces each) baked beans in tomato sauce
- 1 can (1 pound) whole berry cranberry sauce
- 1/4 cup prepared mustard
- 1 large onion, chopped
- 1 pound frankfurters, each cut into 2 pieces
- 1 cup crumbled potato chips

In a 3 quart casserole combine all ingredients except frankfurters, potato chips. Arrange frankfurters on top. Bake in a preheated moderate oven (350° F.) for 45 to 60 minutes or until bubbly. Sprinkle top with potato chips for last 10 minutes of baking.

\*\*\*\*\*

**CRANBERRY CORN BREAD**

(Makes 1 - 9 inch square)

- 1/2 pound bacon, diced
- 1 large onion, chopped
- 1/2 cup cranberry-orange relish
- 1-1/2 cups yellow cornmeal
- 1/2 cup unsifted all-purpose flour
- 1 tablespoon baking powder
- 1/2 teaspoon baking soda
- 1/2 teaspoon salt
- 1 egg
- 1-1/2 cups buttermilk

# U. S. Studying Effects of Urban Sewage on Land

EPA has awarded more than \$1.8 million for four research contracts to study long-term effects of applying municipal waste water to land areas. The results of this study will be used, among other things, to determine the feasibility of utilizing this waste water-treated land for growing crops suitable for human consumption. The study deals only with the land application of sewage effluent, rather than sludge. Effluent is the waste water remaining after sewage has gone through some preliminary treatment, while sludge is the residue of material removed by the treatment.

"We feel that this land disposal method of sewage treatment, in which waste water is further purified by downward movement from the surface through open spaces in the soil (percolation), is often an effective alternative to the conventional processes where the effluent from treatment works is discharged into rivers, lakes, and other waterways," said Dr. Curtis Harlin, Chief of the Waste Water Management Branch at EPA's Robert S. Kerr Environmental Research Laboratory in Ada, Oklahoma. "In most cases, the waste water cleansed by the land treatment operation is of

higher quality than that treated by conventional physical, chemical, and biological techniques. The land application of sewage effluents, practiced successfully throughout the world for many years, involves more than just letting wastes lie inert on the earth—it is really a dynamic system in which the land environment converts and utilizes the liquid and nutrient components of the discharge," Dr. Harlin said.

Research will concentrate on the long-term effects of waste water on the land, such as the possible build-up of bacteria, viruses, and heavy metals in the soil, and whether a public health danger is posed by growing edible crops in areas where such materials might accumulate. Land receiving waste water effluent has generally been used in the past only for growing non-food crops such as cotton, or for food crops eaten only by animals.

The contracts call for research on eight existing land application systems, each of which has been in operation for at least ten years. The exact sites will be selected soon. Five of the systems will be of the irrigation type, in which the treated sewage effluent is applied to the land by spraying or by spreading it on the surface. In this method, grasses and plants also help in cleansing the effluent. The other three systems will be of the infiltration-percolation type, where the treated effluent is discharged into basins or ponds, and allowed to percolate through the soil.

"The land application method is beneficial to society in more ways than just providing an alternative repository for disposal of municipal and industrial wastes," says Dr. Harlin. "Not only is this waste water being used for agricultural irrigation in water-deficient areas such as the southwestern United States, but in a variety of re-use applications such as the watering of trees and public parks, and the

cooling of industrial processes." For small sewage treatment operations—those processing less than five million gallons a day—land application systems usually offer operating and capital costs substantially lower than those for conventional operations.

## Increase Honey with 2 Queens

Honey yields may increase more than two-thirds by the use of a two-queen system instead of single-queen colonies according to a 6-year study by the USDA's Agricultural Research Service at Madison, Wis.

Two-queen intensive management systems are designed to produce the largest possible honey crop per hive unit, said Floyd E. Moeller, research entomologist in Bee Management and Entomology Research.

Not only do two-queen colonies produce more honey, but they do it with less labor per pound of hive, lower costs, better quality, fewer swarm problems, and better wintering than single-queen colonies.

Two-queen colonies commonly approach twice the population as single-queen colonies and have 20 to 30 pounds of bees at their peak. The average honey yields of two-queen colonies were 112 pounds more honey than for single-queen colonies over the 6 years observed and 163 pounds more than the average for package colonies.

The populous two-queen colonies are less prone to nosema disease, and the quality of honey is often better (thicker and a lighter color) than from smaller colonies.

The step-by-step handling and organizing of two-queen colonies are described along with equipment needs, queen supersedure and replacements, and swarming and increase in a new Production Research Report, No. 161, "Two-Queen System of Honey Bee Management." Copies of the booklet are available for 35 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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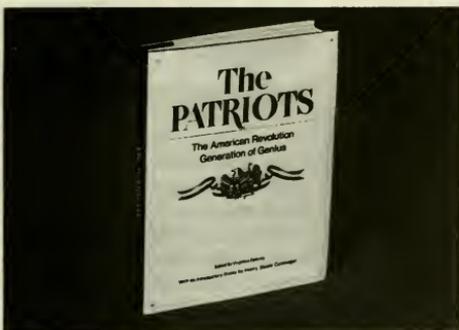
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"One of the best bicentennial productions I have seen so far."

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# Wisconsin Growers Group Sponsors Fall Promotion

by John J. Polich  
Wisconsin Department of Agriculture

The Wisconsin Cranberry Growers Association and the Wisconsin Department of Agriculture have cooperatively planned a complete promotional program for cranberries in Wisconsin and the Chicago area this Fall.

Wisconsin's expected production of 860,000 barrels in 1976 is slightly over 38 percent of the U.S. production of 2 million barrels. Because of the large crop, the marketing division of the Wisconsin Department of Agriculture is asking the media and retailers to cooperate in merchandising the crop and feature cranberries as a good buy for the consumer.

ADA of Wisconsin and the Wisconsin Cranberry Growers will share the cost of purchasing TV commercials (the Bucky Badger Sundae) at the cost of \$7,000 in Wisconsin and \$5,000 in Chicago.

The Wisconsin Department of Agriculture and the University of Wisconsin Extension personnel will be involved in a series of radio and TV programming on Wisconsin products throughout September and October.

Arrangements are being completed for a special cranberry proclamation to be signed by the Governor to designate October as cranberry month and to act as catalyst for the peak marketing month for cranberries.

Food editors and media outlets will feature stories and recipes on Wisconsin cranberries during the promotional period.

Retailers will be alerted on the total program and have agreed to build good displays in their supermarkets and will advertise cranberries during September and October.

Growers and distributors will be advised of the total promotional program and will see that supplies are available for the marketeers.

Public Service radio tapes on cranberries have been prepared at a cost of \$1,000 paid by the Cranberry Growers and will be sent to all Wisconsin stations and five Chicago stations. These are to be aired in September and October.

Arrangements have been made to feature cranberry sundaes at the University football game in November, along with the state-wide spot announcements on cranberries. The theme of the promotion is "Cranberries — America's Native Fruit" for this bicentennial year.

\*\*\*\*\*

## Cranberries Advertising Pays Big Dividends

\*\*\*\*\*



## Free Soil Analysis Available from Independent Lab

A free, no strings attached soil analysis is now available to readers of *Cranberries*.

Harris Laboratories, the nation's largest independent commercial soil testing organization, is offering a free soil analysis to anyone who clips out this announcement and sends it with a sample to the laboratory.

The test is a \$5.50 value that features full fertilizer recommendations for three different cropping options selected by the grower. Analysis of the sample will include: soil pH; buffer pH (lime need); excess lime; percent soluble salts; true organic matter; phosphorus; potassium; magnesium; calcium; sodium; cation exchange capacity; and percent base saturation.

All the grower has to do is clip this announcement from the magazine, then indicate the crop and yield he intends to produce (or up to three different options he's considering). Also include the name, address or phone of his farm supplier (fertilizer dealer, cooperative, etc.), farm manager, or farm advisor. Then send this information with the sample to:

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# Farmers Using More Pesticides to Safeguard Investment, Crops

As she did the past two summers, Ann Hartweg of Deccatur, Illinois is patrolling corn and soybean fields near her home as part of a state project to locate pest infestations. "By pinpointing the pests," the young college student explains, "farmers only have to use the pesticides when it is necessary. In the past, it's been sort of a habit." Her father, however, who farms just down the road from where his daughter is surveying, clearly still has the pesticide habit. "They're indispensable," Carl Hartweg says, and this year, he will use more pesticides than ever on his 600 acres of corn and soybeans.

The differing attitudes of the Hartweg father and daughter reflect a similar ambivalence about pesticides in agriculture circles generally. While environmentalists and governmental agencies promote the use of less pesticides (so there will be less run-off of chemicals into streams, less chance of residues in foodstuffs while, at the same time, saving farmers from making unnecessary outlays), farmers for a variety of reasons are using more and more pesticides. Industry analysts say United States farmers this year will use pesticides on seventy percent of the record 330,000,000 acres they will plant; five years ago, farmers used the chemicals on barely half of the 300,000,000 acres planted then. The Agriculture Department expects pesticide production this year to match the ten percent gain of last year, when 760 million pounds were produced with a retail value of more than two billion dollars.

**Boosting Production:** No one disputes the general efficacy of pesticides, which include insecticides, herbicides to control weeds, and fungicides to combat plant disease. Without pesticides, horticulturists say, some fruits and vegetables would be almost impossible to produce. In general, farmers' crop yields would at least be

ten percent or fifteen percent smaller without the chemicals. Moreover, the Agriculture Department says the cost of insecticides, although rising in recent years, represented only two percent of the \$30,000 production expenses of the average United States farm of 383 acres in 1974.

Contributing greatly to increased pesticide use has been the general rise in crop prices. The price of corn, for example, has doubled to about \$2.70 a bushel since 1970, so it is not surprising that farmers are spending about twice as much on pesticides to protect their crops and try to increase their yields. "I have got so much money tied up in my corn, that I cannot afford to go without pesticides," a Nebraska farmer says. "It's the cheapest insurance I can get." The recent annual pesticide price increases of ten percent or more have therefore provided little deterrent for farmers.

Also contributing to increased pesticide use is the increase in planted acreage. Moreover, the trend to larger farms has tended to boost usage, as Agriculture Department data show that large farms (with annual sales of \$40,000 or more) use pesticides on more than thirty percent of their acreage, against four percent for smaller

farms. Large farms that annually plant the same crop in the same acreage are also more dependent on pesticides, farm experts say, because pests that attack single crops have a greater chance to thrive year after year.

New farming techniques are also a contributing factor. Crops nowadays are often being planted with less space between the rows, which often means that the pesticides are applied to the entire field instead of just "banded" along the rows. No-till farming also is popular as a way to reduce topsoil loss from wind and rain; but the lack of deep plowing before plantings gives insects and plant pathogens more chance to thrive in the crop stubble that remains near the surface. The usual solution—pour on the pesticides.

Pesticides, meantime, are becoming more versatile. Herbicides now are available to control early spring weeds, so farmers are planting earlier than they used to. "Previously," says Winston Etchen of the Midwest Agricultural Chemicals Association, a distributors' group, "it was too tough to control weeds in the wet, cold conditions of early spring."

CONCLUDED IN NEXT ISSUE

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treatment differences as a result, another method of expressing the data was employed. Yields from 1971, 1972, 1973, and 1975 for each nitrogen source were combined and averaged. All four rates of each fertilizer were averaged because of the variations sometimes occurring among rates. The 1974 yields were excluded since they were down 50% because of sub-freezing temperature occurring in December 1972. Frost injury reduces the number of new uprights and the yield from those uprights two years later. Also, 1974 yields were excluded because the frost injury probably was not uniform across the experimental plot area.

Table 1 contains the average yields (just described) by year and of four-year data. In all but the last line, the control yields were set at a relative value of 100. Over these four years, SCU at dissolution rates ranging from 18 to 40% performed as well or better than urea and produced yields 10 and 9%, respectively, higher than urea-treated plots. Use of the 1:1 combination of SCU-18 and SCU-40 resulted in yields 25% higher than yields from urea. This plus the labor and injury-saving single application places this dissolution rate SCU in an economically competitive situation compared to urea. SCU-4 and SCU-13 were too slow in N release and SCU-100 was too fast for best cranberry production. The SCU-18 plus SCU-40 combination probably performed better than SCU-26 and SCU-18 or SCU-40 alone because of a greater release of the proper amount of N very early plus a better N release distribution throughout the remainder of the season. The SCU-26 in one application performed about as well as regular urea in four applications.

#### Berry and Leaf Evaluation

Berry volume and weight, percentage breakdown, firmness, soluble solids, acidity apparently were not differently affected by treatment during the 25-week storage

period in 1971, 1972, and 1973 and the 16-week storage period in 1974. Leaf and berry analyses showed no correlation between element content and yield as affected by treatment.

#### Fruit Set

The slow and continuous release of N from SCU during blossom, bud, and fruit development supplemented and satisfied the demand for N and may have enhanced the utilization of other required major and minor elements otherwise lacking in concentrations ideal for fruit set, growth, and development of berries. The performance of SCU-18 and SCU-40 in 1973 suggests that this combination may be the best SCU combination for cranberry fruit set (Table 2). The results in 1974 and 1975 were quite variable but a few urea and SCU treatments increased, over the check, the number of fruiting buds per unit area, length of upright, and the number of berries per upright.

#### CONCLUSION

In this study, a single application of SCU ranging from 18 to 40% dissolution rate and at a rate of 20 to 40 lb nitrogen/acre replaced multiple applications of urea economically, increased yield without causing excessive cranberry vegetative growth, and performed well when cranberry fruit set parameters were measured.

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#### Frost Damage Could Cause Lower Cranberry Crop to be Lower

The Oregon Crop and Livestock Reporting Service anticipates Oregon's 1976 cranberry crop to be 95,000 barrels, a decrease of 2 percent from last year's production level of 97,100 barrels, because some bogs had late spring frost damage. The OCLRS says, however, that "the bloom was good and berries are now sizing well, though some bogs are showing twig blight." *Western World* checked with Ocean Spray Cranberries Manager Pam McGinty who said that the 97,100 figure represents the berries grown in Clatsop County, as well as the majority of Oregon's crop which come from Bandon. "We harvested 94,280 here last year, and are expecting between 90,000 and 95,000 this year, but the crop could be down from last year because of the frost damage. Several areas have been damaged, and some won't be harvesting part of their bogs because of the damage," she added. Mrs. McGinty added that harvest should start around the first of October.

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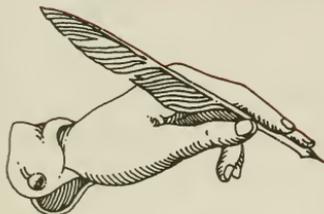
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# The 400 year old cranberry

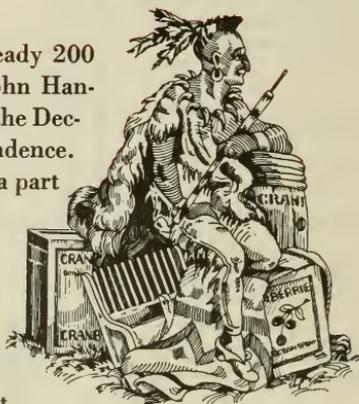


Cranberries were already 200 years old when John Hancock was signing the Declaration of Independence. They are definitely a part

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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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Vol. 42, No. 6

October, 1976

## of Horse Radish and Humility

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The civilized part of the human race in recent years has become frightened by chemicals and at times seems to wish that it could do away with them entirely. This is unfortunate for two reasons. First, it is not necessary, and, second, it is impossible.

See Page 1



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# of Horse Radish and

The civilized part of the human race in recent years has become frightened by chemicals and at times seems to wish that it could do away with them entirely. This is unfortunate for two reasons. First, it is not necessary, and, second, it is impossible.

The world is made up of chemicals, and the air above us as well as the oceans and continents around us are seething masses of chemical reactions. Happily, this has always been true, so there is nothing to be alarmed about. The human race grew tall and strong or soft and round, according to your preference, while exposed for countless centuries to all sorts of chemicals. In proper doses they do no harm and actually are necessary for a healthy human race.

Most people learn early in life—from exposure to such things as horseradish, Tabasco, and even table salt—that while a little bit of something can be very good, a whole lot can be a disaster. Not everyone learns this, to be sure, and some people have trouble all their lives with such things as alcohol, chocolate sundaes, and garlic. Nevertheless, the idea is sound, and most people agree.

However, it is astonishing how many people have trouble if they start at the end and work back to the beginning. They tend to think that if a lot of something is very bad, then even the tiniest amount must surely be a little bad and will destroy the human race in a few years.

They persistently ignore a multitude of well-known facts. The salts of copper, tin, cobalt, and even iron, in large quantities, are poisons, but every one of them, in small quantities, is necessary for healthy human life. The freshest fruits and vegetables, grown using only natural fertilizers, are filled with an astonishing array of chemicals such as hydrocarbons, ketones, esters, lactones, acids, alcohols, and

mercaptans. But despite all this, or more accurately because of it, they smell delightful, taste delicious, and are exceedingly nutritious.

Many people like a slice of onion with their hamburger, but one reason why an onion tastes like an onion is that it contains some propyl mercaptan. Garlic contains allyl mercaptan, and an oyster on the half shell has just enough methyl mercaptan in it to make it smell like an oyster. Mercaptans, in their proper place and concentration, are delightful. However, that foul odor often found near oil refineries is also largely due to a variety of mercaptans.

What would be the likely reaction of the public if a manufacturer of breakfast foods proposed to improve the taste of his products by adding small amounts of the following chemicals to them: ac-



tone, acetaldehyde, methyl butyrate, ethyl caproate, hexyl acetate, methanol, acrolein, and crotonaldehyde?

No doubt the air would be full of flying injunctions and sticky lawsuits because every one of these chemicals is a poison. Methanol, for example, is another name for wood alcohol, a deadly poison, and crotonaldehyde has been used in making "Mickey Finns." Bartenders in rough sections of town have used it in drinks to get rid of unwanted customers for many years. A tiny dose will quickly remove the customer from the bar and a larger dose will remove him permanently.

Nevertheless, all eight of the chemicals listed above are found, along with many others, in ripe

strawberries. Skeptics may question these facts but they are well documented in *Helvetica Chimica Acta* (Vol. 47, page 1215, 1964), one of the soundest and most respected scientific journals in the world.

Not only is a ripe strawberry loaded with chemicals, but it acts as a chemical reactor right while it sits on the breakfast table waiting to be eaten. The acetaldehyde is being oxidized to acetic acid, the crotonaldehyde to crotonic acid, and the methanol to formaldehyde. In fact a single strawberry may have going on in it reactions almost as complex and diverse as those going on in the atmosphere of all of Arizona. Here ozone is being formed and destroyed, nitrogen oxides are attacking the esters and ketones given off by billions of orange blossoms and trillions of cactus flowers, carbon monoxide from thousands of cars is being oxidized to carbon dioxide, and terpenes drifting in from the redwood forests of California are reacting with the ozone and oxides of sulfur blowing up from Mexico.

*Helvetica Chimica Acta*, in Volume 67, also gives an analysis of ripe raspberries, but if Volume 47 has ruined your appetite for strawberries perhaps you should not look at Volume 67. Raspberries also are good with cornflakes.

Scientists, aware of these facts and thousands of others showing that chemicals are all around us and cannot be removed, are amazed that nonscientists pay little or no attention to it all. They think the nonscientists should pour a generous helping of the sauce of humility on the recommendations which

## Humility

By Phillip J. Wingate

they offer so freely to the rest of the world.

A reasonable suggestion. But the sauce of humility is just as badly

*Continued on Page 15*

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Thomas Jefferson described good government as "wise and frugal" and that which "shall restrain men from injuring one another and shall leave them otherwise free to regulate their own pursuits of industry and improvement." Regrettably, our government has strayed from that sensible course.

An army of 100,000 regulators to be found in 11 departments, 44 agencies, and 1,240 boards, committees, and commissions of the federal government. Armed with over 6,000 official forms, they comprise, in effect, a fourth branch of government unforeseen in the Constitution. Their administrative decisions and regulations now number in the *trillions*, according to Treasury Secretary Simon. Although such rule-making affects every American it is virtually immune from scrutiny by the Executive Branch and increasingly beyond effective control of Congress.

Proponents of government regulation focus on the benefits and too seldom consider the costs. It is estimated by White House experts that regulation resulted in added costs to the nation totaling \$130 billion in 1975, which is more than \$600 for every man, woman, and child in the United States. The Government Accounting Office calculated that \$60 billion was sheer economic waste because the regulations were *defective!*

It should be remembered that regulatory costs are both inflationary and non-productive. Business must spend immense sums filling out forms and complying with government instructions—instead of using those funds for building plants and creating jobs. In addition to increased product prices, we all pay a second time for excess regulation in the form of higher taxes. Additional taxes to pay for regulatory bureaucracy reached \$4 billion in 1975—more than the total of *all* federal expenditures during

our country's first 120 years of existence.

The "benefits" of such regulatory agency activities are so often questionable. Consider, for example, the Consumer Product Safety Commission study, costing \$142,000, which reached the not-so-astonishing conclusion: "Slips and falls are by far the most frequent type of bathtub accident."

Let us assume that government regulation is well-intentioned. It is clear, nevertheless, that it has become excessive and frequently causes unintended results. Interestingly, some of the most heavily regulated industries—railroads and utilities, for example—are in the least healthy economic shape. Citibank Chairman Walter Wriston had this in mind when he cautioned the bank's lending officers, "the longer an industry has been government regulated, the worse credit risk it tends to become."

Not only has government regulation grown to a massive scale, but its growth rate is accelerating. When the *Federal Register* was first published in 1936, the listing of government regulations issued in that year required 2,411 pages. By 1970, the *Federal Register* had grown to 20,036 pages, and by 1975 it had tripled to 60,221 pages. At the same time, the complexity and verbosity of government regulation is a source of constant amazement. Consider that the Lord's Prayer contains 56 words; Lincoln's Gettysburg Address has 268 words; and the Declaration of Independence includes 1,322 words. But a government regulation on the sale of cabbages requires 26,911 words.

As government increases its presence in our lives, the private enterprise system is threatened and our individual liberties are diminished.

by Robert H. Malott  
Chairman and President  
FMC Corporation

# 1976 Cranberry Crop Still Forecast As Second Largest in U.S. Recorded History

The nation's 1976 cranberry crop at 2.3 million barrels has improved slightly from the August 15 forecast and remains the second largest crop of record, out-stripped only by 1971's total output. Increases from last year are expected in every area except the Northwest, according to the statistical reporting service of the U.S. Department of Agriculture.

In Massachusetts, harvest began early this year with Blacks 80 percent completed and Howes underway by mid-October. Blacks have shown some scald damages and are only medium sized, though quality is good. Howes have sized better and quality is reported very good. New Jersey weather has been dry, reducing berry sizes and slowing coloring. In Wisconsin, water supplies are short and there is concern over increased vulnerability to possible localized frost damage. Oregon's crop is not sizing well and coloring is late; some damages from root weevils and twig blight caused additional crop reductions. Harvest in Washington got underway at month's end. Warmer late September weather was too late to aid sizing but coloring was improved.

In spite of a UPI story on the Peninsula, cranberry production in Washington is expected to be as forecast.

Correspondent Azmi Shawa, extension agent in horticulture for the University of Washington, says the

berries look larger in general than last year.

"The berries bloomed and set all in a couple of weeks, the mild winter and favorable August temperatures and moisture combined to help produce a sounder, better keeping berry.

"In my estimation, crops should increase 10 to 15 percent."

He was quoted in local newspapers in response to UPI's quotes from the U.S.D.A. that the state's cranberry crop would decline from 135,000 barrels to 132,000 barrels.

Frank Glenn, Jr., another grower spokesman, said he agreed with Shawa. He said he expected the harvest on the Peninsula to be about 40,000 barrels and in Grayland to be about 100,000 barrels.

Mrs. Pam McGinty, who manages Ocean Spray's receiving plant in Bandon, Ore. indicated that the harvest there might be down from the 94,500 barrels recorded in 1975.

Harvesting began two weeks later than usual because of a late bloom in the Spring. Growers were likewise two weeks longer waiting for the berries to color up.

Because of that, Mrs. McGinty reported that the number of barrels delivered to her facility were down from the same period last year.

The first harvests arrived October 11, and by Tuesday, October 19, 11,462 barrels had been received. "That's 8,000 barrels less

than received for the same number of working days in 1975," she reported.

Mrs. McGinty was reported in the Bandon newspaper as saying 102 growers from the Hauser area to Port Orford contract their berries with Ocean Spray in Bandon. She said the productive acreage remains about the same although new bogs have been completed. Their yields are several years away.

In Massachusetts, harvesting started Labor Day weekend and is expected to hold to the original estimate, according to Irving De-Moranville, at the Wareham station.

"General harvest began on September 7 with some growers starting on Labor Day or even a few days earlier. This is the earliest start since the late 50's or early 60's.

"Color has been good from the beginning and berry size the largest for a long, long time. Quality has been good but not outstanding and somewhat spotty. There have been varying amounts of scald which was caused by hot, moist conditions in August.

"Early Blacks were essentially all harvested by September 25 and Howes were being harvested by late September; however, a general period of dampness in early October has slowed the pace some.

"There is general talk of light weights but this is largely due to

*Continued on Page 15*

STATE	PRODUCTION				
	1974		1975		1976 IND
	TOTAL	UTILIZED	TOTAL	UTILIZED	
	1,000 BARRELS				
MASS	932.0	932.0	785.0	785.0	950.0
N J	250.0	250.0	221.0	221.0	230.0
OREG	92.0	92.0	97.1	97.1	92.0
WASH	92.0	92.0	135.0	135.0	126.0
WIS	870.0	870.0	837.0	837.0	860.0
U S	2,236.0	2,236.0	2,075.1	2,075.1	2,258.0

# Farm Bureau Queries EPA On Point Source Pollution

The Environmental Protection Agency has ruled that discharges from water harvested cranberry bogs and other water used in cranberry production are point source pollution and thus come under EPA regulations.

Since then, the Massachusetts Farm Bureau Federation, Inc. has contacted the permit division of the New England Regional Office of EPA. An EPA spokesman says that while the regulations are in effect cranberry bogs are *in fact* under the point source regulations.

There have not yet been any rules or regulations set relative to the criteria and enforcement of

such regulations for the cranberry industry, however, as of late October. EPA had not answered some of its own questions and the Bureau preferred to let the matter rest, for the moment.

Moreover, an informal survey by the Bureau of EPA intentions in other states revealed no similar action was anticipated.

Should a cranberry grower refer to EPA on a complaint, EPA would issue a special permit containing suggestions as to how the nuisance could be abated. The permit would allow the continued operation of the bog and set the grower on

notice that he would be watched by EPA.

In a discussion of what the regulations might contain, Farm Bureau was told that EPA would probably issue a single permit to each grower rather than for each flume. EPA also stated that they would not expect the growers to be required to keep daily outfall records and carry on a procedure of constant testing. The New England Office of EPA further agreed that if and when they sat down to draw up regulations directly related to the cranberry point source licensing they would seek a grower advisory committee to work with them.

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# REGIONAL NEWS NOTES

## WASHINGTON

September maximum temperature was 83° on both the 10th and the 20th and minimum 42° on both the 7th and the 18th. Warmer than average days were the 5th, 9-11th, 19-20th, 28-29th. Cooler than average periods were 2-3rd, 6-10th, 24-25th.

Precipitation totaled 2.14 inches. There were measurable amounts on 13 days with 1.31 inches on the 13-14th the largest storm. September is the first month of 1976 below normal since four months have been normal and four above normal. The total of 56.30 inches to date is 10 inches above the 1975 total for the same period.

Fresh market harvest started at Grayland and North Beach September 23. Water harvest at Long Beach began October 6 with Joe Scaman, Norman Brateng, and the Parish bog.

## NOVA SCOTIA

The mean temperature for the month of September was very close to the 50-year average. Precipitation at 85.3 mm was also close to the 50-year average of 87.6 mm. During the first three weeks of October no serious frosts have been encountered. Growers in Nova Scotia had excellent weather for harvesting and most of the crop was off prior to our Thanksgiving, October 11, this year.

A report from the British Columbia Department of Agriculture stated the crop was ripening well and a good yield was expected.

## NEW JERSEY

September was cool and very dry. The average temperature was 65.1° F which is 2.1 degrees below

normal. Precipitation totaled 1.72 inches, 2.07 inches below the average for this month.

During the growing season (since March 1) there has been a deficiency of about seven inches of rainfall at the New Lisbon weather station. Closer to the shore in the main cranberry growing area near Chatsworth and at Whitesbog conditions have been much drier. At the end of September an acute water shortage existed in most bogs. There was not enough for both water harvesting and frost reflows and growers were in a vulnerable position. Fortunately, there have been no extremely low temperatures thus far. Only four light frosts occurred and no damage has been sustained.

A rainy period the last day in September and the first four days in early October brought about 1-1/4 inches of precipitation. This helped but small growers still do not have enough water for adequate frost protection.

## WISCONSIN

Weather continues to be a major factor in farm harvests in Wisconsin this Fall. State officials report soil moisture supplies remain 100 percent short at the end of October.

In spite of dustings of snow, which only ease the threat of forest fires, heavy rains are still needed. The early arrival of winter-like weather is doing more to hamper harvesting of the berries (ice) than anything else.

Late October weather has been more like late November weather. A low of 9 degrees was reported at Hazelhurst, Wis., on October 23.

The lack of rain has hurt most of the Wisconsin crops yet to be harvested. Rainfall for the 1976 growing season is several inches below normal. Heavy rains are

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## George Klingbeil, Wisconsin Horticulturist, Lauded on His Retirement in December

After 23 years of helping Wisconsin growers, George C. Klingbeil is retiring from the University of Wisconsin-Extension Department of Horticulture in December.

Klingbeil is noted for his leadership and organizing ability in developing a successful extension program with Wisconsin cranberry growers.

Klingbeil attributes that success to "outstanding cooperation and communication" among cranberry growers, the Wisconsin Department of Agriculture and the University community. "We have become a problem solving resource for growers," he says, "especially in difficult times like the 1959 cranberry-cancer scare, with its subsequent marketing problem, and the period of rapid growth the industry experienced during the 1960's."

Guy Gottschalk, president of the Wisconsin Cranberry Growers' Association, adds another perspective to Klingbeil's efforts. "I think

most cranberry growers would agree," he said, "that if there is any single important contribution of George to the industry it would be the Cranberry School. He started this annual three-day seminar about 10 years ago as a means of bringing the expertise of specialists in many fields to bear upon our common problems. The school has been extremely well attended each year, and has drawn interested growers from as far away as Massachusetts, Washington and Ontario."

Horticulture is in Klingbeil's blood. Born in 1918, he grew up on a general truck farm at Westfield in Marquette County. He also inherited a strong affinity for the outdoor life. His grandfather was a German forester and "jaeger," his father an avid hunter-fisherman.

Enrolled at Michigan State College after the war, Klingbeil earned a B.S. in 1949 and an M.S. in 1950, with majors in pomology and plant physiology.

### Market Report

The first cranberry market report for fresh fruit was released on September 21 from the USDA Agricultural Marketing Service under the direction of John O'Neil in Boston. This will be the 23rd 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.

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needed before the ground freezes in order to replenish soil moisture. The dry soil also makes plowing difficult if not impossible in some places. One 80-year-old veteran, who'd been farming since 1920, says he's never seen it this dry.

A Monroe cranberry grower put it succinctly, "conditions are very poor for harvest."

R.S.S.

## Mass. Cranberry Station & Field Notes

### Weather

September was cool and dry. Temperatures averaged 1.4 degrees a day below normal. Maximum temperature was 82° on the 14th and minimum 37° on the 25th. The only warmer than average days were the 13th and 14th. Cooler than average periods were the 2nd, 23-25th and 28-29th.

Rainfall totaled only 1.91 inches which is almost exactly one half of normal or 1.9 inches below normal. This is not an unusual happening as September is a month of great precipitation extremes. There was measurable rain on seven days with 0.59 inches on the 18th as the largest storm. We are 2-3/4 inches below normal for the 9-month period and 5-1/2 inches below 1975 for the same time.

by IRVING E. DEMORANVILLE  
extension cranberry specialist

# Some Ideas on Late Fall Bog Management

By IRVING E. DeMORANVILLE

The following suggestions are offered to growers for late fall management.

Woody plants such as hardhack, meadow sweet and bayberry should be pulled out after harvest. This will greatly improve the picking operation next season. 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. 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.

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.

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.

Areas with fairy rings should be treated with Sul-Po-Mag as recommended on the fertilizer chart.

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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# Windfall Strikes Maine Blueberry Growers As New European Demands Boosts Prices

Growers who cultivate blueberries on their uplands may be encouraged with the good news out of Maine this Fall.

Increased European demand for the berries have given Maine growers a new market. Four years ago, American growers had no share of the western European market, according to *The Boston Globe*.

"Today," says Hollis Wyman, "they'll take all we can provide." Wyman runs Jasper Wyman & Son of Millbridge, Maine, one of the nation's largest growers.

## Licensing Exams Held For FIFRA Compliance

Certifying examinations for the licensed use of pesticides are underway in several states, although just what farmers are being licensed for remains foggy.

The 1972 amendments to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) are effective October, 1977.

FIFRA placed responsibility for testing and administering the certification program with the individual states. Officials are anxious to get the testing completed as early as possible.

To become certified, a person must pass two exams. The first exam is general and must be passed by anyone seeking a license. It covers basic pesticide safety (storage, disposal, use of) and is based on the core manual, Pesticide Applicator Training Manual.

Depending on the type of farming, each person must pass a specialty exam at a later date.

Exams for general use of pesticides are known to have been held already in New Jersey and plans are underway in other states. Massachusetts holds its general use exams in November.

Field prices for berries have reached 30 to 34 cents per pound, the highest on record.

Several factors, according to experts, created the demand.

The Polish crop, the principal source for blueberries in Europe, has declined almost to the point of disappearing from the marketplace.

Believe it or not, new affluence in Europe has created wage scales too high for growers to pay and actual harvest was seriously reduced.

Then, too, according to one source, the improved posture of the American dollar allowed American blueberry prices to be fixed below those of European suppliers, despite freight and duty charges.

Statistically, Maine accounts for only 16 per cent of the American crop. Michigan, for instance, accounts for 28 per cent of the total. But Peter Holbine, who serves as general manager of the Michigan Blueberry Growers Assn., claims Maine had a distinct advantage when the European demand arose.

"Maine has the shortest freight line to Europe and the people in Maine moved first to take advantage of the market," he says.

The new demand has affected cold storage amounts, too, says

Amr A. Ismail, blueberry specialist for the University of Maine cooperative extension service. He reports the current cold storage figure at 9.5 million pounds, down from last year's figure of 18 million pounds. Two years ago 30 million pounds were sent to cold storage.

"People are calling from all over for blueberries this year," he reports. "The growers are having a good year. You can feel the pulse of what is happening by the kind of requests we are getting from them for information on new equipment and machinery."

The September issue of *Cranberries* reported growers were successfully using Darlington cranberry pickers to dry harvest the low-lying field berries in Maine.

Ismail has good news for growers elsewhere, too. He believes American growers could develop another "sleeping market," Japan.

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# Growers, Wives, Businessmen

Pretty girls, homespun floats and big brass bands highlighted Fall promotional activities in several cranberry growing states.

One of the biggest festivals was in Bandon, Ore., where Lynn MacDonald, daughter of Bandon police chief D. S. "Mac" MacDonald, was crowned queen of the 30th Bandon Cranberry Festival, September 24-26.

Lynn was crowned at the coronation ball Friday night. More than 1,100 people were served the next afternoon, Saturday, at an outdoor barbecue sponsored by the Bandon Lions Club.

Over 100 entries were reported in the festival parade held in Bandon Saturday morning. The parade also featured a procession of

the festival queens of the past 30 years.

Parade grand marshals were Ruth Kreutzer Cope, of Grants Pass, Ore., first queen of the festival in 1947, and Rudy Backlund, a long-time Bandon resident.

Music included the Oriental Band, the Oregon Cavemen, the Male Chauvinist Pigs marching band from Eureka, Calif., several clowns and Smokey the Bear.

Grand Champion Awards of \$100 each were awarded to the fourth grade's train float in the school division and to the local catholic church in the civic-commercial division.

A less-than-pleasing footnote was added a week later when the festival committee reported that

the event fell several thousand dollars short of balancing its budget. (During the past year, the Association donated \$2,000 out of its treasury to the Bandon Fireman's Association.)

Association President Barry Winters announced that election of new officers would be held in November and that he was hoping to see "some new people get involved with the festival."

In Wisconsin, Governor Patrick J. Lucey proclaimed October as Cranberry Month. The harvest was celebrated with a State Cranberry Festival in Warrens, October 2 and 3.

Visitors were invited to watch the harvesting on the bogs and to tour nearby processing facilities.



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1976 Bandon, Ore. Cranberry Festival Queen, Lynn MacDonald

(Western World Photo)

# Salute 1976 Cranberry Harvest

Like Bandon, a queen was chosen at the Festival Coronation Friday evening. (Name and photos of the winner had not been received by presstime.)

Saturday's events included an arts and crafts fair and a parade boasting 150 marching units. A local bank sponsored both tethered and untethered hot-air balloon rides Saturday afternoon.

The two-day arts and crafts fair featured 135 booths with exhibitors from a five-state area.

Other events of the two-day show included a cranberry bake-off and a Farmer's Market. Judging of vegetables included the largest pumpkin, tallest corn shock, the biggest ear of corn, and a sunflower seed head contest.

Tours of the Habelman Bros. bogs in Millston were run all day Saturday. The Habelmans operate one of the largest bogs in the state, about 400 acres producing some 60,000 barrels.

Ethnic folk dancing was held by various groups throughout the two days.

On Sunday morning, the Catholic Church women served a sunrise breakfast and the First Baptist Church of Warrens held an open air service on the front lawn of the Warrens Post Office.

The Washington celebration was in early September, before much of the harvesting really began. The Long Beach-Ilwaco Chamber of Commerce sponsored the event.

A three-block section of downtown Long Beach Beach was roped off for exhibitors and visitors. Most of the items displayed were from local commercial and civic organizations.

Members of the Long Beach Cranberry Club served cranberry juice and home-baked cranberry bread and cookies. They also helped conduct tours of local bogs.

Ocean Spray Cranberries, Inc., presented its Cranwagon of prod-

ucts and samples to Long Beach visitors.

In Massachusetts, Mrs. Jean Gibbs, chairman of the women's committee of the Plymouth County Farm Bureau, chaired a day-long event held Sunday, September 26, at the Weweantic and Cranebrook bogs in South Carver. The two bogs offered the day's 6,000 visitors a chance to watch both dry and wet harvesting.

By and large, wives of local growers put on the show, with help

from the Farm Bureau and Ocean Spray. The ladies packed and distributed one cup of berries and a recipe card into 1,200 bags as good will gifts. Mrs. Gibbs reported 3,200 slices of bread were also handed out.

Also included were a visit to the local Ocean Spray receiving plant and a display of antique harvesting equipment by Harold Braddock of North Carver.

The event was the third of its kind held in Massachusetts.



Grand Champion award winning float in Bandon, Ore. festival, Holy Trinity Catholic Church

(Western World Photo)

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An Illinois woman has written about a unique rural-urban exchange program, the Evanston Organic Gardener's Club.

While it is not known how far the service extends, *Cranberries* writes about it in the interest of promoting similar cooperative ventures elsewhere.

H. Lavonia Thomas says the idea of membership is to cooperate in finding new markets for products and uses for farmland, whether

## Massachusetts Man Seek U. S. Postal Stamp

Stephen S. Zagorski, a *Cranberries* reader in No. Carver, Mass., wants your help in promoting cranberries nationally.

He has written U.S. Postal authorities in Washington, D.C., seeking issuance of a stamp to commemorate cranberries. Jack Williams, manager of the philatelic information branch, stamps division, issued a flat "no" in response to Zagorski's request through the post office in North Carver.

However, as Zagorski says, "governmental agencies are moved where pressure is multitudinous."

So, if you like the idea, get busy. Write to Zagorski at P.O. Box 31, North Carver, Mass. 02355, or directly to Williams, U.S. Postal Service, Administration Group, Washington, D.C. 20260.

Issuance of new stamps takes up to two years.

woodland, pond, marsh or field. Membership is not limited to organic gardeners.

Through the Club's newsletter, homesteaders and farmers find markets in urban areas for such diverse products as ponds for fishing or skating, even land to be cultivated.

Urban homemakers in return are expected to drive out to the country to enjoy the benefits of farm product sales without shipping and storage costs. Producers are encouraged to give pricing consideration to fellow club members from the city.

For further information, write to: Evanston Organic Gardener's Club, P.O. Box 898, Evanston, Ill. 60204.

\* \* \*

Efforts of Ocean Spray Cranberries, Inc., to develop a national cranberry promotion area in the heavily-traveled Plymouth Rock area of Massachusetts has won further approval from Plymouth, Mass. officials.

In action taken in late October, the town conservation commission approved construction of a working bog outside the old waterfront clam factory on Water Street by Ocean Spray.

Arnold Tofias, who represented the cooperative at a hearing

October 18, said the bog would be a public demonstration of the growing of cranberries. Construction would begin in a few months, once final go-ahead has been given.

The town engineer claimed the plans for developing the decrepit area of waterfront were the best ever presented to him. A conservation commission member added that "anything you do down there would be an improvement."

No one appeared at the hearing to speak in opposition to the plan.

\* \* \*

With all the problems of rainfall, or lack of it, in Wisconsin this Fall, an editorial in *Western World*, the weekly newspaper in Bandon, Ore., raised the eyebrows of a *Cranberries* reporter.

Entitled, "The Case of the Missing Water," the lengthy report commented both tongue-in-cheek and out-of-cheek on the mystery.

Sometime in early September, about the time growers were getting ready for harvesting, water began disappearing from Bandon reservoirs when it shouldn't have. Stealing town water is a no-no, of course.

The town had ordered that all cranberry pumps be shut down, yet fish hatchery (salmon, another big industry in Bandon) reservoirs and city reservoirs continued "their descending ways," according to the editorialist.

A meeting among growers and city officials was cordial, but defensive.

Said one grower, "It's the city. Every week you read in the newspapers where people are moving in, new houses are going up; the city is just taking more water."



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# URE NOTES

Another grower said he thought beavers were responsible.

Another, who'd been mildly accused of the misdemeanor, retorted that the city had stolen its own water because it had pumped the steel tank full and then allowed it to overflow. "Not so," the city manager insisted, and then gave a complicated reply about rerouting water to the earth fill reservoir.

But a state water resources board member and the city manager could find no figures on hand to substantiate the charge.

Another grower put it this way: "The city is sucking up more water than there is." City officials made it clear they felt it was someone else—not them—who was to blame.

At last report, the "thieves" had not been faced with any criminal charges and evidence was waning.

The most the newspaper's editor and publisher would comment was that "someone is not telling all there is to know about it."

Go lightly, Bandon. Cranberries are important to you.

\* \* \*

In case they didn't celebrate it in your town, October 24 was UN Day in this country.

Recent comments from Dr. Kurt Waldheim, UN secretary general, suggest why anyone should care what day it is.

"We have, already twice in this century, paid the price of world war for the belief that so-called real politic was enough and for failing to persist in the effort to develop the necessary degree of international responsibility and cooperation.

"In the absence of a practical alternative, I see no choice but to try to make our international institutions and especially, the United Nations, work better."

\* \* \*

Wonder what President-elect Jimmy Carter is going to do for the cranberry growers of this nation!

'Sounds like he intends to help a lot of other folks!

## Farmers Using More Pesticides to Safeguard Investment, Crops

*(Concluded From September Issue)*

*New Crops Involved:* Farmers are also finding they can increase soybean yields by using fungicides previously used mainly on peanuts, fruits, and vegetables. And the Agriculture Department, through research conducted by state agricultural experiment stations, is trying to find ways to use existing pesticides on several hundred so-called "minor crops" for which pesticides generally are not available.

And some pesticide industry analysts believe pesticides are about to crack a large new market—the nation's 940,000,000 acres of pasture and range-land. This acreage is three times greater than the existing cropland, but less than one percent of this grazing land currently is being treated. "The economics are

promising," says Garlyn Hoffman, a weed specialist at Texas A&M University. He says ranchers can increase their cattle's weight by as much as 25 percent by feeding more grass and less weeds to their animals. The weeds, of course, would be controlled by herbicides. "We are going to see a lot more pasture land being treated in the years ahead," Mr. Hoffman says.

An ironic reason for the increased use of pesticides, farmers say, is the removal of some very effective chemicals such as DDT from the market. "The more effective pesticides have been removed by the Environmental Protection Agency," says Walter Goepfinger, Chairman of the National Corn Growers Association, "so it's taking

more of the chemicals to do the job." For example, he says, aldrin took care of 20 corn pests before it was banned by EPA as an environmental hazard, "and the substitutes control only a few insects for a much shorter time."

Some people say that pesticide use will be leveling off, because most of the nation's good farmland is in production now. Others say further increases in prices could make pesticide use less economically attractive. But few see any great diminishing in the application of pesticides, unless alternative pest management techniques are perfected and accepted by farmers.

*Continued on Page 15*

# FARMING:

## The Year 2026

By ROBERT H. TWEEDY  
Allis-Chalmers Corp.

Try to envision one huge machine running in a field of wheat that is precision planting a second crop at the same time it is harvesting. The machine could be made of new super-metals and have a computer controlled, automated operator's station with the precision of modern-day manufacturing machine tools in all its operations. It would have high productivity and would reduce unit production costs to a fraction of present expenses.

That one machine might be representative of what we may see in American agricultural equipment in the year 2026. A closer look into the crystal ball may reveal other changes for tomorrow's farmer.

During the next 50 years, a majority of farm owners and managers will have been university trained, and be very knowledgeable users of computers. For by that time, computers will probably play a leading role in farm production. Farmers should be able to tie in to computers for considerably more information than is possible today, to obtain everything from commodity marketing data to crop requirements for quantity and type of fertilizer, or the specifics of machinery investment. Planting and harvesting will be accomplished by machinery with computer-type controls. Production and inventories may be managed by a professional farm manager who can tie all the data together, and with his experience, produce far more per acre

than programs of the 1970's could possibly hope for.

And what about the family farm? Most will continue relatively unchanged. Others will be family corporations or partnerships, representing a highly integrated food production source. For some farms, this may even mean the product will be sold as packaged food such as wrapped meats, frozen vegetables or canned fruits.

A significant percentage of the field machinery needs may be filled similar to the need for processing equipment—by contract purchase of custom manufactured machinery built to order. We see some of this today in vegetable planting and harvesting machinery, such as lettuce harvesters. Contract fabrication of farm machinery may well account for a large dollar volume industry segment, concurrent with equipment built for dealer stock similar to today's tractors and implements.

This equipment will have very high reliability, minimum daily service needs, very high productivity, higher operating speeds, a high level of operator comfort and convenience, be built of stronger and more resilient materials, have more sophisticated engineering designs compared to today and probably average 400 to 500 horsepower per unit.

There will be an increase in large farms, completing the trend that is already underway. There will also

probably be increased use around the world of synthetic meats and animal products, increased relative consumption of crop products compared to animal products, greater dependency on farm chemicals, rigid control of farm pollution, routine control of water and soil erosion, protective coverings over fields for complete environmental control, climate control, harvesting protein from green plants, concentrated farming of non-traditional agriculture products such as fish and single cell organisms, and three crops per year on many farms.

This all does not mean the end of agriculture as we know it today. There could be two distinct groups of farmers. One may be the integrated large farm described above. The other probably will be the farms that grew out of the smaller farms we know today or resulted from the exodus of city people to farm areas. This latter group will be composed primarily of those farmers who enjoy farming as a way of life and farm to be close to the land.

In reality, farming and the agricultural community will not have changed that much. The seeds for what is to come are already sprouting around us. The farm of 2026 only awaits the time to grow and mature into a highly intensified and sophisticated complex that many farmers have been working toward, consciously or unconsciously, for quite some time.

## 1976 CROP

*Continued from Page 4*

the big berries. My personal hunch is that the crop will probably hold to the original estimate," DeMoranville concluded.

In spite of the long drought, the Wisconsin crop should be more abundant.

The biggest problem will be getting sufficient water into the bogs to wet harvest and to protect from freezing weather.

"Fresh Wisconsin cranberries are appearing in markets throughout the state, signalling the beginning of the 1976 harvest which is expected to total 860,000 barrels."

So says John Polich, marketing specialist with the Wisconsin Department of Agriculture, who points out that Wisconsin is expected to produce about 38% of the nation's cranberries this year, ranking second to Massachusetts. "With a large carry-over, and the anticipated abundant crop, supplies for the consumer should be adequate," he says, adding that prices to consumers should be about the same as last year, with a possible slight increase due to inflation.

The annual cranberry harvest is now in progress on about 7,000 acres in the northern half of the state and is expected to be completed in October.

## FIFRA

*Continued from Page 9*

A spokesman at the cranberry experiment station in Wareham, Mass., said that he expected specific exams for Massachusetts growers would be held late this year or early next year.

Similar procedures are expected to be adopted throughout the cranberry growing states.

Ultimate responsibility for itemizing a list of restricted pesticides rests with the Environmental Protection Agency, which was created at the same time as the FIFRA legislation. EPA has yet to publish its list.

Each state is likewise required to generate a list of restricted pesticides, not less than the EPA list. Few have. Rhode Island is known to have listed nicotine, paraquat, guthion, 2-4-5-T, vapam, and metasytox. Massachusetts is expected to include these also, according to one source. Sevin and diazinon may also be included.

## FARMERS USING MORE PESTICIDES

*Continued from Page 13*

Farmers are also finding they can increase soybean yields by using fungicides previously used mainly on peanuts, fruits, and vegetables. And the Agriculture Department, through research conducted by state agricultural experiment stations, is trying to find ways to use existing pesticides on several hundred so-called "minor crops" for which pesticides generally are not available.

And some pesticide industry analysts believe pesticides are about to crack a large new market—the nation's 940,000 acres of pasture and rangeland. This acreage is three times greater than the existing cropland, but less than one percent of this grazing land currently is being treated. "The economics are promising," says Garlyn Hoffman, a weed specialist at Texas A&M University. He says ranchers can increase their cattle's weight by as much as 25 percent by feeding more grass and less weeds to their animals. The weeds, of course, would be controlled by herbicides. "We are going to see a lot more pasture land being treated in the years ahead," Mr. Hoffman says.

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## HORSERADISH

*Continued from Page 1*

needed by the scientists who almost never learn, soon enough, all the hazards associated with the products they make and handle. Things which chemists thought to be perfectly harmless a few years ago, such as vinyl chloride and beta propiolactone, have been found to be carcinogenic. While it is neither necessary nor possible to have zero exposure to chemicals, it is wise to handle them with a degree of caution proportionate to our ignorance—which is often great.

So give us a little horseradish, please, to pep things up, but don't overdo it because there is quite a bit of allyl isothiocyanate in horseradish. We do not know all the hazards which may be associated with allyl isothiocyanate, but we do know that if you put a spoonful of pure, freshly ground horseradish in your mouth all at once, you probably will be cautious with allyl isothiocyanate the rest of your life.

*(Reprinted from Du Pont Context  
Vol. 5 No. 2 1976)*

Dr. Phillip J. Wingate, a research chemist, is vice president and general manager of the Photo Products Department of the DuPont Company.



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# Fresh Cranberry Preserves Make Thoughtful Presents

With fresh cranberries crimson-ripe and abundant, consider the variety of ways one can preserve this piquant fruit. Beyond that, homemade preserves make splendidly thoughtful gifts at holiday time.

Here are a number of ideas for preserving cranberries. All are easy to do, and each will carry that special, country kitchen goodness that only you can create at home. Every one will be worthy for you to boast about. And, if you do give some as presents, wrap them gaily and attach your "secret" recipe along with your season's greetings.

"Cranberry Mincemeat Cake" is a decidedly tasteful creation made in a mold. The ingredients combine quickly and baking time takes only an hour. After it's cooled simply wrap well and store in a cool, dry place. The flavor essence of this cake mellows with aging, and will be simply delicious when you're ready to serve it.

The delights of old-fashioned cooking know-how are truly found in "Mini Berry Steamed Puddings." Rather than one large pudding, these are made in individual cup-size molds and then steam baked. Bake a quantity, and serve some to your family that evening. The remainder can be wrapped and placed in your freezer. Whenever you plan to serve them again, simply thaw and steam for thirty minutes. As with the cake, these are even more flavorsome when kept in reserve for some time.

Both pretty, pink "Cranberry Hard Sauce" or "Candied Cranberries" are perfect toppings for both the cranberry cake and steamed puddings. It's a snap to prepare the hard sauce days ahead of time by blending confectioners' sugar, butter, rum flavoring and fresh cranberries. Make a large amount and keep it refrigerated. "Candied Cranberries" can also be made ahead of time and reheated.



Fresh cranberries are plump, ripe and raring to be preserved in a variety of ways such as in cranberry mincemeat cake, mini berry steamed puddings, cranberry wine jelly and cranberry fruitful conserve. Make a quantity of each as they are truly perfect for Christmas gifts.



**CRANBERRY  
HARD SAUCE**  
(Makes about 3 cups)

- 1 pound confectioners' sugar
- ½ pound sweet butter, softened
- 1 tablespoon rum flavoring
- ½ cup fresh or frozen-fresh cranberries, coarsely chopped

In a bowl, mix confectioners' sugar with sweet butter, rum flavoring and cranberries. Chill until ready to serve. May be made several days ahead and refrigerated.

**CRANBERRY  
MINCEMEAT CAKE**  
(Makes 1, 1½ qt. mold)

- ½ cup butter or margarine
- 1½ cups sugar
- 3 eggs
- ¾ cup milk
- 1½ cups prepared mincemeat
- 1½ cups fresh or frozen-fresh cranberries, rinsed and drained
- 3 cups unsifted all-purpose flour
- 2 teaspoons baking powder
- 1 teaspoon baking soda
- 1 teaspoon salt

In a bowl, cream butter until fluffy. Beat in sugar and eggs. Stir in milk, mincemeat and cranberries. Stir in remaining ingredients. Stir until well blended. Spoon dough into a greased and floured 1½-quart mold. Bake in a preheated moderate oven (350° F.) for 1 hour or 1 hour and 20 minutes or until firm to the touch in the center. Cool in pan 5 minutes, tap to loosen and unmold on a rack. Cool thoroughly. Wrap and store in a cool dry place until needed.

**MINI BERRY  
STEAMED PUDDINGS**  
(Makes 10, 1-cup molds)

- 2 cups ground suet (8 ounces)
- 1 cup chopped nuts
- 2 cups fresh or frozen-fresh cranberries, rinsed and drained
- 3 cups unsifted all-purpose flour
- 3 teaspoons baking powder
- 2 teaspoons baking soda
- 2 teaspoons cinnamon
- 1 teaspoon each cloves and nutmeg
- 2 eggs
- 1½ cups milk
- 1½ cups molasses
- Top with hard sauce or candied cranberries for garnish

**CANDIED CRANBERRIES**  
(Makes 1½ cups)

- 2 cups fresh or frozen-fresh cranberries, rinsed and drained
- 1 cup granulated sugar
- ¼ teaspoon ground cinnamon
- Dash of ground cloves

Preheat oven to 350° F. Spread cranberries in a single layer in a shallow baking pan. Combine sugar and spices; sprinkle mixture evenly over the top of the cranberries. Cover with foil or a lid and bake in a moderate oven (350° F.) for 40 to 50 minutes. Shake pan occasionally to coat berries in sugar syrup. Chill before serving.



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# New Products In Agriculture

A biodegradable plastic material called Polutrol®, patented by Dr. David W. Young, Chicago, Ill., has been licensed to Elco Chemicals, Inc., Park Forest South, Ill., the Young organization has announced. The new material is used in agricultural mulch films, foodstuff-pharmaceutical-feeds packaging, disposable sandwich and food bags, grocery and garbage bags.

Polutrol is a biodegradable plastic material involving alpha polyolefin compositions containing a mixture of para-alkanolamine phenols. The patent describes the product, as "a composition containing an a-olefin polymer and a plurality of para-alkanoylamino-phenols which exhibits enhanced degradation, particularly biodegradation, of the composition.

The composition remains stable over a substantial period of time under normal storage conditions and is not unduly sensitive to degradation merely due to the presence of ultraviolet light.

A booklet describing the film, its specifications, characteristics, analysis and applications, is available upon written request to Elco Chemicals, Inc.



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One Sonitron unit plugged in to standard 110-115 volt 60 cycle outlet will cover a room about 50 feet by 60 feet. Multiple units are used for larger areas.

The Sonitron is used indoors and outdoors wherever rats, mice or other rodents are a problem, including food processing and packaging plants, grain and feed production and storage facilities, crops, livestock and poultry.

A new 38 in. heavy duty tiller has been announced by the Simplicity Manufacturing Co. for use on tractors in the 13 to 16 hp range.

The tiller's primary use is for heavy duty commercial applications although gardeners with a half acre or more of land under tillage will find it appropriate.

Simplicity also offers a 48 in. tiller for its 9020 Series 19½ hp garden tractor. Many design details and mechanical components from the 48 in. product have been incorporated in the new model, including tines, tine plates, the center tube on which tines are mounted, side plates and gear box.

Northeast Implement of Walpole, New Hampshire has introduced a winch that provides a solution to the old problem of getting stuck machinery out of the mud.

When a machine gets stuck, one usually attempts to pull it out with another tractor. If there still is no traction, the farmer is faced with the fact that he now has two machines stuck.

By mounting a Farmi winch on the 3-point linkage, the farmer is no longer dependent on the wheel traction. When the 3-point hitch is lowered, the rescue tractor is anchored to the ground by two stabilizer legs which are a part of the winch.

The winch design assumes that during the harvest season only smaller tractors are free for rescue work. The winch gears down the power from the PTO, enabling tractors from 30 HP up to power the winch.

The cable reaches 165 feet and in a pinch an additional 50 feet will find space on the winch drum. Pulling capacity varies with the winch model chosen from 6600 lbs. to 20,000 lbs.

The winch is operated from either the driver's seat or from the side of the unit.

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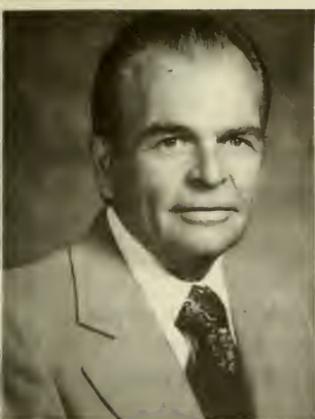
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OCEAN SPRAY NAMES  
W. A. HEPPNER TO V.P.

Ocean Spray Cranberries, Inc., has announced the promotion of Walter A. Heppner to vice president—operations, reporting to President Harold Thorkilsen.

Most recently director—area management, Mr. Heppner will continue overall management of Ocean Spray plants in the U.S. while assuming responsibility for engineering, quality control, purchasing, and standards, planning and distribution departments.

Mr. Heppner joined Ocean Spray in 1970 as area manager—midwest. Previously located in Kenosha, Wisconsin, he will now be headquartered at corporate offices in Hanson, Massachusetts.

Prior to his affiliation with Ocean Spray, Mr. Heppner held managerial positions in the food industry with the Pacific Cracker Company, and Fairmont Foods, Inc., of California. In his new post, he will be replacing Andre Endresen, Jr., former vice president—operations, who has been appointed senior vice president—corporate planning and business development at Ocean Spray.

Mr. Heppner attended the City College of New York. He recently served consecutive terms as president of the Kenosha Area Chamber of Commerce, and for the past several years was involved in many civic activities, both charitable and organizational.



## Thanksgiving...brought to you for more than 300 years by American agriculture.

Thanksgiving means seeing friends and relatives...having a good time. And the most tangible part of Thanksgiving—*food*. After all, *bountiful harvests* and the *blessings of food and shelter* were the very inspiration of the first Thanksgiving over 300 years ago. □ Today Thanksgiving is a time to thank *everyone* associated with the marketing and processing of food and fiber...farmers, ranchers, teachers, ag scientists, and others. □ PCA encourages *everyone* to be thankful for this land of plenty.



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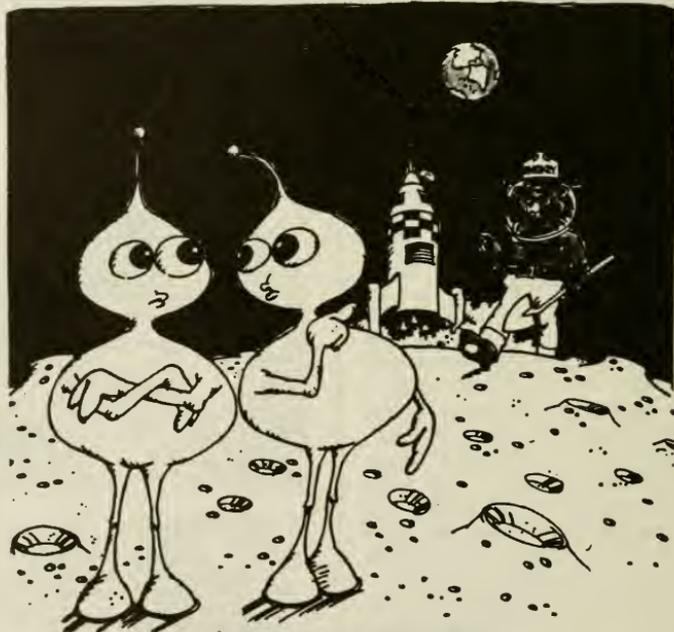
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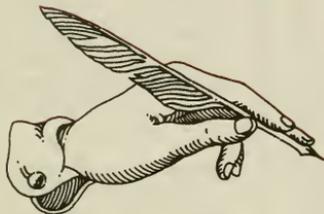
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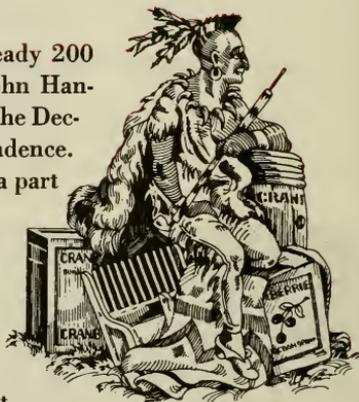


# The 400 year old cranberry



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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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Vol. 42, No. 7

November, 1976

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Tradition says 'tis the season to be jolly and that it is. It's also the season to be some other things, like thankful for the season past and hopeful for the seasons to come.

Growers can savor the beauty of the 1976 crop as the most bountiful ever. There's little lull in bog management, though, as one turns to the price of sand or the price of herbicides, and even to a closer look at the more productive use of uplands.

Or one can wonder what government regulation will produce next, whether boon or bane. Can there be any profit to this idea of cranberries for red dyes? Can tax reform benefit farmers, or the self-employed? Some answers are suggested within.

And from within these pages *Cranberries* extends to growers, to cooperatives and merchandisers, to vendors and suppliers, advertisers and subscribers, research scientists and extension services, and to all our readers, the merriest of holidays and fondest best wishes for continued success and prosperity in 1977.

*from the editor's desk*



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# 1976 Crop Sets Record 2,377,000 Barrels; Wisconsin Tops All States with 980,000

It's official: the 1976 crop has set an all-time record estimated at 2,377,000 barrels of cranberries.

The new high exceeded expectations and is about a 15 per cent increase in production over the 1975 figure of 2,075,100 barrels reported.

The USDA's crop reporting service had projected just under 2.3 million barrels on August 15 while a poll of the cranberry marketing committee membership at its annual meeting in late August had come up with a figure of 2,252,000 bbls. The market committee's official estimate was 2,293,000 bbls.

Prices were holding at \$6.50 and \$7.00 per carton of 24 bags.

The table adjoining this story shows a breakdown by state of the estimated crop harvests.

The jump in crop estimates by the USDA is due to improvement in New Jersey and Wisconsin, which more than offset declines in other states.

The New Jersey and Wisconsin figures of 265,000 and 980,000 respectively were records for those states. The Wisconsin crop would be 100,000 bbls. higher than anticipated. New Jersey was up 10,000.

Washington and Oregon were slightly off the estimates. In Massachusetts, the report of 950,000 bbls. was about as estimated. A good showing by Howes offset

some scald losses to Early Blacks. Some losses were possibly due to early arrival of cold weather.

On November 12th the New Jersey Crop Reporting Service made another upward revision of the estimate of cranberry production for New Jersey. On this date it estimated the crop would be 265,000 barrels. This is a new record high for the state exceeding the previous record of 250,000 in 1974. Many growers had yields exceeding 100 barrels per acre and several produced their highest volume ever. It is expected that the final figures should be close to 270,000 barrels.

Decreases in Oregon were attributed to late frost and some twig blight, while in Washington, sizes were somewhat below average.

The long drought in Wisconsin did not have the impact on harvesting as was expected and the state wound up with a crop 14 per cent higher than projected.

Canadian production was projected to be in excess of 130,000 barrels.

The previous high in yields was 1971 when the industry reported a harvest of 2,265,000 bbls. The 1974 harvest reached 2,236,000 bbls.

Crop records have been kept since 1928, according to Byron S. Peterson, agricultural statistician in charge of the USDA's Boston office of the statistical reporting service.

Prices were about the same as 1975, with Howes getting close to \$7 per carton of 24 one-pound film bags.

STATE	PRODUCTION				1976 IND
	1974		1975		
	TOTAL	UTILIZED	TOTAL	UTILIZED	
	1,000 BARRELS				
MASS	932.0	932.0	785.0	785.0	940.0
N J	250.0	250.0	221.0	221.0	265.0
OREG	92.0	92.0	97.1	97.1	87.0
WASH	92.0	92.0	135.0	135.0	105.0
WIS	870.0	870.0	837.0	837.0	980.0
U S	2,236.0	2,236.0	2,075.1	2,075.1	2,377.0

## USDA Regulatory Advisory Committee Reviewing Fruit, Vegetable Marketing Orders

"Where do we go from here with federal marketing orders?" was the main question posed to the Advisory Committee on Regulatory Programs meeting at the U.S. Department of Agriculture (USDA) October 20-21, 1976.

Committee Chairman Richard L. Feltner, USDA assistant secretary for marketing and consumer services, moderated the first day's session of prepared statements on marketing orders for fruits and vegetables.

Feltner directed the Committee to look at the marketing orders to see where USDA was doing things

that are obsolete; where a need for a marketing order may no longer exist; where details could be eliminated, and where there may be a better way of providing the same service for producers, handlers, and consumers.

Committee members were given an overview of the fruit and vegetable marketing orders. Representatives of three federal market order administrative groups described functions of their particular marketing orders.

Flow to market regulation, grade and size controls, and reserve pool systems were illustrated through



Continued on Page 11

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## Farmers Now Eligible For SBA Loan Program

The Small Business Administration (SBA) has spelled out some of the purposes for which it will lend money to farmers under legislation passed in the last session of Congress.

Farmers previously had been excluded from eligibility for SBA loans.

Loans, whether guaranteed or direct, can be extended for land acquisition, reconstruction or renovation of facilities, water and irrigation systems, purchase of feed, livestock and equipment, and operating expenses.

Loans are also available to farmers who have suffered economic setbacks due to federal action; to comply with the Federal Water Pollution Control Act; and to farmers in disaster areas.

To be eligible, a farmer's total sales from crops must be less than \$275,000. SBA can loan only to those who are unable to obtain financing elsewhere.

Normally, the SBA loan is a guaranteed loan of up to 90 per cent of what a farmer requests from any of several kinds of lending institutions. The maximum is \$350,000.

Guaranteed loans for current operating expenses generally mature in one year, based on projected cash flow. The cooperating lender, or bank, will usually establish repayment amounts to coincide with selling dates of crop or livestock.

Maturity for equipment, improvements, fences, irrigation, and so forth, can be as long as 10 years; for land acquisition, up to 20 years. Interest for guaranteed loans is currently a maximum of 10 per cent.

Loans are made on the basis of an analysis of detailed budgets, cashflow, and demonstrated know-how and managerial ability. According to an SBA spokesman, the agency is looking for a "reason-



Thanksgiving in Plymouth, Mass., included, l. to r., Stephen Green, contest winner, and his parents; William B. Stearns, Jr., and his wife, Martha; and Mark Green.

## English Boy and Parents Guests of Mass. Grower

Thanksgiving in America wasn't just as he'd imagined it but it was worth trying to draw a picture of it just to find out.

For his efforts, a 13-year-old English boy and his brother and parents were the Thanksgiving dinner guests of the William Stearns family, Plymouth, Mass., growers.

The lucky winner of a contest co-sponsored by Ocean Spray, the British Turkey Foundation, and the London Daily Mirror, was Stephen Green, of Weston-super-Mare, England.

Stephen entered the art contest through the Mirror. He won with a painting in acrylic of a "typical American family Thanksgiving scene." According to Bill Stearns' wife, Martha, his drawing was of a rather "formal" situation in a "great, big hall," and not what she referred to as a typical "family" Thanksgiving.

Mrs. Stearns said she understood Stephen won the contest because art critics said his painting had "dimension."

Cranberries, of course, were on the menu at the Stearns' family

Thanksgiving. Martha prepared and served them as sauce, relish, and cranberry-orange pie.

More than 20 people sat around the table in the Stearns' pleasant, Warren Ave. home. Bill Jr. and Martha; Bill's sisters and their families; his two sons; Stephen and his brother, Mark, 9, and their parents, David and Valeri Green.

Earlier in the day, the Green family joined in Plymouth's traditional "Pilgrim's Progress" to commemorate the hardships of the first winter in the New World. They also participated in the town's dedication, telecast later that day on NBC Today, of a statue of William Bradford, first governor of the Plymouth Colony.

During his stay, Stephen and his family visited New York City and Boston, where he was welcomed by Massachusetts Governor Michael S. Dukakis.

At the conclusion of his tour Steve said, "American Thanksgivings are super. I wish we had a holiday just like it in England. It was just great. I shall never forget it."



# editorial

One of the first things a new person in a job wants to do is to change everything in sight.

Perhaps it's already apparent that there are some changes taking place in *Cranberries*, under its new editor. We hope so, because the changes have been made with the sole objective of making the monthly magazine a more useful communications vehicle between all elements of the cranberry industry. As time goes on, it should be apparent that the magazine is a forum for fact and opinions.

Which also says that if you aren't reading *Cranberries* regularly, you should be. You should have your own subscription, in fact. But what's more important is that you make a contribution to the magazine's effectiveness by passing what you know that others should know. All editorial and photographic contributions are welcome, whether it be technique, research, economics, personalities, advice, gripes or whatever. Clear, black-and-white photographs of people are especially useful to others. Even ideas are welcome. We'll do our best to follow up on them, if they are in the interests of the widest possible segment of the *Cranberries* readership.

*Cranberries*, on the other hand, will try to present a balanced blend of news and feature stories. Editorially, our intent is to remain neutral as much as possible, unless it's painfully obvious to all in the industry that an injustice has been done or a hoax perpetrated. On those occasions, the magazine will take a stand, and welcome your outspoken criticism as well.

Looking ahead, *Cranberries* will be especially interested in reporting new applications and markets for cranberries. Just as growth will be our most important product, in order to operate at a profit as any other business, *Cranberries* will watch the industry at large as it strives to continue profitable operations.

Close to the New Year, perhaps our best expression can be one of best wishes for continued success to us all.

R.S.S.

## CRANBERRIES

THE NATIONAL CRANBERRY  
MAGAZINE

— Our 39th Year of Publication —

NOVEMBER 1976  
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R. S. Sexton . . . editor

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# REGIONAL NEWS NOTES

## NEW JERSEY

October was very cold and wet. The average temperature, 52.1 degrees F, was the second coldest for October in 47 years of operation of the Pemberton weather station. There were eight days during which the temperature went down to the twenties in the weather shelter. This is the most of such unusually cold days ever recorded at this location in October.

On cranberry bogs, growers were troubled with one of the most severe spells of frosty nights ever experienced. There were frosts on 15 nights, all from October 11 to October 31, when it failed to go below freezing on only five nights. On October 19, Whitesbog had a temperature of 8-1/2 degrees F, one of the coldest ever recorded during harvest season. There were also

readings of 12, 14, 14-1/2, 16, 18, 19 and 20 degrees F.

A shortage of water for harvesting and frost reflows existed throughout most of the month. This was relieved by copious rains after October 20, which unfortunately, came too late for some small growers who suffered appreciable losses.

The total for the month was 6.16 inches, just double the normal amount of 3.08. The accumulated rainfall for the first nine months of the year now stands at 35.80, a inch below the norm for the period.

Despite the severe frosts and the lack of water, an excellent crop of cranberries was harvested in New Jersey.

The crop reporting service has increased the New Jersey estimate from 220,000 to 230,000 barrels. Some large and small growers had record crops in terms of yield per

acre. Lack of size of berries and some spring and autumn frosts probably prevented the state from producing its largest crop ever. Fungus fruit rots and insect damage were much less prevalent than normal and the pollinating season was very favorable. All that was lacking was sufficient rainfall during the growing season.

P. E. M.

## NOVA SCOTIA

We have experienced reasonably good weather up to the middle of November. The mean temperature for the month of October was slightly below the fifty-year average while precipitation at 146.6 mm was considerably above the fifty-year average of 98.3 mm. Growers report that all fruit was harvested

*Continued on Page 14*

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# Of Fungicides, Herbicides and Rejuvenation

Late Fall and into December is a good time to start fungicide treatment, according to Azmi Y. Shawa, county extension agent at Washington State University and a *Cranberries* correspondent.

Writing in his newsletter, "Cranberry Vine," Shawa says liquid lime sulfur applied at the rate of 6 gallons per 100 gallons of water, or 18 gallons per acre, should be applied to bogs infected with fungus disease. He adds that such a dormant spray should not be applied prior to a "frosty" night.

Shawa divides the use of fungicides into two categories. The first is a "maintenance" use, applied to a healthy bog during vegetative initiation and fruit development. This protects vines from new fungus infestation.

The second is "extensive" use, for bogs infected with a fungus disease. Application of fungicide is required prior to and beyond the maintenance period indicated above.

Managed wisely, herbicides are

the most effective and economical way to control weeds, constant companions to cranberry vines, says Shawa.

Pulling, application of paint thinner or whatever, and herbicide use will not eradicate the problem. Weeds infest bogs when the seeds are blown by the wind, carried by birds, or moved by water.

Herbicides are used as a cure and not for protection.

"Don't let a few weeds in your bog irritate you," Shawa says. "You can live with a few without any significant reduction in production." Applying herbicides for a few weeds may not justify the expense, and may in the process cause injury or retardation.

What threat do weeds pose?

"Weeds compete for soil moisture and nutrition, and shade vines from sunlight and air needed for vine growth and fruit development. Extra dampness (that can result) may create the perfect medium for fungus infestation. Weed bloom can attract pollinators and reduce cran-

berry blossom fertilization.

At harvest, weeds hinder cleaning and sorting operations.

For control of weeds, post-harvest, Shawa recommends the following, without endorsement of any trade names used.

For tussock, cutgrass, and cottontop, a mixture of 10 lbs. of Dalapon and Simazine, 2 lbs. W.P.A.

For bentgrass, annual and other perennial grasses, 100 lbs. CIPC (chlorpropham).

Sheep sorral (sourgrass), 100 lbs. Evital/A.

Buttercup, 100 lbs. Morcran/A.

Lily of the Valley, changing ph one unit by applying 8,000 lbs. lime or 1,500 lbs. sulfur/A.

Shawa notes that lime, in tests, has enhanced other weed growth while sulfur has not. Further testing of ph-changing chemicals is expected.

He concludes by suggesting that growers spot-treat infested areas when possible. To reduce costs and hazard to crops, select the best herbicides or mixtures for your specific problem.

"Rejuvenating declining bogs is as essential as the extra fungicides. This can be accomplished by sanding, up to one inch thick or enough sand to cover vines.

"New roots and vines will be initiated. Over a period of time vines will recover and areas will be on the production up-swing."

\*\*\*\*\*

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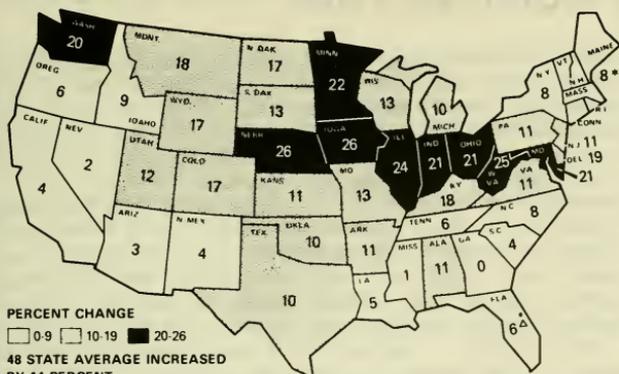
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## PERCENT CHANGE IN AVERAGE VALUE OF FARM REAL ESTATE PER ACRE

MARCH 1975 — FEBRUARY 1976



BASED ON INDEX NUMBERS OF AVERAGE VALUE PER ACRE \* AVERAGE INCREASE FOR MAINE NEW HAMPSHIRE VERMONT MASSACHUSETTS RHODE ISLAND AND CONNECTICUT Δ AVERAGE OF THE PERCENTAGE CHANGE IN GEORGIA AND ALABAMA INDEX K VALUES

- Need for enlarging farm units
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What's ahead for our farm real estate largely depends on U.S. crop production and export demand. Current projections call for another large crop this year in the midst of a generally favorable income situation. If worldwide crop prospects diminish, however, a subsequent upsurge in export demand could put an upward pressure on crop prices, incomes, and land values.

Certain recent developments, though, already give cause for a relatively optimistic outlook.

For example, inquiries for farm tracts are up since a year ago, indicating steady to higher market activity throughout 1976.

Part of the reason for the growing number of inquiries: prospective buyers are encouraged by a feeling of increased credit availability

Reprinted from October, 1976 issue of *Agricultural Situation*

## Farmland Values Still Growing

In the market for more farmland? If so, be prepared to dole out an extra 14 percent or so this year to meet rising land costs. Between March 1, 1975, and February 1, 1976, the average value of an acre of U.S. farmland climbed almost \$50 to \$403.

Spiraling land prices aren't a new phenomenon. USDA economists note that over the last five years, land values nationwide have doubled. However, economists now look for a slowdown in rising land values, projected at 8 to 10 percent in the year ending February 1977.

For the year ended February 1, 1976, the Corn Belt and northern Plains States led the advance in soaring land costs. Sharing the No. 1 spot, Iowa and Nebraska both logged increases of more than a fourth.

Minnesota led cranberry-producing states with an average increase of 22 percent, followed closely by Washington with 20 percent. New Jersey averaged 11 percent while Massachusetts averaged eight percent and Oregon, six. Canadian figures were not available.

A similar article in the September issue of *Cranberries* pointed to spiraling taxes on farmlands. Strangely, tax increases appeared

less in those states where land values increased most, and conversely.

In the total picture, value of farm real estate rose \$51 billion in the 11-month period to \$421 billion. Farm buildings accounted for \$72 billion of the total.

Farm land values have increased so much in Oklahoma that two economists there say that farmland has been a better investment than stocks over the past 15 years, according to a UPI dispatch.

The average prices for Oklahoma farmland, says a recently completed study, in 1975 were 3.7 times the 1960 average.

A comparison showed an annual appreciation of 18 percent on the original investment of farmland during the period, compared with 4.2 percent for industrial stock and a loss of .8 percent for public utility stock.

Economists Cecil Maynard and Houston Ward say the fundamental reasons for the increases of farmland in Oklahoma, at least—were:

- New lands are no longer available
- Competition from nonfarm uses of land
- Land as a hedge against inflation

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## Cutting, Burning Wood for Fuel

The cutting and removal of selected trees for fuelwood can enhance the overall vigor and productiveness of any wooded area, say forestry experts.

And early winter is a time when growers can give more thought to upland management than most other times of the year.

At the same time, indiscriminate cutting of woodlands for fuel, even in an energy crisis, is one of the worst things that could happen. Cutting of any timber product, including fuelwood, should be conducted on a scientific basis with full knowledge of the silvicultural practices that will result in a sustained crop, if woodlands are to be renewable and productive.

Final crops of high value saw timber will develop in woodlands if dead and defective trees are thinned out for fireplace and fuelwood.

Trees chosen for fuelwood should be crooked or dead trees;

diseased and fire-scarred trees; large, crowned "wolf" trees; low to medium value trees for saw timber markets; and trees where the stand is too thick and greater spacing will enhance growing conditions for remaining trees.

Trees to be saved should be straight and sound; more valuable timber trees; thrifty trees with vigorous crowns; and sufficient trees to form a well-stocked stand.

Wood should be seasoned in order to get maximum fuel value.

Good air circulation is important. Wood dries rapidly in May and June naturally, but may absorb moisture from summer rains, drying out again in the fall.

Wood stored in an open shed will be protected from rain and snow. Wood piled in the open can be protected by tar paper or plastic covering.

Seasoning time for different species of wood vary. Experts say

that wood seasoned for 12 months will give 100 per cent of its fuel value; seasoned six months, only 90 per cent of its full fuel value; and green wood, only 63 per cent of its fuel value.

One can estimate the number of cords (4 by 4 by 8 feet) of wood that will be cut from a stand of trees. It will take 50 trees, four inches in diameter at shoulder height, to produce a standard cord of wood. It takes 20 six-inch trees; nine eight-inch trees; six ten-inch trees; or four twelve-inch trees to make a full cord.

Because of the energy crunch, wood has become an important source of fuel, and can be compared for its fuel value to other energy sources.

For instance, a cord of dry hardwood of mixed species weighs two tons and equals a ton of coal or 160 to 170 gallons of fuel oil.

Hardwoods, of course, are of superior heating value. A cord of hickory, for instance, provides the equivalent of 1.36 tons of coal, or 191 gallons of oil. White pine, on the other hand, is estimated to equal the fuel value of .67 tons of coal or 94 gallons of oil.

The figures are from a Cornell University study.

Safety precautions, of course, should be paramount in cutting and clearing woodlots.

Carry saws and axes by handles only. Wear appropriate clothing, like tight-fitting clothing and heavy boots with non-skid soles.

Inspect carefully each tree to be cut. Look for loose or rotten limbs. One cannot hear a rotten limb crack when a power saw is operating.

Be sure you know which direction a tree is going to fall and plan your felling cut accordingly.

*from the department of forestry  
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# Wareham, Mass., Scientist Says Devrinol Effectively Controls Cutgrass, Nutsedge

Experimental Devrinol may be the long-sought selective herbicide to control nutsedge and cutgrass, according to scientists at the East Wareham, Mass., experimental station.

According to the *Old Colony Memorial*, a weekly newspaper in Plymouth, Mass., Dr. Robert M. Devlin and his colleagues at the station have been conducting experiments with the herbicide over the past few years. The new chemical has been shown not to affect cranberry plant growth and not to affect berry color and ability to gel.

In the test area of Southeastern Massachusetts, nutsedge and cutgrass are said to infest about 80 percent of the bogs and can reduce yield in the area by as much as 20 percent.

Rampant growth of nutsedge and cutgrass can thin out vines to the point where bog production is insufficient for commercial use.

At the point where berries begin to increase in size and color, cutgrass and nutsedge grow tall and abundant enough to successfully compete with vines for light, water and food. The result is usually smaller, poor-quality colored berries.

Dichlorbenil and Mocran, the traditional herbicide used to combat the weeds, are of questionable value. Both are known to suppress the weed growth but only for a period of about three months or so into the growing season, or some time in late July. Dichlorbenil is also known to inhibit growth and root development of cranberries.

In the tests, Devrinol was shown to control nutsedge and cutgrass for the entire growing season and seems to have no effect on growth of the vines or berries.

Dr. Devlin says that Devrinol is also thought to be environmentally safe. He says that besides its exclusivity of control on cutgrass and nutsedge, it seems to be almost nontoxic to animals.

Devrinol is manufactured by Stauffer Chemical Company, which recently applied to the Environmental Protection Agency for registration of Devrinol on cranberry bogs. Dr. Devlin expressed hope that Devrinol would be approved for use next spring.

"If federal registration can be obtained for use of this herbicide on cranberry bogs, the benefit to growers will be considerable," he says.

Dr. Devlin is a professor of plant physiology at the University of Massachusetts, assigned to the Wareham experimental station.

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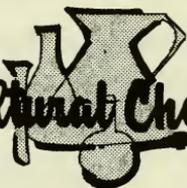
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An Illinois farmer likes to give credit where credit is due. He has so much faith in the idea that the sign as you enter his prize dairy farm reads, "All we have we owe to udders."

\* \* \*

Exports of U.S. blueberries in 1976 have been reported at 14 million pounds, up 27 percent from the 11 million pounds reported the year earlier.

The 1975 export figure was reportedly worth six million dollars and accounted for 14.5 percent of the total U.S. production that year of 76 million pounds. The dollar value of 1976 exports was not reported.

European processors have been using various marketing strategies to help gain acceptance for the U.S. berry. One point has been to establish a separate identity for the U.S. blueberry from the European variety. Processors have also blended U.S. cultivated and wild blueberries with European wild in

several products, particularly jams. Various recipes have been modified to adapt to the taste of blended berries.

A pastry manufacturer in the United Kingdom has successfully marketed a line of "American Blueberry Pies," with sales of 2.5 million pies in a few short months.

Europeans no longer look upon U.S. wild and cultivated blueberries as poor substitutes for the small, tart European bilberry.

Severe shortages of local berries in Sweden and West Germany in recent years forced processors and consumers to turn to the U.S. for supplies. A drought during the summer of 1976 destroyed nearly all of Poland's bilberry crop.

Growers in Maine have been particularly fortunate in capitalizing on the new foreign market (*Cranberries*, Oct., '76, issue).

# AGRICULT

A Redlands, Calif., man has been fined \$200 and placed on probation for one year for failure to provide adequate water for his bees.

A municipal court judge found beekeeper David Graves guilty of causing a major nuisance. By not providing enough water for his 60 million bees, black clouds of the thirsty bees swarmed over the countryside seeking water and invading swimming pools, livestock watering troughs and kitchen sinks.

The chief prosecutor testified "one man had his swimming pool covered with bees, like a locust invasion. They were even flying into people's homes and stinging their children in a frenzied search for water."

V.G.

\* \* \*

Farmers with 10 or less employees are exempt from compliance with standards of the Occupational Safety and Hazards Act (OSHA) until Sept. 30, 1977. It is unclear whether "employees" includes those working part time.

The new provisions also state that OSHA cannot assess civil penalties on the first instance of violation of a standard unless the violation is considered serious or willful, or 10 or more violations are found in one inspection.

## ANTHONY RUSSELL BRIGGS

Anthony Russell Briggs, 51, of 34 Piney Point Rd., Marion, Mass., died suddenly at his home on November 11.

Formerly of Plymouth, Mr. Briggs was born on April 16, 1925 in New York City.

He attended the Plymouth schools and was a graduate of Milton Academy and Harvard University, Class of 1947. He received his master's degree from the University of Massachusetts in 1951.

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# URE NOTES

## SBA LOANS

*Continued from Page 3*

able" debt ratio, which varies with each farmer's experience.

Before seeking SBA help, a farmer must first be rejected by a lending institution for the usual kind of business loan. After negotiating unsuccessfully, he should then ask the prospective lender to assist in applying to SBA. Most banks are fully aware of the SBA program, and will cooperate, according to the spokesman.

In any event, farmers need only one letter of rejection to seek SBA assistance.

Direct loans from SBA are extremely limited because Congressional funding is extremely limited. SBA will consider a direct loan if in its opinion the applicant is being discriminated against for some reason other than credit. SBA will not lend to bad credit risks.

Rates are currently 6 and 5/8 per cent.

Direct loans from SBA have been described as a "court of last resort" before a borrower faces the 18-20% lenders.

For further information, contact the nearest SBA office. District offices are located in every capital city in the U.S.

After many years in the cranberry business, Mr. Briggs was an investment counsellor and a partner in Lexington Management Associates.

Survivors include his widow, Joan (Kilroy) Briggs of Marion; his father, George R. Briggs of Plymouth; two children, A. Russell Briggs, Jr. of Plymouth and Mrs. Barbara Briggs Chakravarty of New Delhi, India; and two stepchildren, Alison and Christopher Recklitis.

A funeral service was conducted in St. Gabriel's Episcopal Church in Marion. Burial was in Vine Hills Cemetery, Plymouth.

## EARLE A. RICKER

Earle A. Ricker, 65, of Duxbury, Mass., husband of Beulah M. (Morrison) Ricker, died on October 26 in South Shore Hospital, South Weymouth.

Born in Pembroke, he was the son of the late Clarence A. and Lila (Gould) Ricker.

He was a graduate of Duxbury High School and attended the University of Alabama and the University of Massachusetts.

Mr. Ricker retired in 1972 as a cranberry grower after being in the business for 30 years.

He was a member of the Farm Bureau for 25 years, a member of the Ocean Spray Cooperative, Cape Cod Cranberry Growers Assn., and Duxbury Lodge, IOOF.

In addition to his widow, he is survived by three sons, Clayton A. of Brockton, John W. and Earle B. Ricker, both of Duxbury; a sister, Mrs. Beatrice Elder of Hingham; three grandchildren and a niece and a nephew.

Rev. Stephen Turrell of the Pilgrim Congregational Church, Duxbury, officiated at a Memorial service October 29 in the Shepherd Funeral Home, Kingston. Interment was in Mayflower Cemetery, Duxbury.

## MARKETING ORDERS

*Continued from Page 1*

descriptions of the federal marketing orders for oranges, California tree fruits, and raisins. A public member of the Cling Peach Advisory Board presented a consumer viewpoint on federal fruit and vegetable marketing orders.

Representatives of the Federal Trade Commission and the Justice Department also spoke on their views of federal marketing orders.

The Advisory Committee on Regulatory Programs will form its final recommendations and suggestions after study of the meeting minutes.

Minutes of the October marketing order meeting, texts of the presentations, and a summary of the discussions will be covered in *Cranberries* as they become available.

Minutes may also be obtained by writing to Donald E. Wilkinson, Administrator, Agricultural Marketing Service, U.S. Dept. of Agriculture, Washington, D.C. 20250.

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For a Christmas table—or thoughtful gifts—consider an assortment of cranberry confections including: "Berry Christmas Bells and Trees," "Cranberry Gingerbread People," "Mini Cranberry Cupcakes," "Berry Red 'N Green Fudge," and "Cranberry Coconut Fruit Balls."

## Cranberry Confections Make Delightful Gifts For Holiday Giving to Non-Farming Friends

A nice idea at Christmas is to set a traditional sweetmeat table bountifully laden with your homemade confections. Also consider preparing extra quantities to give as gifts. When "gifting," place your confections in pretty glass containers or gaily ribboned boxes.

Here are six cranberry confections that will bring to sweet reality those wondrous "visions of sugar-plums" poetically described in Clement Moore's "The Night Before Christmas."

Bonny "Berry Christmas Bells and Trees" is a snap-to-prepare cookie recipe. Let your tots help cut the shapes and then spread them with cranberry-orange relish. "Cranberry Gingerbread People" will delight children and adults alike. Their captivating taste is a combination of gingerbread mix and cranberry juice cocktail, and

fresh cranberries add that perfect, decorative touch to the little figures.

"Mini Cranberry Cupcakes" couldn't be more delicious. Into the batter is mixed a tasteful blend of brown sugar, egg, cottage cheese, raisins, and fresh cranberries.

Holiday time is surely not time to think about diets, and "Berry Red 'n Green Fudge" will please the most discriminating "sweet teeth." It combines cream cheese, confectioners' sugar, almond extract, almonds, and fresh cranberries. "Cranberry Coconut Fruit Balls" are a piquant mix of apricots, fresh cranberries, pecan, orange rind, confectioners' sugar, butter, graham cracker crumbs, and grated coconut which is lightly tinted with red and green food coloring.

And, for a last sweet tempter,

"Tiny Tim Cranberry Tarts" will be gobbled up before you can possibly say "Merry Christmas to all and to all a good night."

### BERRY CHRISTMAS BELLS AND TREES

(Makes about 5 dozen depending on size of cookie cutters)

- 1 cup butter or margarine
- 1-1/2 cups confectioners' sugar
- 1 egg
- 2 teaspoons vanilla
- 2-1/2 cups unsifted all-purpose flour
- 1 teaspoon baking powder
- 1 jar (14 ounces) cranberry-orange relish

In a bowl cream butter until light and fluffy. Beat in sugar, egg and vanilla. Add flour and baking powder. Knead dough a few times on a floured surface until a smooth ball is formed. Wrap and chill for 2 hours. On a heavily floured surface roll out 1/2 of dough to 1/4 inch thickness. Cut dough with a cookie cutter into bells and Christmas trees. Refrigerate other half of dough until needed. Bake on greased cookie sheets in a preheated moderate oven (375° F.) for 7 to 8 minutes or until edges are lightly browned. Remove to rack to cool. Spread cranberry-orange relish thinly on cookies and let stand at room temperature to dry. Store loosely covered.

### CRANBERRY GINGERBREAD PEOPLE

(Makes 24 cookies)

- 2 packages (14 ounces each) gingerbread mix
- 1/2 cup lukewarm cranberry juice cocktail
- Fresh or frozen-fresh cranberries, rinsed and drained

In a bowl, combine gingerbread mix and cranberry juice. Knead dough on a floured surface until a smooth ball is formed. Wrap and chill for 1 hour. Roll dough on a heavily floured surface into a rectangle 1/4 inch thick. Cut with floured cutters into gingerbread men and women.

Place cookies on large greased cookie sheets. Decorate cookies with fresh cranberries. Bake in a preheated moderate oven (375° F.) for 8 to 10 minutes or until puffed and firm. Cool on cookie sheets and then place into airtight containers in a cool dry place.

### MINI CRANBERRY CUPCAKES

(Makes 24)

- 1/2 cup butter or margarine
- 1-1/2 cups firmly packed brown sugar
- 1 egg
- 1-1/2 cup (12 ounces) cottage cheese
- 1 cup raisins
- 2 cups fresh or frozen-fresh cranberries, rinsed and drained
- 2-1/2 cups unsifted all-purpose flour
- 1 teaspoon salt
- 1/2 teaspoon baking soda

In a bowl, cream butter until light and fluffy. Stir in sugar, egg and cottage cheese. Fold in raisins and cranberries. Stir in flour, salt and baking soda. Spoon batter into cupcake paper lined muffin pan cups filling each cup 3/4 full. Bake in a preheated moderate oven (350° F.) for 30 to 35 minutes or until puffed and brown. Serve sprinkled with confectioners' sugar; if desired.

### BERRY RED 'N GREEN FUDGE

(Makes 1 - 9 inch square pan)

- 1 package (8 ounces) cream cheese
- 2 pounds confectioners' sugar
- 1 teaspoon almond extract
- Green food coloring
- 1 cup chopped almonds
- 1 cup fresh or frozen-fresh cranberries, rinsed and drained

In a bowl, mash cream cheese until light and fluffy. Gradually beat in confectioners' sugar. Beat in almond extract and enough green food coloring to make a bright green. Knead in almonds. Line a 9 inch square pan with foil and press half of the fudge into an even layer. Place cranberries evenly over fudge. Cover with remaining fudge and press until level. Chill for several

hours. Cut into 1 inch squares with a sharp knife. Store in refrigerator until ready to serve.

### CRANBERRY COCONUT FRUIT BALLS

(Makes 100 - 3/4 inch balls)

- 1 package (12 ounces) dried apricots
- 1-1/2 cups pecans
- 2 cups fresh or frozen-fresh cranberries, rinsed and drained
- Grated rind of 1 orange or 1 tablespoon bottled grated orange rind
- 1/4 cup butter or margarine, softened
- 1 pound confectioners' sugar
- 1 package (13-1/2 ounces) graham cracker crumbs
- 2 cans (3-1/2 ounces each) flaked coconut
- red and green vegetable food color

Coarsely grind apricots with pecans and cranberries. Stir in orange rind, butter, sugar and crumbs. Wrap and chill for 2 hours. Shape mixture into 3/4 inch balls. If desired balls may be rolled in coconut. Tint coconut red or green by using a few drops of food coloring and rubbing each color into coconut. Store in refrigerator until ready to serve.

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A report from the British Columbia Department of Agriculture states that an average crop is expected in 1976. A minor frost occurred in early June, but it appears that it did not affect the crop.

The month of November had a mean temperature of 2.5° Celsius, slightly lower than the 50-year average of 3.4. Precipitation was only about half of the 50-year average and sunshine was also on the short side. The one redeeming factor is the lack of snow as of the first week in December.

A Merry Christmas and a prosperous New Year to our readers.

I.V.H.

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# Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE  
extension cranberry specialist

## Personals

We have a new member added to the Station staff who started work in late September. His name is Douglas Coughenower and his duties have nothing to do with cranberries. However, he is involved in another well-known commodity—water. Doug is working on a Sea Grant project and is involved with all types of water resources, fresh and salt, public and private, in the Southeastern Massachusetts area. Doug is from Oregon, by way of Florida and he and his family are living in the Falmouth area. We wish them much good luck.

## Weather

October was a cold, wet month. The temperature averaged 4 degrees a day below normal with the last three weeks consistently cold. This was the fifth coldest in our records. Maximum temperature was 73 degrees on the 8th and minimum 23 degrees on the 28th. The only warmer than average days were the 7th, 8th and 9th. Cool periods were on the 2nd, 10-12th, 14th, 17-19th and 22-30th.

Rainfall totalled 5.65 inches, nearly 2-1/4 inches above normal. There was measurable precipitation on 11 days with 1.55 inches on the 20th as the largest storm. This was the wettest October since 1962 and sixth wettest in our records. Even so we remain about 1/2 inch below normal for the year and over four inches behind 1975.

## Harvest and Frost

The Massachusetts cranberry harvest was nearly completed by the end of October, with only a few growers still picking. The season started early this year with general harvesting by September 10th and no frost warnings issued until well into October, but once warnings were started there were precious few dry harvest days for the rest of October.

There were a total of 22 general warnings issued during the fall as compared to 11 in 1975, 34 in 1974, 11 in 1973, and 25 in 1972. The first warning was not issued until October 10, the latest date for the first warning in our records. Once again the author is indebted to many individuals and groups for their cooperation in making the Frost Warning Service successful. Most important of these is Prof. William Tomlinson for his reliability, good judgment and consistency in the calculation and formulation of the frost reports. We are also greatly indebted to the National Weather Forecast Service, our cooperative observers, telephone distributors, various radio stations and the Cape Cod Cranberry Growers Association.

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## WISCONSIN

The 1976 growing season has gone down on record as the driest ever in Wisconsin. Rainfall averaged 13.1 inches statewide from April through September, better than 8 inches below normal. Temperatures were also above normal, adding to the stress on crops. For roughly the same period, temperatures ranged to seven percent above normal, with three times as many days as usual with temperatures in the 90's.

While most farmers suffered, growing conditions for cranberries were generally good and growers eventually harvested record crops. There were some late season fears of lack of water for harvest which were overcome by harvest time.

Now, early winter in Wisconsin is causing record frost depths for this time of year. Frost would probably have penetrated deeper if there had been any moisture in the soils. Reporters throughout the State have commented that soils are extremely dry, to a depth of several feet.

For November, temperatures averaged about 7 degrees below

normal, the coldest since 1959. For the seventh consecutive month, precipitation continued below normal, most of it being light snow on frozen ground.

R.S.S.

## WASHINGTON

November, 1976, will go down on the records for the West Coast as well as the East Coast. Total precipitation at Long Beach Unit was 2.96 inches, the least since records started in 1945, and undoubtedly longer. The average for November is 11.65 inches.

The Northwest area is experiencing the same accounts. The absence of snow in the mountain areas will perhaps lead to a dry spring and summer.

The sunshine at the beach is wonderful, but the cool weather this early may give some problems later.

The November maximum temperature was 70 degrees on the 4th and minimum of 22 degrees on the 28th, with minimum of 18 degrees.

*Continued on Next Page*

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Right angle gear drives for use in agricultural irrigation are featured in a new catalog published by Johnson Gear, a division of Arrow Gear Company. The full-color 12-page booklet outlines application of right angle gear drives under various thrust and power conditions in transmitting power from internal combustion engine drive shafts to vertical pump shafts.

The catalog illustrates the features of a variety of models that meet specific requirements of high and low speed engine driven pumps.

A copy of the catalog is available from Johnson Gear, 921 Parker Street, Berkeley, CA 94710.

## NEW WARRANTY

Detroit Diesel Allison has announced a new warranty on its transmissions used in a wide range of farm machinery, except irrigation equipment.

The new warranty offers full parts and labor coverage for three years or 2,500 hours of operation, whichever comes first.

"This is the first warranty specifically tailored to the needs of the farmer," general sales manager Chester B. Clum said. "It represents a great step forward in recognizing the seasonal equipment operations typical of the majority of our agricultural customers."

Detroit Diesel engines and Allison transmissions used in farm machinery were previously covered under a standard industrial warranty which provided anywhere from six months to one year coverage.

## MODEL 400 LOADER

A Model 400 loader is available for the new 50 horsepower Model 5050 tractor introduced by the Agriculture Equipment Divisions of Allis-Chalmers Corp.

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Roll back force is increased by locating the bucket rams below the pivot point where they can take advantage of their pushing power. Fast dumping action is obtained by hinging the bucket on top and attaching the ram to the low volume side.

**WASHINGTON**—*Cont. from Pg. 15* Nine days had 32 degrees or below, and a total of 18 days 40 degrees and below. The cold clear days have given the growers time to get most of the pruning accomplished following harvest.

The overall crop was down for 1976, size was small to medium, and though color was good, what had been predicted as a bumper crop, stopped growing a month early—and just didn't size up.

Certification of Pesticide Applicators: workshops will be conducted on two consecutive days.

1) Coastal Washington Res. & Ext. Unit, Long Beach—Jan. 11, 1977, 6:00 p.m. Training and review; Jan. 12, 1977, 6:00 p.m. Rump session & Exam.

2) Grayland Community Hall, Grayland—Jan. 25, 1977, 6:00 p.m. Training and review time; Jan. 26, 1977 6:00 p.m. Rump session & Exam.

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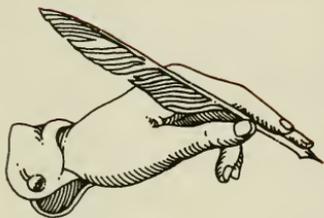
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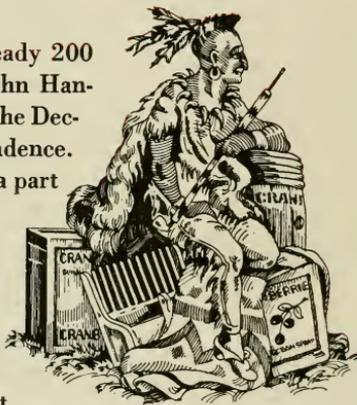


# The 400 year old cranberry



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.**

# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Vol. 42, No. 8

December, 1976

## UNITED STATES DEPARTMENT OF AGRICULTURE

### AGRICULTURAL MARKETING SERVICE

Printed from Federal Register of August 15, 1962 (27 F.R. 8101), May 21, 1964

August 16, 1968 (33 F.R. 11639), and October 29, 1973 (38 F.R. 29795)

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#### Order Regulating Handling

#### Findings and determinations.

#### DEFINITIONS

- Secretary.
- Act.
- Person.
- Production area.
- Cranberries.
- Fiscal period.
- Committee.
- Grower.
- Handler.
- Handle.
- To can, freeze, or dehydrate.
- Acquire.
- Base quantity.
- Marketable quantity.
- Annual allotment.

- 929.61 Records.
- 929.62 Verification of reports and records.
- 929.63 Confidential information.
- MISCELLANEOUS PROVISIONS
- 929.65 Compliance.
- 929.66 Right of the Secretary.
- 929.67 Effective time.
- 929.68 Termination.
- 929.69 Proceedings after termination.
- 929.70 Effect of termination or amendment.
- 929.71 Duration of immunities.
- 929.72 Agents.
- 929.73 Derogation.
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- 929.74 Personal liability.
- 929.75 Separability.

AUTHORITY: §§ 929.0 to 929.75, issued under secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674.

#### § 929.0 Findings and determination.

The findings and determinations hereinafter set forth are supplementary and in addition to the findings and determinations made in connection with the issuance of the order; and all of said previous findings and determinations are hereby ratified and affirmed except

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Marketing orders are outdated and in need of revision; what's more, the cranberry order may even be discriminatory, says a Justice Department official.

See Page 1.

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# Justice Dept. Speaker Says Revisions Due If Marketing Orders Prove Discriminatory

Marketing orders are outdated and in need of revision; what's more, the cranberry order may even be discriminatory, says an official of the U. S. Department of Justice.

The point of view is that of Dan Booker, an officer in the antitrust division of the Justice Department. The full text of his remarks at the fall meeting of the USDA's Advisory Committee on Regulatory Programs, held in Washington, were recently received by *Cranberries*.

## Act's Purpose

"A specific purpose" of the Agricultural Marketing Agreement Act of 1937 "is to raise farm incomes by raising prices," says Booker. While milk orders establish minimum prices, the marketing orders of fruits, nuts and vegetables increase prices "indirectly" by restricting the amount of regulated crop that reaches the fresh market."

While marketing orders are primarily the purview of the Agriculture Department, Booker says Justice is concerned with both the members of the industry involved and consumers.

## Competition Implied

"If a marketing order discriminates against one group of farmers in favor of another group, we would protest," says Booker. "Competition implies that all entrants in the race be able to run on the same track."

His concern for consumers includes "public utilities when they buy generators, farmers when they buy tractors . . . and you and me when we buy fruits and vegetables for our families."

The antitrust division operates on the general theory, according to Booker, that consumers are best off when prices are lowest and that prices are lowest when competition is the greatest.

This theory may not always work, especially when other national policy takes precedence. And the policy of increasing farm incomes via the Act may be one case, he pointed out.

"If marketing orders decrease competition in ways that outweigh the benefits to farmers, then we would say the marketing order system should be changed."

## Some Problems

The Justice department official then set out to "sketch" some of the problems with fruit and vegetable regulation. He said that Justice had been reviewing the Marketing Act in a continuing effort to reform government regulation and that fruit and vegetable orders were in for a closer look.

Marketing orders "frequently raise consumer prices," says Booker. "Producer allotments under the cranberry, hops and celery orders directly restrict the amount of those crops reaching market. This necessarily has the effect of increasing prices beyond the level they would be (without) the orders.

"Even simple grade and size restrictions have the effect of decreasing the amount of a crop that reaches the most preferred market, usually the fresh market.

## Why Continue?

"If a marketing order doesn't increase prices, then there is a legitimate reason to ask why the order should be allowed to continue.

"There is no justification for an order that in any way restricts free competition among producers.

Marketing orders have other "unfortunate" effects other than increasing prices, Booker noted.

"We believe the cranberry order, for example, prevents the increased production of cranberries in Wis-

consin, where production seems to be more efficient than in New England.

Booker claimed that yield per acre of bog in Massachusetts during three recent, successive years was 75.1, 82.7, and 85.5 barrels respectively. During the same period in Wisconsin, per acre production was 123.8, 112.8, and 124.3.

## Cranberry Order

"Yet the cranberry order uses a producer allotment plan that assures Massachusetts growers a continued majority share of total cranberry production," Booker claims.

He adds that other orders, such as for hops and lemons, should also be examined to see if they result in "similar discrimination against more efficient producing areas."

Booker also claimed that some orders promote overproduction and do nothing to resolve the problem.

"Rather," he said, "in circular fashion, some marketing orders continue to be necessary to raise prices for the very reason that they help give inefficient farmers prices high enough to keep them producing." He said the cranberry, lemon and tart cherry orders "appear" to have caused some overproduction.

Booker says there are some other "unhappy effects of orders.

## 'Unhappy' Effects

"Orders with producer allotment plans may prevent new farmers from coming into the business. Where a dominant cooperative exists for a regulated crop, the cooperative may be in a position to use the order to advance the interests of its members over the interests of non-member farmers.

Booker also claimed that the income support aspect of marketing orders may no longer be necessary.

*(Continued on Page 10)*

# Oregon Berries Head For Juice Machine; Extra Color Attributed to Longer Season

There's a good chance that most of Oregon's crop of berries this season wound up elsewhere than as sauce on holiday tables throughout the state, says one authority.

Because of their rich red color, some two-thirds of the State's annual harvest become juice, according to Ralph Garren, fruits specialist at the University of Oregon. His comments were reported in the Bandon, Oregon, *Western World*.

According to Garren, the State's long growing season accounts for the extra color. He says the coastal areas where the berries grow frequently have excellent weather in September and October. He says that fact compares favorably with the shorter season often caused by early frost on the East Coast.

Garren also reported that this year's harvest was down somewhat, noting that the berries appeared somewhat smaller but well colored.

Because of their color, the berries continue to command a higher price. Garren cited 1975 figures in Oregon of \$13.10 a barrel to growers with the \$12.10 a barrel for the same year paid to growers in Massachusetts.

In 1951, Oregon growers received \$13.30 a barrel.

The annual harvest in Oregon is as pretty as anywhere, says Garren. Most of the state's 900 acres of bogs are near Bandon in Coos County and in adjacent Curry County. They are visible to spectators and sightseers from Rte. 101

on the South Coast. "It is a patchwork quilt of small bogs nestled among sand dunes, coast pines, salal, kinnikinnik, scotch broom and gorse," says Garren.

Another 40 acres of bogs are in Clatsop County, at the mouth of the Columbia River.

There's a "maybe" chance that some of the State's 87,000 barrels of berries produced in 1976 will eventually make it to the dinner table as sauce.

The 1976 figure is down from the 97,100 barrels recorded in 1975. That harvest was valued at \$1.3 million.

Cranberries were introduced into Oregon more than 90 years ago by Dexter McFarlin. The berries so named for him have proved a mainstay in the Oregon industry.

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# Chicago Food Technology Research Suggests

## Cranberries as Alternate to Red Dye No. 2

A cranberry concentrate has outscored Red No. 2 dye as a food colorant in tests conducted by a Chicago researcher.

T. Volpe, a food technologist at the American Institute of Baking, in Chicago, reported the findings in the cover story of last month's issue of *Food Product Development*. The trade journal serves the food technology industry nationally.

"If a red coloring material is needed for a food product with an acid pH, consideration of cranberry concentrate could be rewarding," says Volpe. The reporter added that one "large baking company" already uses the cranberry concentrate successfully as a natural coloring and that other uses are being considered.

"Potential applications could include beverages, gelatins, canned fruits, and even as a possible natural maraschino cherry coloring."

According to Volpe, the research demonstrated that a cranberry juice concentrate of 50 degrees Brix is very satisfactory for coloring pie fillings.

The filling formulation was made by boiling 200 ml cherry juice drainings, 112.5 g sugar, and 105 ml water for ½ minute; then, combining 50 ml water and 41.4 g starch in a separate container rinsed with 30 ml water; and then combining all ingredients and boiling for one minute. The gel that was formed was then combined with cranberry juice concentrate (7.75 ml = 1.5%; 10.35 ml = 2.0%) and 142.0 g cherries.

Volpe claims that the resulting product is "quite good. The concentrate's natural tartness accentuates the cherry flavor."

The concentrate has a pH of 2.2 to 2.5 and citric acid content of 12.5 to 15.5 per cent (w/w), accounting for its tartness.



Tests were conducted on a panel of consumers, who were asked to compare the color of pie fillings either with no color additive, Red No. 2, or various percentages of cranberry concentrate.

Panelists rated the products according to their preference and acceptability when viewed under fluorescent light.

The most pleasing colors, according to the findings Volpe reported, were with 1.5 to 2.0 per cent concentrations of the cranberry juice coloring based on the total weight of the material to be thickened.

At this weight level, reds were more intense and deeper than at lower levels, and translucency of the gel was maintained.

"Color tones also had a clear, gem-like quality. Comments indicated that the cranberry colored fillings were more natural than those of Red No. 2, having fewer blue shadows and a clear, strong cherry red color.

"Overall acceptability was therefore greater for cranberry concentrate.

"The pH of the pie fillings with 1.5 to 2.0 per cent cranberry coloring was about 3.2 compared to pH 3.4 for fillings with no food color or Red No. 2 added. This higher acidity produces a more tart, pleasing taste in the fillings, according to results of a Baker's Scoring Test (Scale 1 to 10). Syneresis, viscosity, and color also were evaluated.

"Freeze-thaw stability tests were performed to determine acceptability of cranberry concentrate filling in frozen products. Despite initially lower viscosities, the product was nearly as viscous after the first freeze-thaw cycle as other fillings. This indicates functionality similar to existing fillings for frozen products whether they be a doughnut or tart filling, pie filling, or cake topping. There was no visual evidence of washout or degradation of red color as a result of freezing of the lower pH, cranberry colored product.

"Unbaked tarts and cake fillings or toppings proved acceptable at cranberry concentrate levels of 1.5 to 2.0 per cent. Beet powders were combined with the concentrate in an attempt to produce blue shadows in the red tart filling and, therefore, imitate effects of Red No. 2. When this combination was tested in pie fillings and exposed to higher heat levels, however, the beet-cranberry mixture was unacceptable because of grey shadow development in the filling, apparently caused by heat degradation of the beet material. *Cont. on Pg. 11*

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# editorial

"Actions of government should be made subject to the same kinds of advance security in terms of their impact on the national welfare as are the actions of the private sector.

"Certainly a more public interest exists and deserves more attention than it has gotten at some times in the past. And certainly—up to the point at which it becomes counter-productive through its oppressiveness and restrictiveness and meddlesomeness—the government has a very legitimate role to play in the protection of the public interest. It is a reasonable and rightful responsibility of government.

"What I do have quarrel with is that the legislative and executive branches of government are able to make their own activities totally immune from the same standards of advance accountability which are applied so rigorously to the private sector.

"I grant that the public has a valid right to be protected against polluting smokestacks, unsafe and inefficacious drugs, mergers that are monopolistic, and possibly—by some stretch of the imagination—even against farmers who would dam creeks to build ponds.

"But what also of the public's right to be protected in some way against unwise laws and ill-considered executive actions? Or against programs born of political expedience and damn the long-term consequences? Where, for example, were the impact statements when one administration after another manipulated agricultural price supports, particularly in even-numbered years? Where were the impact statements when government naively, and despite all of the evidence of the past, imposed wage and price controls? Where were the impact statements when grain export embargoes were imposed?

"In each of these instances the nation paid dearly for the government's mistakes and agriculture paid particularly dearly."

*Warren Lebeck  
President*

*Chicago Board of Trade  
Dec. 2, 1976*

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# The Name of the Game is Optimum Profit In Healthy Environs, Says EPA Spokesman

"Of all the people in America, farmers probably are the closest allies of the Environmental Protection Agency," says an EPA spokesman.

"There is a natural alliance between farmers and people who care about the environment," says William C. Holmberg, director of the operations division in EPA's office of pesticide programs. "It doesn't always seem so," he adds, "especially at the national level."

Holmberg was addressing his remarks to a gathering of farmers and cranberry growers held in Hyannis, Mass. in the fall.

"In Washington," says Holmberg, "the U.S. Department of Agriculture wants to maximize agricultural production and EPA wants to minimize the consequences of agricultural production, so we sometimes have a conflict."

When it gets down to the farmer's level, Holmberg says it seems to him that maximization of production is not the name of the game.

"The name of the game is to optimize the profit making capability of your operation.

"I'm personally convinced that you can optimize your production in the healthy environment of clean air, pure water, and productive soil.

"And for those of us who are really serious about cleaning up the environment, that's all we really want."

Holmberg gave a description of the pesticide applicator certification program and explained why he thought it was all necessary.

"We have to recognize that the world is changing and changing rapidly.

"We used to measure parts per million as sort of the upper limits of our technology. Now we're up to parts per trillion. Whenever you do this, you can take a blood or fat

sample in a person and find just about anything you want there.

"Whenever you find pesticide residue in mother's milk or fat tissue, there are without question people in our society who are going to get pretty darn nervous about that. Then, there's going to be a loud political cry to start pulling these pesticides off the market."

He said, however, that the decision to take chlordaneheptachlor off the market was based on a finding of 20 parts per million. "You've got to pay a lot of attention to that.

"Why is that this stuff showing up," he asked?

"A recent survey showed that residues of pesticides are heavier in urban soils than in rural soils.

"That's easy to understand. The farmer is pretty darn careful with the pesticides he puts down. But the old home gardener is out there, and if a bug doesn't turn white, he keeps dumping on the pesticide. He's probably suffocated more bugs than he's killed with toxin."

So, one of the practical advantages of restricting the use of pesticides, according to Holmberg, is that pesticides are restricted from use by homeowners in urban areas where there is tremendous concentration and amounts of exposure.

"The limitation of pesticides to agricultural users will go a long way in keeping chemicals for agricultural purposes.

"That's one of the principal reasons for good, solid training and certification programs."

Holmberg then gave a lengthy description of the review process by which chemicals are now declared fit or unsafe for use.

He assured growers that "the process that was used to take DDT off the market has been turned around; it won't happen that way again. We're looking at these chemicals on a use-by-use basis.

"Farmers ought to be pleased that it (the process) is thorough. You want it to be thorough by having a good, solid scientific process, even though it takes time and even though it's complex.

"I'm convinced that the average farmer who believes in fair play and sound judgment will say, 'I didn't like that decision but at least they went through a thorough process, so we'll live with it.'

"That's what we're shooting for, just reasonable approaches to these things."

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# New Tax Act May Effect Estate Planning

The Tax Reform Act of 1976 is now law and beginning in 1977 its effect on farmers will be wide ranging, especially in planning one's estate.

The new law is especially important to farmers because of the rising value of farmlands (see *Cranberries*, November 1976). The 1976 Act may help preserve that value for future heirs, in some instances.

The law can affect your plans for building an estate in several ways.

The Act now assures when certain conditions are met that your farm property will be considered and valued as farm property, for estate tax purposes.

Previously, an executor had to value farm property on the basis of its "highest and best use." That meant that if farm property could be put to valuable use, such as a subdivision of private homes or a shopping center, then it had to be

valued at a figure representing that use.

Furthermore, beginning in 1977, property left to heirs will be valued the same as it was before death of the farmer/owner. In many instances, this so-called carryover value can result in a substantial, taxable capital gain.

In the past, property which had appreciated in value over the years and was passed from a decedent to a beneficiary was given a "stepped up" income tax basis equal to its fair market value at the time of the decedent's death.

Take the case of the farmer who, for instance, buys 100 acres this year at \$1,000 per acre. Under the old rules, if the farmer dies 15 years later and the property is valued then at \$5,000 per acre, the heirs' income tax basis for the property would be \$5,000. They would not face a capital gains tax.

Under the new rules, however, the heirs would be charged with a

taxable gain of \$4,000 per acre or \$400,000 total.

The Tax Reform Act of 1976 has also changed the rules regarding estate and gift taxes.

A unified rate schedule applies to both taxes, eliminating for the most part the advantage of making lifetime gifts in order to incur a lower gift tax.

Before the Reform Act, property transferred at death was charged with an estate tax and a separate tax was charged for lifetime gifts.

The new law also allows an unlimited marital deduction of \$100,000 up to \$200,000 of lifetime gifts to a spouse (not to exceed the amount of transfers). The estate tax marital deduction has been increased to one-half of the decedent's gross estate or \$250,000, whichever is larger. The amount of assets in an estate that may be transferred without tax to a surviving spouse has thus been greatly increased.

For the purpose of planning for retirement, one change in the law may work to your benefit. The tax law now allows eligible income earners to establish individual Retirement Accounts and Annuities (IRAs) for their non-working spouses. These are called Spousal IRAs.

The new benefit was established in the belief that it was unfair for those who performed valuable work and services for their spouses and were uncompensated for it not to be covered under tax-favored retirement planning.

To establish an IRA, the worker and spouse, must be under 70½ years of age and not otherwise eligible for any qualified retirement plan.

Under the new law, a retirement amount of 15% of compensation or \$1.750 (the lesser of the two) may be set aside annually tax-free for both spouses covered under two separate IRA plans. *Cont. On Pg. 16*

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# Air, Water Quality Of Nation Improving

The nation's air and water quality are steadily improving, and most of the country can look forward to clean air by the early 1980's, the Council on Environmental Quality reported.

New York City and Los Angeles were cited as special problem areas in air pollution, with New York having "one of the worst carbon monoxide problems in the United States" and Los Angeles having a plethora of oxidants, calling for "unique control programs."

Among the problems cited were control of toxic chemicals; reduction of water pollution from such nonspecific sources as urban runoff and agriculture, and energy resource development that would minimize adverse environmental effects.

The Council reported that the nation was spending \$34.8 billion for pollution controls this year—about \$90 million a day. Half of this outlay is attributable to federal requirements, the rest to state and local regulations and voluntary activities.

Seventy-eight percent of the total is going for abatement of air and water pollution, 15 percent to deal with solid waste, and 7 percent for such activities as administration and research.

Progress in reducing water pollution, the Council said, is reflected in the activation of billions of dollars worth of new treatment plants for municipal and industrial fluid waste, and in observations of some key waterways.

Of 12 major rivers examined over the last three to seven years, the Council said, five were showing improvement in the basic indicator of intestinal bacteria counts. They are the Willamette, the Colorado and the Red in the Far West and the Ohio and the Tennessee in mid-continent.

On the other rivers—the Rio Grande, the Mississippi, the Missouri, the Potomac, the Susque-



With demolition and site clearance nearly complete at the former clam factory overlooking Plymouth harbor, cement-filled caissons now appear in place for additions to the attractive waterfront site for Ocean Spray national headquarters.

## Demolition of Clam Factory, Site Clearance Started for Ocean Spray Corporate Offices

Renovation of the waterfront property in Plymouth, Mass., began earlier this month for construction of the corporate headquarters of Ocean Spray Cranberries, Inc.

Most of the apurtenant wooden structures have been demolished, leaving just a shell of brick and concrete walls and steel cross beams.

Ocean Spray President Harold Thorkilsen has been quoted as saying that occupancy of the new facilities is expected late in 1977 but that no specific date has been set. Further word on that is expected shortly.

In spite of recent cold weather and unusually heavy snow in the area, work is expected to continue on the project throughout the winter.

Repairs will be made to the roof of the main part of the building and will be followed by complete interior renovation.

In addition to corporate offices,

hanna, the Delaware and the Hudson—"trends are mixed or uncertain, although it is significant that none of these shows a definite worsening," the report said.

Edited from the pages of the *New York Times*

the site will also contain a cranberry museum, coffee shop and gift shop, and development of several working cranberry bogs adjoining the physical plant. A series of footpaths will connect the property with other waterfront historical sites.

Thorkilsen says he's "delighted" to see construction begin. He feels that the Plymouth location will be of great public relations value because of the attractions in the area to tourists around the country.

"People expect to find Ocean Spray in that kind of surrounding," he says.

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## Pruning Enhances Value of Cut Wood

Pruning is a valuable aid to good woodland management and practically speaking can be done any time one has time for it. It's worth its weight in wood.

Pruning is valuable as an investment for the future. The clear lumber that can result has a higher dollar value than knotty lumber. Select grades generally have a wholesale value three times that of inferior grades.

Removal of branches early in the life of a tree will eliminate knots and clear wood will form. If pruning is left to nature, it could take more than 50 years to produce knot-free wood. No farmer can wait that long for a harvest!

About one-half the volume of an average tree is in the butt-log. If the pruned height of the butt-log is 17 feet, the highest possible proportion of clear wood can form in about 16-foot lengths.

Knots reduce the clear wood content, and thus its grade and/or

value, by influencing the amount of checking and warping. Knots weaken the piece for structural use, and make working and finishing more difficult.

### When to Prune

Pruning can be done anytime. It is easiest to prune conifers, however, in wintertime when sap is not running. Start pruning when they are 20 to 30 feet in height. Limbs will be small and the core of knotty wood already produced will remain small.

Forestry agents suggest that pruning of white pine be held off until 17 feet of prunable length is available.

### What to Prune

Both hardwood and softwoods can be pruned. Check with your local extension service for the most desirable species in your area.

Pruning is advised only in young, thrifty sapling and pole-size stands. Exact spacing of trees is not

critical, provided enough growing space is left for the development of good, healthy crowns. Not more than 125 white pines should be pruned per acre. This would mean about an average spacing of 18 feet by 18 feet per pruned tree. However, any lesser number may be pruned, depending on species, stocking and crop-tree potential.

Select trees 3 inches to 6 inches in diameter that are straight, well spaced, healthy, vigorous and with good crown development. Larger trees of good quality may be pruned if the branches removed do not exceed 2 inches in diameter.

Any dead or living branches may be removed provided the live crown remaining equals one-third to one-half of the total tree height. Try to end up with 17 feet of pruned length. Prune higher than 17 feet only on trees of exceptionally good form and vigor which will pay extra dividends. When occasionally pruning enough (at least 9 feet) to produce a clear 8-foot log—otherwise, do not prune.

### How to Prune

After crop trees have been selected, they may be pruned in one to three stages, depending on size of tree and height that can be pruned without reducing the percentage of live crown to a point where tree vigor is lessened.

Cut off live branches flush with the tree trunk—keeping wounds as small as possible. Cut dead branches off so as to slightly wound the branch "collar" where the dead branch joins the main stem. This permits more rapid healing.

Never use an axe for pruning. A saw is the preferred tool. It makes a clean cut and leaves no broken or damaged stubs which will delay the formation of clear wood.

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(Compiled and edited from sources at  
the University of Massachusetts.)

## Ocean Spray, Sunsweet Pool Processing Facilities

President A. Buffington of Diamond/Sunsweet, Inc. and President H. Thorkilsen of Ocean Spray Cranberries, Inc. have announced a long-term, cooperative "pooling of expenses" contract between their respective firms.

Essentially this involves an arrangement which will result in the manufacture and delivery of Sunsweet's prune juice, juice blends, and ready-to-serve prunes from Ocean Spray facilities.

Starting next spring, all of Sunsweet's production requirements of the above items, except for those supplied by their own West Coast facility, will be originating at Ocean Spray's Kenosha, Wisconsin, Bordentown, New Jersey, and Middleboro, Massachusetts, plants.

Blending and filling facilities at the three plants will be utilized for the prune products. Additional plant equipment is being purchased and installed by Sunsweet, with minor building modifications scheduled for the Kenosha and Bordentown facilities.

This latest development in cooperative processing will be beneficial to the grower-owners of both cooperatives in increased production efficiencies, the sharing of fixed costs, and the provision of common shipping points.

### GEORGE R. BRIGGS, PLYMOUTH GROWER

George Russell Briggs, 81, of East Long Pond Road, Plymouth, Mass., former cranberry grower, died early in December.

Born in Plymouth, he had attended Plymouth schools, the Berkshire School in Sheffield and Harvard College in Boston.

For many years he operated Briggs Motor Sales. Then until his retirement a few years ago, he was in the cranberry business.

He is survived by his wife Helen (Keese) Briggs and a sister, Miss Rose T. Briggs of Plymouth.

Memorial contributions may be made to the Lahey Clinic Foundation, 654 Beacon St., Boston.



Winter solitude and quiet—in the form of two feet of snow—settles on a cranberry grower's pumphouse in a Currier & Ives-type scene repeated often throughout cranberryland at the Winter solstice.

*(RSS photo)*

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(Continued from Page 1)

He said that "sophisticated" marketing and supply cooperatives permit farmers to bargain for competitive prices by limiting shipments, for instance.

Technological developments in production, storage, and shipping should enable producers and cooperatives to adjust production and marketing to changes in demand.

Booker was especially critical of parity as the statutory target price level, claiming that parity is "wholly unrelated" to the price level necessary to permit a farmer to earn an income equal to the return available in other sectors of the economy.

#### A Clumsy Tool

"Marketing orders are a particularly clumsy tool for increasing farm incomes," Booker says, citing administrative costs and production waste. And, "there's no assurance that the full increase in consumer prices . . . is passed back . . . to the farmer.

"Indeed," he says, "fruit and vegetable farmers have complained to us that retailers and other middlemen retain the bulk of increased consumer prices.

"One much more simple way to increase farm incomes is a lump sum payment to farmers.

"Undoubtedly, other alternatives could be suggested. They ought all to be considered in light of the cumbersome aspects of present regulation."

Booker insisted that the anti-trust division was not advocating elimination of the marketing order program.

#### Changes Urged

"Rather, we are suggesting that there is enough question about the effects of marketing orders and about the system itself that a comprehensive study of these effects and of alternative ways to accomplish the statute's purposes is overdue.

In his concluding remarks, Booker suggested several lesser administrative and statutory

## Steady Farm Export Value Seen for '77

Higher prices for U.S. soybeans, oilseed products, and cotton are expected to hold the total value of U.S. farm exports during fiscal 1977 at or near the \$22.8-billion-level of the previous 12 months, but export volume during fiscal 1977 may be below the year-earlier mark.

During fiscal 1977, U.S. exports of horticultural products are expected to increase only slightly from the \$1.46 billion worth exported during 1975/76. The growth will be well below increases of recent years, primarily because of heavy rains that hit California in September. The production of dried fruits was drastically curtailed.

On the plus side, exports of fresh and processed potatoes are expected to exceed last year's pace by a fairly sizable margin.

changes to alleviate the anti-competitive effects of marketing orders.

He was particularly critical of allotments. He said they "impair entry by new farmers and expansion by existing farmers . . . They tend to preserve historical geographic and individual production patterns and prejudice the new farmer.

"Allotments should be eliminated," he concluded.

"We (the antitrust department people) know of no other federal regulatory scheme that puts the persons benefited in such a position of control over the adoption, administration, amendment and termination of the regulations.

"The amendment should be amended so that the interests of all affected groups—producers, processors and consumer—are weighted equally and are balanced against each other by an impartial regulator."

Less impressive export gains are anticipated for fresh citrus, canned fruits, and tree nuts. Because of the smaller U.S. commercial apple crop, exports may fall somewhat from the level of the past few years.

Major markets for U.S. farm products that are expected to grow during fiscal 1977 are Western Europe and Japan. Expansion of the former is likely because last summer's drought caused crop damage, necessitating a larger volume of imports; Japan's higher level of imports is attributable to improved economic conditions and easing of some import restrictions.

Several factors are contributing to a high level of U.S. agricultural exports. European supplies of grains and other feeds were seriously reduced by drought last summer. At the same time, hog and poultry numbers are expanding in the European Community (EC) and Japan. Economic recovery is continuing in developed and developing countries.

Fiscal 1977 U.S. agricultural imports are expected to increase about 15 percent above 1975/76 imports of \$10.5 billion. Thus, the surplus of agricultural trade will total about \$11 billion in fiscal 1977, slightly below the \$12.3 billion recorded during the prior 12-month period.

*Foreign Agriculture*

\* \* \*

Now that the ceiling on income requirements has been raised, more families than ever can take advantage of the special housing loans available to farmers through the Farmers Home Administration (FmHA) of the USDA.

The new limits for "adjusted family income" are \$10,000 in the 48 contiguous states, Puerto Rico and the Virgin Islands; (up from \$8,500); \$21,200 in Hawaii and Guam (up from \$10,700); and \$15,000 in Alaska (from \$13,500).

# URE NOTES

## RED DYE

Continued from Page 3

Farm families whose income falls within these limits may qualify for rural housing loans at interest rates below the current maximum of 8½ per cent. Interest on some loans may be as low as 1%, depending on family income and the size of the particular loan.

Rural housing loans are processed through local county offices of FmHA.

\* \* \*

Try using a low suds detergent like dishwashing liquid, if you plan to clean the plastic sponge-like filter on your smaller farm engines this winter.

At least, that's the strong recommendation of engine manufacturers. Either detergent or kerosene, they urge.

The most important reason to clean the filter is to increase reliability and minimize unusual and often annoying maintenance in-season. Proper cleaning could also save money.

When cleaning the sponge, squeeze it dry of any cleaning solution while holding it in a towel. The towel should fully absorb excess cleaning solution.

Too often, say experts, farmers use gasoline as a cleaner because it dissolves better and is usually handy to equipment. What they don't realize is that there is usually enough residue of gas left in the cleaned filter to dilute the fresh oil added to the filter to provide a wet surface.

But the gasoline-diluted oil is quickly sucked from the clean filter within minutes of operation, greatly reducing the dust-catching ability of the filter.

Fine dust in an engine can wear out piston rings and cause valve problems leading to poor starting and loss of power in less than 20 hours.

Filters should be cleaned after every 25 hours of operation, or more frequently under tough conditions.

\* \* \*

Site preparation has been completed and construction should begin shortly for Ocean Spray's new receiving and cleaning plant in Bandon, Oregon.

Bids are to be let sometime after the first of the year, according to Mrs. Pam McGinty, plant manager. She reports that the new building will be twice the size of the existing facility, or roughly 120 by 200 feet.

The building is expected to be completed in time for next fall's harvest. No plans have been announced for the existing building.

"The chemical compounds of cranberry responsible for red colors are the anthocyanidins: cyanidin and peonidin in the 3-galactoside and 3-arabinoside glycosidic form. At the acid pH of cherry filling oxygen in the heterocyclic ring of anthocyanidins carries a positive charge, and the structure exists as a flavylium salt. This form causes pigment hue to shift toward red."

Red No. 2 and Red No. 4 food dyes were banned from use some time ago by the Food and Drug Administration.

They had been in use for so many years that most Americans had come to accept the fact that many of their favorite foods were artificially colored.

The loss of color has caused concern and promoted considerable research into acceptable alternate coloring sources.

As Volpe wrote, "red fruits and vegetables that could be potential sources of red food colorings include cranberries, cherries, currants, raspberries, strawberries, beets, and the skins of red potatoes and eggplant.



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One of the best ways to keep spirits happily glowing any day of a wintry week is with flavorful and colorful food and drink.

Bright and tangy cranberry drinks can create a veritable snowfall of cheery concoctions. Here are five berry liquid recipes sure to be welcomed by family and friends all winter long.

Snowberry Eggnog combines egg yolks, sugar, dark rum, brandy, cranberry juice cocktail, egg whites, heavy cream and nutmeg. Serve in a pitcher or punch bowl.

After a brisk and invigorating day of skiing down lofty slopes, Cranapple Wine Warmer is sure to cast away lingering chills. The

ingredients for this piquant brew include cranberry apple drink, pineapple juice, red wine, cloves, cinnamon and nutmeg. Serve it hot in mugs garnished with cinnamon sticks and lemon slices.

Berry Pink Fizz combines cranberry juice cocktail, frozen strawberries and orange sherbet.

Cranberry Beer Bounce combines cranberry juice cocktail, beer and ginger. Served in a pitcher it makes a super sipper to accompany cheese and chip nibblers, or with a cold cut sandwich lunch.

Cranapple Yogurt Frost, a creamy blend of vanilla yogurt, cranberry apple drink and ice cubes, is whipped up in the wink of an eye.



A bevy of bright sippers that add a special glow to winter include snowberry eggnog, cranapple wine warmer, berry pink fizz, cranberry beer bounce, and cranapple yogurt frost.



Recipes courtesy of  
Ocean Spray Cranberries, Inc.

### SNOWBERRY EGGNOG (Serves 10 to 12)

- 4 egg yolks, beaten until thick
- 1 cup sugar
- 1 cup dark rum
- 1 cup brandy
- 4 cups cranberry juice cocktail, chilled
- 4 egg whites, stiffly beaten
- 2 cups (1 pint) heavy cream, whipped
- Grated nutmeg

In a bowl, beat egg yolks. Gradually beat in sugar, rum, brandy and cranberry juice. Pour mixture into a 4 quart punch bowl or pitcher. Gently fold in egg whites and whipped cream. Stir gently until well blended. Sprinkle top with nutmeg. Serve at once in punch glasses.

### CRANAPPLE WINE WARMER (Serves 6)

- 2 cups cranberry apple drink
- 2 cups pineapple juice
- 2 cups sweet red wine (port, claret, grape wine)
- 6 cloves
- 1/8 teaspoon each cinnamon and nutmeg
- Cinnamon sticks, lemon slices

In a saucepan, combine cranberry apple drink, pineapple juice, wine and spices. Bring to a boil and remove from heat. Remove cloves. Pour into heatproof mugs and serve garnished with cinnamon sticks and lemon slices.

### BERRY PINK FIZZ (Serves 6)

- 4 cups cranberry juice cocktail
- 1 package (10 ounces) frozen strawberries
- 1 pint orange sherbet
- Halved orange slices

In a blender container\*, combine cranberry juice, strawberries and sherbet. Whirl at top speed until smooth. Pour into glasses and serve at once, garnished, if desired, with orange slices.

\*If blender container holds only 1 quart make one half of recipe at a time.

### CRANBERRY BEER BOUNCE (Serves 6)

- 3 cups cranberry juice cocktail, chilled
- 3 cups beer, chilled
- Dash ginger
- Ice cubes, crystallized ginger speared on skewers

Pour 1/2 cup cranberry juice into each of 6 glasses. Slowly pour in beer. Stir gently and add ginger. Stir again and add ice cubes. Garnish with crystallized ginger on wood picks. Serve at once.

### CRANAPPLE YOGURT FROST (Serves 4)

- 2 containers vanilla yogurt
- 2 cups cranberry apple drink, chilled
- 8 ice cubes

Combine all ingredients in blender container\* and whirl until smooth. Pour into glasses. Serve at once garnished, if desired, with orange slices.

\*If blender container holds only 1 quart make one half of recipe at a time.

### Entree and Salad

An elegant buffet creates a festive mood with lots of glowing candles, gay flowers and merry flavors. For a stylish supper, prepare Cranberry Butterfly Shrimp as your main course. This delectable dish combines shrimp with a piquantly seasoned sauce made with butter, flour, mushrooms,

cranberry-orange relish, cranberry juice cocktail and chicken broth. Have all the ingredients together and ready to be mixed in a chafing dish.

Serve the shrimp over Cream Puff Shells placed in a pretty basket next to the chafing dish on your buffet.

### CRANBERRY BUTTERFLY SHRIMP

(Serves 8 to 10)

- 3 pounds raw shrimp, shelled and deveined
- 1/2 cup butter or margarine
- 1 pound small mushrooms, trim stems
- 1 clove garlic, crushed
- 1 small onion, minced
- 1/2 cup cranberry-orange relish
- 1/3 cup all-purpose flour
- 1 cup cranberry juice cocktail
- 1 can (10-3/4 ounces) condensed chicken broth, undiluted
- Salt and pepper
- Cream puff shells

With a sharp knife cut shrimp lengthwise cutting not quite all the way through. In a chafing dish, melt butter and cook mushrooms, garlic and onion for 5 minutes. Stir in relish and flour. Gradually stir in cranberry juice and chicken broth. Stir over medium heat until sauce bubbles and thickens. Add shrimp and cook until shrimp just turn pink. Season to taste with salt and pepper. Serve shrimp spooned over split cream puff shells or rice.

### Editor's Note

Readers of *Cranberries* are invited to offer suggestions and tips for inclusion on these pages in each issue which are largely devoted to items of interest to women. Items of women in the world—in business, agriculture, politics or at home—are especially invited. Every consideration possible will be given to the use of submitted material.

## WHICH PLANTS TO VISIT

What is there about the weather that may affect how well bees do their job of pollinating more than 100 agricultural crops?

Electricity, that's what it's all about, say USDA experts.

In studies at Madison, Wis., ARS entomologist Eric H. Erickson found that early in the day, electrical potentials on worker bees leaving the hive were slightly negative to earth ground. As the day advanced, the potentials turned slightly positive.

As bees fly, they may acquire positive potentials, says Dr. Erickson. He found that bees returning to the hive had positive voltages—up to 1.5 volts d.c.—on bright warm days with low humidity, and the peak voltages occurred at midday or early afternoon.

Scientists have also learned that some plant species, under fair weather conditions, have negative potentials that become greatest at midday. Dr. Erickson is endeavoring to find out whether environmental electricity influences bees' choices of flowers to visit.

The difference in electrical potential between flower and bee may cause pollen transfer when the bee comes close to but doesn't actually touch the male part of the blossom, says Dr. Erickson. And besides possibly increasing pollination efficiency, the electrical phenomena may be components of learning as bees communicate.

# Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE  
extension cranberry specialist

Prof. William Tomlinson attended the Annual Meeting of the Entomological Society of America in Honolulu, Hawaii from November 26th through December 3.

## Weather

November was very cold and dry. The temperature averaged 7

Dr. Erickson has seen evidence that intensities of electrostatic charges that bees acquire, as they return to the hive, are influenced by both the distance they fly and solar radiation. A daily cycle of changes in solar radiation is related to a daily cycle of changes in positive electrical potentials on bees. Early in his studies, Dr. Erickson measured these potentials during a partial eclipse of the sun and found that they were less intense than during the same time on other days with similar weather.

Worker bees become irritable when the air is highly charged with electricity, other researchers have observed. Scientists also have found that bees' electrostatic charges increase during periods of atmospheric electrical activity before storms.

degrees a day below normal, breaking a record set in 1933. Maximum temperature was 59 degrees on the 4th and minimum was 18 degrees on both the 22nd and 30th. The only warmer-than-average day for the month occurred on the 4th. Cool periods were 1-2nd, 8-16th, 20-25th and 29-30th.

Rainfall totalled only 1.38 inches, which is nearly 3-1/4 inches below normal. There was measurable precipitation on only four days with .70 inches on the 29th as the largest storm. There was no precipitation from the 5th to the 29th. This was the driest November since 1946 and the fourth driest in our records. We are now 3-3/4 inches below normal for the year and nearly 9-1/2 inches behind 1975 for the period.

Strangely enough, for such a cold month, there was no snow.

\*\*\*\*\*

## NEW JERSEY

\*\*\*\*\*

Last month was the coldest and driest November on record at the Pemberton weather station. The average temperature, 39.8 degrees F, was 6.3 degrees below the norm for this month. The previous low average temperature was in 1967, when it was 40.6 degrees F.

The dryness was also very unusual, only .53 inches of rainfall during the month and it all occurred on one day—the 29th. The previous record low precipitation for November was 0.92 in 1936. The 29 day period of drought represented one of the longest dry spells ever experienced in the autumn here.

The accumulated rainfall for 1976 now stands at 36.33, which is 3.78 inches less than normal.

P.E.M.

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# 'It is Better to Light a Candle.'

"It is better to light a candle than to curse the darkness." Those words, though most familiar, have inspired many people to make use of their opportunities, regardless of how great or small they might be.

Such words as opportunity, ability, fear, and decision have blessed or plagued man from the beginning of time. It is not what one has or is, but rather what he will use or become that counts in his future. James A. Garfield, 20th President of the United States, once said, "I cannot do much, but I will not let what I cannot do interfere with what I can do."

I read with a great deal of interest about the work Edgar Buell has done. The story of his years as an agricultural missionary in Laos is an extremely inspiring one. He has been helping the people of this country help themselves. He is literally sowing seeds that are sure to grow.

He is one of those who believes that it is better to light a candle than to curse the darkness. Edgar Buell decided to use the talent he had to light a candle in Laos.

## Talents

In his parable of the talents, Jesus tells of the man who, as he was going away on a journey, delivered his goods to his servants to invest for him. "To one he gave five talents, to another two, and to another, one; to every man according to his several ability; and straightaway took his journey" (Matthew 25:15).

Two of the servants lit a candle. They invested the talents that had been entrusted to them. The other, in fear, cursed the darkness. He hid what he had. The law of life however, proved to be true. Those who had invested received abun-

dance. The one who also had, but failed to use it, and hid it, lost what he had. The law of life is: use it or lose it.

Very few of us are five-talent folk. Most of us are like the man who was given two talents. We are not famous; the world will little note nor long remember what we do or say here, We can, however, with God's help, use what we have, now, where we are. As in farming, so in life—it is not alone the number of acres we have that counts, but how well we use them.

Henry Wadsworth Longfellow once wrote: "The heights by great men reached and kept were not attained by sudden flight. But they, while their companions slept, were toiling in the night."

Jesus summed up his lesson on the talents by saying, "... Inasmuch as ye have done it unto the least of these my brethren, ye have done it unto me" (Matthew 25:40).

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# NEW PRODUCTS IN AGRICULTURE

Bankers say families earning \$12,000 per year (that's half the families in the U.S.!) can afford a new home priced at \$30,000. Yet, less than one-third of the new homes built in this country today will sell for that.

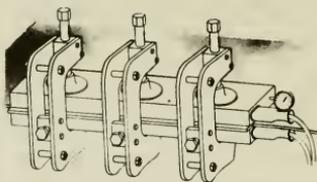
So, the National Plan Service of Elmhurst, Illinois, has devised a Package Housing Program of six attractive and energy-saving plans that should price out around \$20,000 to build.

The package includes detailed information on cost-saving and energy-conserving construction methods; information about home mortgage financing; and a picture book of homes built in Little Rock, Arkansas. The latter use 2 x 6-inch wood stud exterior walls with extra insulation and have been shown to reduce heating and cooling cost 60% over conventional homes of the same size.

For further information, write to: Package Housing Program, National Plan Service, 435 West Fullerton Ave., Elmhurst, Ill. 60126.

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Repairs on conveyor belting edges and worn spots can be made with the new Minet edge vulcanizing apparatus from General Splice Corporation, Croton-on-Hudson, NY.



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For descriptive literature write Ralph Milano, General Splice Corporation, P.O. Box 158, Croton-on-Hudson, NY 10520 (914) 271-5131.

## TAX ACT

*Continued from Page 6*

In summation, as to estate planning, the new law relieves taxpayers from the "highest and best" rule but the elimination of the "stepped up" rule may still increase overall estate and gift tax burdens. To prevent the forced sale of estate assets, tax advisers suggest that there may now be a need for increased liquidity to pay estate settlement costs.

Also, the effect of the law on a program of lifetime giving could be to push the eventual estate into a much higher tax bracket.

Finally, the use of the larger estate tax marital deduction may be of doubtful benefit; it may in some cases simply defer taxes until the second death.



## Barterin' Ben

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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Volume 43, No. 1-2

January/February, 1977

43

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MAR 1 1977

UNIV OF MASS

*'It is sheer folly to blame marketing orders for the prices we pay in the supermarket'*

**Consumer Advocate Jeane Thom**

See Page 6



MAR 2 1977  
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## ***In This Issue . . .***

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- EPA Issues Pesticide List — Page 3
- Wisconsin Drought Threatens Wildlife — Page 5

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YEAR AND STATE	AREA HARVESTED	YIELD PER ACRE	PRODUCTION		UTILIZATION			PRICE	VALUE
			TOTAL	UTILIZED	FRESH	PROCESSED	SHRINKAGE 1/	PER BARREL 2/	OF UTILIZED PRODUCTION 1,000 DOLLARS
		ACRES				BARRELS		DOLLARS	1,000 DOLLARS
<b>1974</b>									
MASS	10,900	85.5	932,000	932,000	167,000	491,000	274,000	10.70	9,972
N J	3,200	78.1	250,000	250,000	500	244,500	5,000	10.60	2,550
OREG	900	102.2	92,000	92,000	800	91,000	200	10.40	957
WASH	1,100	83.6	92,000	92,000	30,200	59,200	2,600	10.40	957
WIS	7,000	124.3	870,000	870,000	119,000	601,000	150,000	10.50	9,135
U S	23,100	96.8	2,236,000	2,236,000	317,500	1,486,700	431,800	10.60	23,671
<b>1975</b>									
MASS	10,900	72.0	785,000	785,000	162,000	508,000	115,000	13.00	10,205
N J	3,100	71.3	221,000	221,000		216,000	5,000	13.30	2,939
OREG	900	107.9	97,100	97,100	300	96,500	300	13.30	1,291
WASH	1,100	122.7	135,000	135,000	22,600	92,700	19,700	13.30	1,796
WIS	7,000	119.6	837,000	837,000	126,000	531,000	180,000	13.00	10,981
U S	23,000	90.2	2,075,100	2,075,100	310,900	1,444,200	320,000	13.10	27,112
<b>1976 3/</b>									
MASS	10,900	85.8	935,000	935,000	JULY 7, 1977		JULY 7, 1977		12,155
N J	3,100	88.7	275,000	275,000	"		"		3,658
OREG	880	101.5	89,300	89,300	"		"		1,188
WASH	1,100	95.5	105,000	105,000	"		"		1,397
WIS	6,800	146.3	995,000	995,000	"		"		12,935
U S	22,780	105.3	2,399,300	2,399,300	"		"		31,333

1/ CRANBERRIES PAID FOR BY PROCESSORS AND LOST BECAUSE OF DEHYDRATION AND BERRY BREAKDOWN AFTER DELIVERY.

2/ EQUIVALENT RETURNS AT FIRST DELIVERY POINT, SCREENED BASIS OF UTILIZED PRODUCTION.

3/ SEASON AVERAGE PRICES FOR 1976 ARE NOT AVAILABLE; 1975 PRICES USED TO COMPUTE 1976 VALUE.

## Value of 1976 U.S. Crop to Top \$31 Million; Production Revised to 2,399,300 Barrels

The 1976 U.S. cranberry crop may be valued well in excess of \$31 million, according to late estimates from the U.S. Department of Agriculture.

The new figure is based on the average price per barrel paid for the 1975 harvest and applied to the new record harvest for 1976 of 2,399,300 barrels.

Final and more reliable figures are expected next July, according to Byron S. Peterson, agricultural statistician in charge of USDA's Boston office of the statistical reporting service.

The final dollar value could go even higher. USDA experts expect the average price per barrel for 1976 will prove to be a little higher than the 1975 figure. Prices per carton of 24 bags for Howes were

reported during the last three weeks of the season, F.O.B. Massachusetts, to be the highest since 1953.

The total crop production for 1976, reported in the November issue of *Cranberries* at 2,377,000, has been updated as of year-end to be closer to 2,399,300 barrels.

Wisconsin again leads the nation with an estimated 995,000 barrels, with Massachusetts production 60,000 barrels behind at 935,000. New Jersey, as well as Wisconsin, has set a record harvest at 275,000 barrels, up from earlier estimates of 265,000.

USDA's Peterson says he expects the final production figures will vary less than one percent.

Perhaps one of the most provocative statistics shown in the graph above is the yield per acre, in

which Wisconsin has been known to be leading for some time.

Per acre yield in Wisconsin is shown as 146.3 barrels, up from 119.6 in 1975 and a 124.3 in 1974. Massachusetts yield per acre is 85.8, up from 72.0 for 1975 and slight improvement over the figure of 85.5 shown for 1974. Massachusetts, in fact, hometown of the "cranberry," trails every growing state in yield per acre.

But the most meaningful figure remains that shown at the bottom of the last column on the right, the so-called bottom line. When the final figures are in, a new record may be reached and, hopefully, growers will realize record return on their investments.

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# EPA Issues List of Restricted Pesticides

The Environmental Protection Agency has at last issued a list of agricultural pesticides that are candidates for restricted use only by farmers and others that have shown they can safely handle and apply them.

A total of 81 pesticides ingredients out of the 1,400 now used to make thousands of farm and non-farm pesticides are on the EPA restricted candidates list which is called "Candidate Chemicals for Restricted Use."

These 81 ingredients are in two groups: 1) those generally agreed upon as having one or more restricted uses 2) those that may have restricted uses but where agreement is less certain. There are 54 ingredients in the first group and 27 in the second.

Most of the ingredients are listed because of their acute toxicity to people or wildlife if ingested or inhaled or because the ingredients may cause serious eye damage or skin irritation to people. Some ingredients are listed because of their potential for long-term adverse effects on people, fish or wildlife.

Along with the restricted candidates list is another list containing 50 agricultural pesticides considered candidates for general use. This means that these compounds appear to pose no unreasonable human or environmental problems. They would continue to be available for purchase and use by anyone provided label directions are followed.

"Most agricultural pesticides and practically all home and backyard garden products will probably be classified for general use," said EPA pesticides chief Edwin L. Johnson.

The various uses of the roughly 1,300 ingredients not on either agricultural list must also eventually be classified as either general or restricted. Johnson indicated that EPA expects to complete the identification of restricted uses by October 21, 1977 to coincide with the certification deadline for

farmers and commercial applicators. The classification of all general use products may not be finished until sometime in 1979, Johnson said, but in the meantime, these products will continue to be available for sale and use.

"These lists have not been finalized," said Johnson. "They should not be considered the final word on these compounds. But they do represent our best current thinking based upon consultation with local pesticide officials, academic experts, scientists, and pesticide producers.

"We're releasing the lists now as a good faith effort to assist state pesticide officials in further designing certification programs and in determining how many farmers and other users will require certification based upon the ingredients on the lists."

Thus far, more than 143,000 farmers and 98,000 commercial applicators have been certified to use restricted pesticides in 47 states and territories. This has been accomplished with the guidance of earlier versions of the restricted candidates list and through cooperation and consultation among EPA, the states and the extension service of the U.S. Department of Agriculture.

"The extent to which this list will remain unchanged depends upon additional review to be given these pesticides during EPA's current pesticide re-registration process," Johnson noted. This entails measuring all ingredients against the standards of human health and environmental protection prescribed in the 1972 pesticides law.

Among the factors that can influence whether a pesticide use will be classified restricted or general are the extent of human exposure and whether risks can be minimized through packaging or labeling changes.

As far as farmers, ranchers, and other growers are concerned, Johnson said they can be fairly certain that the following pesticides

will be considered for restricted use:

—those bearing the word DANGER and the skull and cross-bones symbol on the labels. This indicates that they are in the most toxic pesticide category.

—those used to control undesirable brush, destructive insects, or other pests in forest areas.

—those applied directly to water bodies that support fish or wildlife or water bodies that can carry a pesticide onto another person's property.

—those used to fumigate grains and other crops in storage.

If a grower is now using one or more of these pesticides, he or she should inquire of local agriculture officials about certification, according to Johnson.

Examples of the pesticides on EPA's restricted candidates list are:

In group 1 (general agreement restricted) disulfoton/Disyston, Guthion, methyl bromide, parathion, Thimet

In group 2 (possibly restricted) ethylene dichloride, dinoseb, lead arsenate, vydate

Ingredients on the general use list include alachlor/Lasso, atrazine, chloramben, linuron/Lorox, and thiram.

*Continued on Page 17*

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# editorial

## Shavings

For business and industrial leaders willing to put aside their political misconceptions for a couple of days and enjoy an educational experience, I recommend that they drop in next year at the annual meeting of the Massachusetts Farm Bureau Federation.

I had the pleasure of attending this year's convention in Hyannis, mainly to deliver a speech on governmental stupidity, and came away with the notion that the Republic may yet endure.

Farmers are truly the arrowhead of the free enterprise adventure, and they have an intelligent militancy toward free-wheeling bureaucrats and free-loading advocates who conspire to relieve them of their hard-earned, officially-depreciated dollars.

The farmer is the victim of more senseless oppression on the part of government than any other businessman. He doesn't mind contending with the rules set by Mother Nature, but he's had it with pontificators and demagogues who are rushing us to starvation on a train of edicts, controls, restrictions, prohibitions and red tape.

At Hyannis, the farmers considered 93 issues at the resolutions session, 86 of which were government-related grievances. Of the 33 national resolutions remanded to the American Farm Bureau Federation for consideration, all but two are government-related. The only national proposition they rejected — a resolution that would have supported the AFBF on its discontinuance of American Farm Magazine — was not a government-related question.

Strikingly evident in that session was the willingness of farmers to adopt a more principled and realistic view of what is happening socially and economically than other businessmen and industrialists see in pressing their myopic causes.

One resolution, for example, urged "that OSHA (Occupational Safety and Health Agency) inspectors, on initial violations found on farm inspections, provide reasonable time for corrections before fines are levied." That was amended by eliminating the word "farm" so that all private businesses could enjoy that small sanction, and it was adopted unanimously.

On another proposition to require regulatory agencies to reimburse a farmer or farm organization for defense expenses when the agency fails to prove its charges, the delegates voted unanimously to eliminate "farmer or farm organization" and insert "any person or organization."

They view their war with government as a test of basic principles that all business should share, and in that belief they show

more understanding and more maturity than any other industry.

It was principle, certainly, and not the aluring guise of government protection, that prompted them to urge the American Farm Bureau to "go on record as opposed to mandatory national health insurance," which was adopted unanimously and without a word of debate.

Nor were the farmers shy on the matter of turning the regulatory tables on the government. Unanimously approved, for instance, was a resolution asking the AFBF to regulate the regulators by requiring "all authorized regulatory personnel to thoroughly sanitize their footwear before entering a barn" so as not to spread disease.

Environmental planners seem to be caught between irony and egg-on-face in a unanimously-approved resolution imploring the government "to recycle properly treated waste water effluent by discharging it onto the land for ground water recharge instead of discharging it into an ocean environment" to increase fresh water supply.

A resolution complaining about government's "senseless demands" and "interference" and the need to "eliminate those agencies which waste taxpayers dollars in the pursuit of their zealous harassment," was adopted zealously, unanimously and gleefully.

The banquet address by Roger Fleming, executive vice president and general manager, of Farm Family Insurance companies, was a call to battle. He warned of the real danger in failing to force a decentralization of governmental power and underscored it with this graphic illustration of federal spending: "A billion seconds ago was the bombing of Pearl Harbor; a billion minutes ago was the Crucifixion of Christ; a billion dollars ago was yesterday — 17 hours ago, to be exact."

The grievances of business in this country are myriad. The bureaucratic juggernaut grinds on and on in its intrusion and its audacity. Every day it reaches a new high in spectacular recklessness, and with each new high comes greater abuse and intimidation.

American business and industry would do well to follow the leadership of the farmers in, as they say, "getting the hay down where they can get at it." Time is running out. To permit government expropriation of free enterprise would be repugnant even if the government has the capability to run anything, which it doesn't; at least the farmers know that silence is the real enemy of the republic.

By Wendell H. Woodman  
Syndicated Columnist

I. S. Cobb . . . publisher

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# Wisconsin Drought Also Threatening Wildlife

Wisconsin's extended drought has done as much damage to the state's lakes and streams as to its farms.

"Everybody is concerned about the effects of the drought on agriculture," said Max O. Nelson, Antigo area fish manager for the State Department of Natural Resources (DNR). "But there's no emphasis upon what's happening to our natural resources."

The grim reality facing DNR fish and water management specialists is that the same dry spell that parched farmlands last summer is freezing the life out of lakes and streams this winter.

Trout streams are in trouble. Winterkill of fish is feared on many lakes.

Oxygen levels are exhausted, resulting in fish kills, on some state rivers.

The Wisconsin River has zero oxygen levels from Mosinee to Stevens Point. Portions of the Eau Claire River have gone dead.

If the drought continues it will set up a confrontation, fore-

shadowed last summer, between the DNR's fish and water management specialists and farmers seeking state permits to pump irrigation water from rivers and streams.

The problem is especially acute on trout streams.

"It's (the drought) not going to eliminate all of the fish, but it's going to reduce the spawning population," Nelson said. "Once you do this... it's going to take three years to grow them back."

A case in point is the Wolf River, a major "big stream" trout water in the Midwest. A stream gauge at Langlade shows the river at its lowest flow since measurements began.

DNR workers don't ordinarily check the oxygen content of lakes until February, but some tests have been made already, spurred by concern over the harsh weather.

"So far the lakes are holding pretty good, but we think the reason for this is the very low snow cover," Nelson said.

In any event, the winter presages fish kills in the lakes—and possible receding shorelines next summer. The same factors are at work with lakes and streams.

Last summer's drought saw the waterways enter the winter with much lower than normal volumes

of water. In the case of streams, the lower flow deprives trout of prime habitat such as overhanging banks. More fish die in shallow water.

In industrial rivers such as the Wisconsin, factory and municipal waste have exhausted the river's dissolved oxygen, "eating" the dissolved oxygen faster than the low volume of water can produce it.

During the long winter, decaying wastes in water, both animal and plant, absorb oxygen needed by fish to survive.

The light snow cover on the lakes allows sunlight to penetrate the thick ice to trigger plant photosynthesis, which gives off oxygen.

Thicker snow, thicker ice and more extreme cold will mean that less oxygen is produced in the lakes. Smaller, shallow lakes already are in trouble.

The lakes lose their ability to handle wastes because they have a lower volume of water, which increases the ration of waste to oxygen.

This combination of factors is expected to produce fish kills in many lakes this year. Nobody is certain how bad the kills will be.

Record low levels of many lakes and reservoirs mean ground water is

*Continued on Page 17*

In a continuing effort to upgrade the quality of *Cranberries* magazine, the editor and publisher announce a new production schedule, effective with this issue.

Henceforth, *Cranberries* will be published on the third week of the month. News such as crop and weather reports will cover the previous month.

Advertising must be submitted by the first of the month of publication; editorial matter will be considered as late as the 10th of the month.

Reflecting this production change, the Volume number has been changed ahead of schedule to a calendar year basis to become Vol. No. 43; Issue No. 1 for 1977 has been deleted, or otherwise combined with this issue to become the January/February, 1977, issue.

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# Consumer Advocate Defends Farmer's Role But Urges Reform in Marketing Orders

"It is sheer folly to blame marketing orders for the prices we pay in the supermarket," claims a leading consumer advocate from California.

By the same token, marketing orders are not without fault and in need of change, according to Ms. Jeane Thom.

Ms. Thom is a "public member" of the Cling peach advisory board, California state order. She is one of many who spoke out for change at the USDA's Fall Meeting of the Advisory Committee on Regulatory Programs.

At the same time, she defended her membership on the board as useful.

"The board of which I am a member is considered a high budget board and yet the assessment for a marketing season adds less than 1/5 of a cent to a can of peaches. This money is spent for promotion

aimed at the consumer through the standard media, TV, radio and magazines, for pamphlets or booklets prepared for consumer education, materials aimed at the mass feeding establishments and nutrition education in schools. A small part of the budget is used for variety research.

"The hoped for return is that as the market expands, production is more stabilized and more efficient.

"It is the chain from the farmer to supermarket shelf which sets the price, whether we are talking about processed food or fresh fruit. Let me explain by using examples of both canned peaches and fresh peaches.

"For the fresh peaches retailing for 49¢ per pound in June, the grower received 5½¢. From this he paid all the costs of growing and

picking those peaches. The packing house added 8-3/4¢ per lb. for materials, labor, cooling, hauling and profit. Another 7¢ per lb. was added to get those peaches to the supermarket warehouse, and the retailer added 27-3/4¢ per lb.

"A 2-1/2 can of cling peaches returns 8¢ to the farmer who again must pay all the costs of growing and picking the fruit from this amount. From the time it leaves the farm to the time you buy the can of peaches, 47¢ to 50¢ has been added in the form of cannery labor costs, hauling, sugar, tin can, labels, energy, plant maintenance, canner profits and retailer costs and profits. *It is obvious it is not the farmer who is growing rich while the consumer pays higher and higher prices.*

"The marketing act itself needs

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to be revised to allow any farm commodity to be covered rather than those listed, forcing a constant political game to amend it to include each commodity as the need arises.

"The California law permits one-purpose orders so that most are promotion and/or research oriented. It is my understanding that either by law or policy this is not permitted at the Federal level and that each order must contain some type of control. Is this necessary?"

"There should be a requirement for a periodic referendum to insure that the majority of those covered by the order still favor it and orders should be scrutinized to assure that the voting and election procedures are democratic.

"I would remind you that these self-help programs exist because they are needed by the independent grower.

"In January 1975, I testified before the California Fair Political Practices Commission asking that marketing order advisory boards be exempt from the conflict-of-interest provisions of the Political Reform Act of 1974. These were my concluding three paragraphs:

"If these provisions are applied to marketing order advisory boards, these boards will simply cease to exist. This does not mean that the agriculturists will not continue to engage in voluntary self-help pro-

Continued on Page 17

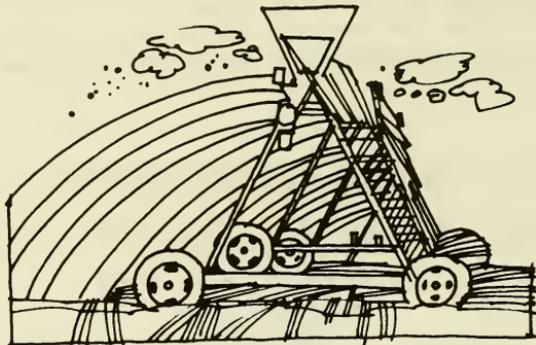


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# Mass. Cranberry Station & Field Notes

by IRVING E. DEMORANVILLE  
extension cranberry specialist

## Personals

Prof. William Tomlinson attended the annual meeting of the Entomological Society of America from Nov. 29 to Dec. 2 in Honolulu, Hawaii. Bill was impressed with the climate and scenery as well as the high prices. He may show some of his slides at a grower meeting this winter.

## Weather

December was another very cold month, averaging 6.3 degrees a day below normal. This was not a record but was the coldest December since 1963 and the 5th coldest in our records. However, when November and December are considered as a unit, or the period October through December, then we find that there is nothing in our records to equal the fall and early winter of 1976. There have been

days when the winds were extremely strong, but of fairly short duration so that probably no injury from winterkill has occurred. The first chance of winterkill came at the end of the month and by then nearly all bogs had been flooded or snow covered. Maximum temperature was 56 degrees on the 7th and minimum 1 degree on the 14th. The only warmer than average days occurred on the 7th and 20th. Cold periods were on the 1st, 3rd-5th, 9th, 22nd-24th and 27th-31st.

Precipitation totaled 3.47 inches for the month which is about 3/4 inch below average. There were 10 days with measurable precipitation with 1.11 inches on the 7th as the greatest storm. Snowfall was 6.0 inches which is slightly above average.

## Summary of 1976

For the year 1976 our temperature averaged 1.3 degrees a day below normal, coldest year since 1968. Warmer than normal months were February, April and June; while January, September, October, November and December were below normal. Actually the last above normal month for us was June. Maximum temperature for the year was 91 degrees on August 22nd. The minimum was 7 below zero on January 23rd.

Precipitation for 1976 totaled 42.42 inches which is about 4-1/2 inches below normal. This is 11-1/3 inches less than 1975. Largest single storm was 4.24 inches on August 8th. Months showing substantially above normal precipitation were January, July, August and October. Substantially below normal were February, April, June, September and November. Snowfall was 44.4 inches total or about 60 percent above normal. Largest snowfall was 12.5 inches on January 11-12th.

# NEW JERSEY

For the sixth consecutive month the temperature was well below normal in December. The average temperature was 30.7 degrees F which is 4.8 degrees below normal. It was the coldest December since 1962 when the average was 30 degrees. There have been only five colder Decembers in the past 48 years at Pemberton where the most frigid one occurred in 1955, when the average was only 28.1 degrees. Extremes in temperature were 58 degrees on the 7th and 6 degrees on the 1st.

Precipitation totaled only 2.52 inches which is 0.56 deficient from the normal. A light snowfall of 3.8 inches on three snowy days accounted for only about 1/5 of the precipitation for the month.

## Summary of 1976

The weather for the year 1976 can be summarized as being colder and drier than normal. The average

*Continued on Page 12*

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# Value of Nation's Farm Products Increases \$34 Billion in Five Years, Says Commerce

The nation's farms had sales of more than \$80 billion worth of agricultural products in 1974, up \$34 billion since 1969, according to reports released in late January by the Bureau of the Census, U.S. Department of Commerce.

Total production expenses were \$60 billion in 1974 and \$38 billion in 1969, the report also showed.

There were 2,450,126 farms in the United States in 1974 occupying about 45 percent of the nation's total land area. In 1969, when the last previous census was taken, there were 2,730,250 farms. Total U.S. cropland declined from 459 to 438 million acres during the 5-year period. Places of less than 10 acres were counted as farms if sales of agricultural products amounted to, or normally would amount to, at least \$250. Places of 10 acres or more were counted as farms if sales of agricultural products for the year amounted to, or normally would amount to, at least \$50. This definition was first used in the 1959 Census of Agriculture.

Nationwide, there were 10 percent fewer farms in 1974 than in 1969. The Western States showed the smallest change in the number of farms with a net loss of less than three percent. The South reported a 14 percent decrease—the largest among the four geographic regions. Decreases were 8 percent in the North Central States and 10 per-

cent in the Northeast.

The average value of agricultural products sold per U.S. farm in 1974 was \$32,825. The West led the nation with an average of \$67,439 in sales per farm, while in the South reported average sales were \$23,008 per farm. Farms with sales of less than \$1,000 numbered 152,000 in 1974 and accounted for less than \$40 million of the nation's \$80 billion in sales.

The reports show that the number of full owner-operated farms dropped from 1.7 to 1.6 million, while the number of part owner-operated farms decreased from 672,000 to 627,000. Only in the Western states was an increase reported in full owner-operated farms: 166,000 in 1974, up 4,000 from 1969. Tenant-operated farms in the U.S. fell from 353,000 to 267,000. The average age of farm operators increased from 51.2 to 52.2 years. The high and low average ages for farm operators were 53.5 in the South and 51.0 in

the North Central Region. Farming was the principal occupation reported by only three out of five of the Nation's farm operators.

Data for farms with sales of \$2,500 or more are shown for both 1974 and 1969 in the reports. There were 1,680,689 of these farms in the U.S. in 1974 and they represented 69 percent of all farms. Moreover, these farms accounted for 99 percent of the value of agricultural products sold and average \$47,266 in sales. This compares with 1,733,683 of these farms in 1969 with an average of \$25,654 in sales.

The reports point out that 90 percent of the farms with sales of \$2,500 and over were operated by individuals or families, 8 percent by partnership arrangement, and less than 2 percent by corporations. Farms with sales of \$40,000 and over increased from 221,690 in 1969 to 456,604 in 1974. There were 151,314 farms with sales of \$100,000 or more.



Ben Franklin is supposed to have said, "There are three faithful friends: an old wife, an old dog, and ready money."

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## Canada Farm Results, Outlook '77 Production

Praising Canada's farmers as real heroes in the country's anti-inflation program, Agricultural Minister Eugene Whelan last month cited the fall of food prices as a major factor in the decline in the consumer price index. In other opening remarks to delegates at Canada's Agricultural Outlook Conference, Whelan called careful management and production planning of primary importance in maintaining stability in the agricultural sector.

Speakers who followed outlined—as usual in this annual conference—Canadian production, exports, and future prospects for the country's major crops.

Increased area and the largest yields in Canada's history produced a record wheat crop of 23.5 million metric tons in 1976, 38 percent larger than the 17.1 million tons produced in 1975. Average yields were 2.11 tons per hectare, compared with the previous high of 1.86 tons per hectare in 1966. Fifty-nine percent of the wheat is

estimated to fall in the No. 1 grade category, compared with last year when only 17 percent graded No. 1.

There were no shortages of farm inputs in 1976, and adequate supplies are expected to continue into 1977. An 8 percent increase in the price of Canadian crude oil, however, is expected to have direct and indirect effects on the cost of farm sector inputs. Crude oil price increases, for example, are major factors, accounting for an expected 10 percent rise in farm machinery operating expenses in 1977. Energy expenditures have accounted for a mounting proportion of farm operating costs. In 1975, expenditures for fuel oil and electricity represented 9.4 percent of farms' operating expenses.

As a result of the drop in revenue and the increase in operating costs, net farm income for 1976 was off 20 percent from the record high of Can\$4.25 billion in 1975, to Can\$3.36 billion in 1976. Net farm income could fall an

additional 20-25 percent in 1977, primarily due to an expected 10 percent cut in revenue from crop production and a 5 percent increase in operating expenses.

*Foreign Agriculture*

## Farm Equipment Sales To Rise 4% in 1977

An increase of approximately 4 percent in United States retail sales volume during 1977 is anticipated by farm equipment manufacturers who are members of the Farm and Industrial Equipment Institute (FIEI). The conclusion was announced before 200 industry leaders attending the Institute's Marketing and Management Conference held in Scottsdale, Arizona in late January.

In presenting the State of the Industry report, Harry C. Lusk, general manager of the Agricultural Equipment Divisions of Allis-Chalmers Corporation, noted that FIEI members anticipate demand for equipment will be mixed for 1977, with the strongest sales occurring in the cattle, cotton and soybean markets.

The report was compiled primarily from a survey conducted by FIEI of its member firms.

Lusk said in his presentation that some of the factors which manufacturers feel will benefit the farm equipment sales climate are strong economies, both domestic and foreign; continued levels of exports; stable, high level of farm income; tax credits; and the need to improve farm efficiency.

Negative factors which may tend to offset benefits are an inflation rate that will continue to be higher than farm price increases; rising world grain stocks; uncertainty of agricultural policy; dry conditions in the West; and relatively low hog, wheat and corn prices.

# AGRICULT

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# URE NOTES

Two imponderables acknowledged by the survey which could significantly affect actual sales during 1977 were weather and political decisions.

\* \* \*

Gypsy moth females are born sexy, says one authority. If they don't mate within the first four days of adult life they won't mate at all, says an entomologist at Pennsylvania State University.

Researchers have released tiny capsules containing the gypsy moth's female sex attractant into forest areas where it so heavily permeates the air that it confuses the male moth until "he hardly knows which way to turn."

The theory is that involuntary family planning results because the females become frustrated and produce fewer egg masses.

The university researchers admit that the tests to date have not been an unqualified success but hold promise for the future.

## C. L. Lewis Services Held in Wisconsin

Shell Lake, Wis.—Funeral services for Charles L. Lewis, 88, former grower here, were held earlier this month at the United Methodist Church.

The founder in 1911 of the Badger Cranberry Co., Lewis served on the board of Ocean Spray Cranberries, Inc., from 1940 to 1960 and was a past president of the Wisconsin Cranberry Growers Association.

He was also a director of the Sarona State Bank and the Shell Lake State Bank.

Lewis was a founder of the Shell Lake Hospital and was instrumental in development of the Shell Lake Airport.

Survivors include his wife, Mary, two sons, a daughter and a sister.

Burial was in Shell Lake Cemetery.

Colonies of honey bees that are moved in late fall may need more sugar as supplemental food for wintering than colonies left undisturbed.

Moving causes colonies to break their tight cluster, become excited, and lose heat, says Entomologist Floyd E. Moeller of USDA's Agricultural Research Service in Madison, Wisc. Colonies that he moved once in late November in studies at the agricultural experiment station consumed 30.4 kilograms (kg) of honey in winter and early spring compared with 25 kg consumed by undisturbed colonies. Colonies that he moved twice consumed 34 kg.

Dr. Moeller also measured effects of moving colonies 13 to 21 miles in early July. The bees lost foraging time during the first week after moving while they oriented to clover fields similar to fields from which they had moved. Their disorientation was reflected by a smaller weight gain of the colonies compared with gains of other colonies that were already ac-

customed to foraging in the same fields.

Colonies that Dr. Moeller moved twice in the same evening—to new locations and back—stored as much honey as colonies that he did not move. Moving bees on two successive evenings to new foraging areas caused colonies to store less honey than colonies that were moved to only one new foraging area.

Beekeepers move colonies to obtain maximum pollination of a crop or to increase honey production. Before moves are made to increase honey production, says Dr. Moeller, beekeepers should consider whether the bees' loss of foraging time will be more than offset by forage quality of the new bee pasture.

\* \* \*

According to the EPA's *Environment News*, the number of Americans who are worried about air and water pollution is at an all time high according to a recent Harris Survey of 1,539 adults. Sixty-six percent feel that air pollution is a "very serious problem," up from 46 percent who felt that way in 1975, while 67 percent feel water pollution is "very serious," up from 51 percent last year.

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daily temperature for the entire year was 52.8 degrees or 1.1 degrees cooler than normal. The total precipitation was 38.89 inches which is 4.30 inches below normal.

Deviations in normal temperatures did not fluctuate from month to month as much as they usually do and the temperature trends were unusually marked and persistent. February, March and April were all well above normal and for six consecutive months, July through December, the temperature remained consistently colder than normal. There were also five consecutive months, February through June, during which rainfall was below normal. September, November and December also were deficient in precipitation while January, July, August and October had excessive rainfall.

The most unusual weather occurred in April when for three consecutive days the thermometer was in the nineties: 17th-91 degrees, 18th-93, 19th-92. For the five day period from the 16th through the 20th, the average maximum daily temperature was 90 degrees F.

Extremes in temperature for the year were 95 on June 28th and 0 degrees on Jan. 19th. The rainiest month was January with a total of 6.34 inches. It was the driest November ever for the Pemberton station with only 0.53 inches of rain falling in that month. The heaviest rainfall in an individual storm occurred on August 10, when there was a downpour of 3.04 inches.

P.E.M.

## NOVA SCOTIA

We are experiencing real winter weather. The mean temperature of -4.3 degrees C for the month of December was slightly lower than the 50-year average of -3.1. Since the beginning of the year we have



### CRANBERRY TEA A LA RUSSE

(Serves 6)

**2 cups cranberry juice cocktail**  
**6 cups hot strongly brewed tea**  
**Lemon wedges**

In a saucepan, heat cranberry juice cocktail to a simmer. Then stir juice into hot tea. Serve in glasses with wedges of lemon.

had several snowfalls. The big storm came on Jan. 17 with heavy winds accompanied by snow. I regret to report that Chase and Bezanson lost their warehouse and some cranberry equipment on this date due to fire.

Since we have at least 50 cm of snow cover here at Kentville, I think that oxygen levels in water under the ice will be deficient this winter. Growers should drain the water and let the ice rest on the vines. This will allow for sufficient oxygen to bring the vines through until spring.

A report from British Columbia on December 1, 1976, states that harvesting of cranberries was completed in late October. Although weather conditions were generally poor throughout the season, the cranberry crop was little affected. Sales of cranberries were good and

no marketing difficulties were experienced.

I.V.H.

\*\*\*\*\*

## WISCONSIN

\*\*\*\*\*

Prolonged drought and severe cold continue to be the foremost concern of Wisconsin farmers of all kinds but especially cranberry growers.

The final harvest fell short by some 25,000 barrels, according to one report, because of the shortage of water for raking.

Throughout most of January, bitter cold, hitting 60 degrees (F) below zero at one point, continued to drive frost levels even deeper. By mid-January, the average frost depth throughout the state was 20 inches.

Further details are noted on Page 5.

# An International Flavor,

## From Russia

Recipes courtesy of  
Ocean Spray Cranberries, Inc.



### BERRY BEEF STROGANOFF

2 pounds beef chuck, cut into 3/4 inch cubes

Salt and pepper

Flour

1/4 cup butter or margarine

2 cups beef broth

1/2 cup dry red wine

2 cups fresh or frozen-fresh cranberries or 3/4 cup cranberry-orange relish

1 large onion, chopped

1/3 cup all-purpose flour

1 cup (1/2 pint) sour cream

Hot cooked noodles, parsley sprigs

Sprinkle beef with salt and pepper. Roll cubes in flour shaking off all excess. Heat butter in a large saucepan or Dutch oven and brown beef cubes well on all sides. Add beef broth, wine, fresh cranberries or cranberry-orange relish and onion. Cover tightly and simmer 1 to 1-1/2 hours or until beef is tender. Mix flour and sour cream until smooth. Stir mixture into beef. Stir until Stroganoff is thickened. Season to taste with salt and pepper. Spoon Stroganoff over noodles and garnish with parsley.

### CRANBERRY ROMANOFF

(Serves 6 to 8)

1 can (8 ounces) whole berry cranberry sauce

1 cup Grand Marnier

1-1/2 quarts vanilla ice cream

In a saucepan, heat whole berry cranberry sauce. Stir and heat until almost bubbly. Remove from heat and stir in Grand Marnier. Spoon ice cream into serving dishes and serve topped with warm cranberry sauce. (Serves 6)

You don't have to be Russian to savor some of their culinary delights. In interpreting some classic dishes from Russia, our chefs have taken creative license and used the spirited flavor and color of the American cranberry to gain piquant and eye appealing effects.

Berry Beef Stroganoff is a super taste choice for a family dinner anytime, or for a special occasion company buffet. Cubed beef is subtly flavored in a sauce combining beef broth, red wine, fresh cranberries or cranberry-orange relish, chopped onion, flour and sour cream. Served over noodles, this great dish is almost a meal in itself. One might just add a salad of crisp greens and serve a dry red wine.

For a special luncheon entree, or as a dessert, Cranberry Blinis will please the most discriminating palates. Small pancakes are tastefully topped with sour cream, sliced almonds and a tangy sauce combining fresh cranberries, currant jelly and cinnamon. Already prepared whole berry cranberry sauce can be substituted for the cooked fresh cranberry sauce. A nice idea is to serve your blinis on a platter accompanied with separate bowls filled with sour cream, almonds, and cranberry sauce so that each person can top their blinis as generously as they like.

For an easy dessert treat Cranberry Romanoff is a snap to prepare. Portions of vanilla ice cream are topped with a warm sauce combining whole berry cranberry sauce and Grand Marnier.

You won't need a samovar to brew Cranberry Tea a la Russe, but you might like to serve it in glasses Russian-style. This scintillating hot beverage combines strong tea and cranberry juice cocktail. For a tangy pick up to be served anytime, and as an especially pleasing warm welcome on a brisk winter's day.

### CRANBERRY BLINIS

(Serves 6 to 8)

Berry Sauce\*

1 tablespoon cornstarch

2 cups fresh or frozen-fresh cranberries, rinsed and drained

1 cup currant jelly

Dash cinnamon \*OR instead of above, already prepared, 1 can (16 ounces) whole berry cranberry sauce

Blinis

1 package active dry yeast

1/4 cup lukewarm water

1-1/2 cups lukewarm milk

2 cups buckwheat pancake mix

1/4 cup melted butter or margarine

Toppings

1 cup (1/2 pint) sour cream, chilled

Sliced almonds

Berry Sauce (as above)

In a saucepan, combine cornstarch, cranberries, jelly and cinnamon; simmer for 10 minutes, stirring constantly until cranberries are tender. Cool until just warm. In a bowl, mix yeast and water and stir until yeast is completely dissolved. Stir in milk, pancake mix and melted butter. Beat batter until smooth. Spoon batter by heaping teaspoonfuls onto a greased preheated griddle. Spread batter into a 2-1/2 inch circle. Brown on one side, turn with a wide spatula and brown on the other side. Keep warm in a 200° F. oven. Spoon sour cream into a bowl. When ready to serve, place blini on serving plate and top with sour cream. Sprinkle cream with almonds and then top with warm cranberry mixture. Serve at once.\*

\*If using processed whole berry cranberry sauce, omit cooling sauce. Place blini on serving plate, top with sour cream, almonds and cold cranberry sauce.

## Thinning Woodlands Increases Growth Rate

Desirable young forest stands develop when trees grow reasonably close to one another, encouraging straight stems, small side branches and natural pruning.

Excessive competition between trees results in a poor stand with too many stems and individual trees that grow too slowly.

Artificial thinnings are recommended in immature forest stands to increase the growth rate of the remaining trees, improve stand quality by removing the crooked and coarse trees, reduce losses by natural mortality, and to harvest more and better quality wood as a result.

Start thinning as soon as crop trees can be recognized and before live crowns have been reduced to less than 40 percent of tree height. Most stands need a first thinning when trees reach 5 to 8 inches in diameter, often before they are large enough for saw timber use.

In well-stocked stands on loamy soils, the first thinning should be made when the stand is 25 to 30 years old. Thin every 5 to 10 years thereafter until final harvest.

### What To Thin

Thin immature even-aged stands or even-aged groups in uneven-aged stands. Take out trees to reduce

crowding. When possible concentrate on removing trees of inferior species, trees of poor form (i.e., crooked, or forked, or whips with thin, narrow crowns which may damage the remaining trees) and trees with defects—rot, disease, insect damage, large heavy limbs.

Thinning is not just the removal of poor trees, however. Even when stands, or parts of them, consist solely of good species and trees of good form, thinnings are still required. In such circumstances, spacing and tree vigor are the primary factors.

### Thinning Methods

In crown thinning, the principle is to thin from the top down, removing poorer trees in the more dominant crown classes to favor other stems in these and subordinate classes that have better form and will become more desirable crop trees. Look up—not down. Many stands have some coarse, dominant trees containing merchantable material which will not mature into high quality stems. These should be removed to stimulate growth of neighboring trees of better form.

In low thinning, the stand is thinned from the bottom up, removing overtopped trees and smaller less dominant trees of the

main crown canopy which are being crowded out. Overtopped trees are eliminated first, but when heavier thinnings are warranted, as is usually the case, less aggressive trees in the upper crown classes are also taken, leaving the strongest, thriftiest trees to form the crop.

### How To Thin

Examine the stand tree by tree, and decide which are the more desirable stems to leave—then cut or kill those which interfere seriously with the better trees.

Do not reduce the stand to the final crop in one cutting early in its life—use a series of cuttings over a period of years.

As there is no good rule for the spacing of trees, thinning should be on the basis of space available for crown development. Thin so that sunlight penetrates between the tops of trees remaining in the stand. Thinning so that crowns will close in 5 to 10 years will restrict the development of heavy limbs in remaining trees. When crowns have closed, thin again.

### Expected Returns

First thinnings made in young stands of small trees often result in no financial returns, but they insure a faster maturing and more valuable crop later.

Subsequent thinnings should yield merchantable material and return a profit.

With thinning, the final crop will attain maturity more quickly, trees will be larger and of better quality. The total volume of wood harvested during the life of the stand will be increased by 30 to 40 percent, and income will be realized periodically over the years, rather than only at the time of final harvest, as in the case of unthinned stands.

*Compiled and edited from sources at the University of Massachusetts*

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## Sermonette . . . . . by the Rev. Don Jennings

There are many forms of human suffering; loneliness stands high on the list. Loneliness often comes when one is placed in a new situation . . . when one leaves home for the first time to go away to college or into the service, when we lose someone dear to us, or when it seems that the world is passing us by.

Driving through a town one day, I remembered that a faithful radio listener lived there. She had written many times. She had been told by her doctor that she would never recover from her illness. The last letter from her had said, "I haven't been so well lately. I hope you will get here before it is too late, I so much want to see you."

I had never met this good woman, but I felt that there might not be a better time. I stopped. It gave her a lift, and I received a far greater one. I learned later that another month would have been too late.

There is a sound of loneliness in the plea of the apostle Paul to his good friend Timothy as he says, "Do thy diligence to come before winter . . ." (II Timothy 4:21).

Paul had just written, in this same letter, "The cloak that I left at Troas with Carpus, when thou comest bring with thee and the books, but especially the parchments" (II Timothy 4:13). These were physical and material needs, but there is a tone of urgency in Paul's words as he says, "Come before winter."

How many times have we neglected to make that call, or write that letter. We knew that we must do it "before winter," but we put it off until it was too late.

### Tell him so

I have a little poem in my file, written by D.K. Silverwood many years ago. Its theme is "Just Tell Him So." The thought in the poem is that if there is someone to whom we can

give a little praise, do it now. If you like him, let him know it. A word of encouragement may make his days a little brighter. The poem ends with, "Do not wait till life is over and he's underneath the clover; for he cannot read his tombstone when he's dead."

How often Jesus must have felt a sense of loneliness and of being forsaken. How often he must have looked around himself at those who turned aside with other concerns. Come before winter, before it is too late. A woman who felt deeply indebted to Jesus did come with precious ointment. She did not wait until winter. Her reward was the word of her Master when he said, ". . . this that she hath done will be spoken as a memorial of her" (Mark 14:9).

Someone is waiting, somewhere, imploring us to come before winter, before it is too late. This could very well be the voice of God speaking to many of us. Peace of mind is the reward for those who give of themselves to others who plead, "Come before winter."

*(Courtesy American Agriculturist)*

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Continued from Page 3

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## WISCONSIN DROUGHT

Continued from Page 5

dropping off. Vacation homeowners on lakes and rivers are finding that their wells, especially shallow point driven wells, are failing.

Nelson is concerned that if the drought continues farmers will seek more permits to pump irrigation water from state waterways.

The DNR hasn't resolved the issue of whether potato farmers in western Langlade County should be given permits to pump irrigation water from the two branches of the Eau Claire River.

Vernon Goldsworthy, *Cranberries* correspondent and president of Cranberry Products, Inc., predicts that the 1977 crop of berries "will really be down unless we get some good Spring rains, at least 6 to 8 inches." He reports some reservoirs are completely dry and the marshes don't even have a winter flood, "which could be detrimental."

"Everyone in the state, almost without exception, is short of water."

## CONSUMER ADVOCATE

Continued from Page 7

grams. Alternatives under consideration are federal orders, cooperative associations and non-profit institutes. These alternatives preclude state supervision and in many cases the decision making process will not be open to public audit... in many cases

## COLOR IN YOUR FIREPLACE

Ordinary firewood will not give you different color flames. It is all done with pine cones and chemicals and you can do it yourself! All you need is paraffin wax and various salts which can be obtained from a drug store. Strontium chloride will produce red colors, barium chloride will produce green, calcium chloride will burn orange, potassium chloride will burn lavender and ordinary table salt (sodium chloride) will burn yellow. Mix 2 ounces of each chemical to 1/2 pound of melted wax. Stir well, then dip the pine cones into the mixture and let them dry. Upon throwing these pine cones into the fire, the various colors mixed above will result in the flames.

*Reprinted from the  
Pemberton, N.J., Times-Advertiser*

costly litigation will be necessary to accomplish what we presently accomplish by friendly persuasion.

"I heartily disagree with the self-appointed consumer representatives who believe that the people want these provisions applied to marketing boards and that such application is in the public interest.

"In conclusion, I ask you to consider very carefully whether the citizens of California, both rural and urban are better served by agricultural self-help programs administered by the state, the federal government, or privately and the tremendous advantage given to large corporations if marketing orders are terminated. I, for one, believe the only course is to exempt these boards from the provisions of the Political Reform Act. To do otherwise, is to participate in an exercise in futility."

"I've learned a great deal more about producing, packaging, processing and marketing since January, but nothing has made me change my mind and the words apply equally to Federal orders."



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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Vol. 43, No. 3

March, 1977

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*Noted researcher Chester E. Cross, Ph.D., head of the Cranberry Experiment Station, Wareham, Mass., has been featured in his college (University of Massachusetts, '35) alumni magazine, The Alumnus, for his agricultural/economic contributions to the Commonwealth, along with colleagues at the Station (research in heat transfer of pot-bellied stoves not withstanding).*

Story, Page 3

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# Bergland Calls for 'Global View'

The Cape Cod Cranberry Growers' Association has issued an invitation for more growers to join the 90-year old group.

The Association represents all growers, regardless of marketing affiliation. Founded in 1888, the Association is active in the culture and advancement of all phases of the cranberry industry, according to Irving E. Demoranville, secretary of the Association.

Among its accomplishments, the industry group has helped in the development of the cranberry marketing order, the frost warning service, the reward committee as a check against vandalism and theft, and in helping to file suit against violators of the Farmland Assessment Act.

For further information, contact Professor Demoranville at the Cranberry Experiment Station, East Wareham, Mass. (617) 295-2212.

The new secretary of agriculture under the Carter Administration has called for a "global view" in the shaping of U.S. agriculture policy.

Secretary of Agriculture Bob Bergland says "We must do everything we can to maintain and expand U.S. agriculture's overseas markets. His remarks appeared in last month's edition of *Foreign Agriculture*.

"As we look toward forming future farm and trade policy, there are two considerations that need a new level of attention: One of these is old—older than agriculture—as old as mankind. It is weather. The other is new—newer than television—newer than supersonic travel. It is *global* agriculture—a phenomenon that in this decade has thrust American farmers into a new international role.

"More than price, more than market demand, more than human needs, the world's weather determines crop output in any given year. Governmental policies and the market influence total output and mix of production among commodities. Science and technology affect yield trends over the long haul. But in a given year, weather is the overriding factor.

"That was true in Biblical times, when Jacob sent his sons into Egypt to look for corn. It was true in 1972, 1974, and 1975, when major producing areas of the world experienced crop shortfalls. It is just as true in 1977, as American farmers watch the development of winter grains and evaluate soil moisture and snow pack against the needs of crops yet to be planted. It is true now in Florida, where cold weather brought havoc to vegetables and fruits, including a citrus crop that was expected to be a record.

"I think the Department of Agriculture should make better use of weather data, utilizing these data in ways that are of maximum value to our own commodity analysts as well as to farmers. Weather fore-

casting is, of course, the province of the Department of Commerce. USDA has never taken a sufficiently deep interest in analyzing the effects of weather on production, and this should be corrected.

"Not that we can control weather; there is still much to be done in learning to forecast it accurately. But we need to crank weather knowledge and information into the models that are designed to predict what may happen in terms of both planted



USDA's Bob Bergland

acreage and final crop output. In 27 years of farming, I've experienced only 2 years of "average" weather. Predictions based on averages are of little value to anyone. We need to do this in our estimates of situations in other countries as well as in our own.

"The second consideration so important to future policy judgments is the recognition that "global agriculture" is now much more than just a phrase. The American farmer is inseparable from the international food complex, where a farm work force of 800 million produces for a world population of 4 billion; where 150 nations trade in 2,000 farm commodities; where new ideas are shared by satellite, yet primitive farming is common; and where incomes generally are rising, yet people are still hungry.

## '76 Sunshine Helpful Dr. Cross Tells Growers

The severe winter past does not help the outlook for the coming year but the sunshine record of the past year may prove a big factor in the 1977 Massachusetts crop, according to an industry leader.

Dr. Chester E. Cross, head of the Cranberry Experiment Station, E. Wareham, Mass., presented his analysis at the February meeting of local cranberry clubs held at the station.

"The sunshine data for 1976 is remarkable and positive toward a large crop," Dr. Cross reported. "Eleven showed above-normal sunshine for a record-breaking 370 hours more than average for the year."

Noting the influence of sunshine in one year on the size of the following year's crop, Dr. Cross said, "May, August, September and November in 1976 were above

*Continued on Page 8*

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# Dr. Cross and Team Featured For Contributions to Massachusetts

The history and purpose of the Cranberry Experiment Station, Wareham, Mass., has been chronicled in a feature story published in *The Alumnus*, alumni magazine of the University of Massachusetts, Amherst, Mass.

Dr. Chester E. Cross, director of the station, heads the team of research scientists highlighted in the story.

## Fake Cranberries?

Juicy chunks of fruit are being made from artificial ingredients by scientists who say they are finding substitutes for fruit shortages of the future, according to an AP release out of Cambridge, Mass.

Freshly made, the fake fruit is firm, translucent and cut into cubes about the size of diced pineapple. It can be flavored, textured and colored like nature's own, the developers say, and could be molded to look like farm grown fruit.

The new fruit is being developed at Massachusetts Institute of Technology for the National Aeronautics and Space Administration.

Its first use will be to feed astronauts on long journeys into space. But within a generation, its developer says, the imitation pineapples, cherries and bananas will probably be common ingredients in products on supermarket shelves.

The test tube fruit is made from a seaweed derivative, sugar, gelatin, pectin, artificial flavoring and coloring, plus vitamins and other nutrients.

The scientists have mixed their fruit with other foods and fed it to taste panels.

They found that peach yogurt made with the artificial fruit tasted almost as good as the commercial yogurts. And the tasters like fake fruit in strawberry Jello even better than a sample that had real frozen fruit in it.

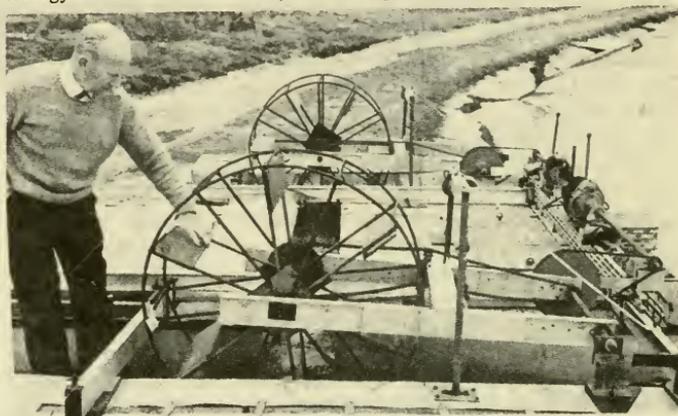
Assistant Editor Mary Prince says Cross is the cranberry station to many people.

The station has been in operation for 70 years. Prince says "the university's investment in research manpower has been returned to the state many times in revenues from the largest and most famous export crop in Massachusetts, a crop which hauled in some \$50 million in out-of-state cranberry sales in 1975."

"Cross has been on the scene since he received his doctorate in biology from Harvard in 1940, first

took the lead in cranberry production. The business of the Cranberry Station, Cross makes clear, is to help Cape Cod regain the title.

"The continuing importance of the station's work to the cranberry industry is demonstrated by the fact that although the acreage in cranberry cultivation on Cape Cod hasn't increased since 1900 (around 11,000 acres), productivity has increased from 20 to 100 barrels per acre. This feat has been accomplished, according to Cross, by "eliminating losses due to insects, fungal diseases, and just plain



Flotation sander developed by John Norton, station engineer, is examined by Dr. Cross at state-owned experimental bog.

as an assistant professor and, since 1953, as professor in charge of the station.

"Under the supervision of Cross, the station has grown from a small wood-heated cottage to its present modern facility which employs an 18-member staff. A research team of seven scientists working in different disciplines mans a \$200,000 pesticide research building erected by the state in 1968 with matching funds from the U.S. Department of Agriculture.

"Until 1975, Cape Cod bogs produced more cranberries than any other area in the world. Then an early August heat wave seriously depleted the crop, and Wisconsin

vagaries of the weather."

"The 10 acres of state bogs at the station are used for a variety of research projects ranging from testing different strains of berries for hardiness to experimenting with pesticides, fertilizers, picking machines and, lately, under the direction of nematologist B. M. Zuckerman, studying the aging process by tracing the month-long cycle of a worm that thrives in the moist soils of the bog.

"Cranberries can be found growing wild on vines around open swamps "from here to Labrador, out to the Great Lakes, and to the mountains of North Carolina." ac-

(Continued on Page 6)

# editorial

Once upon a time, Little Red Hen decided to make some bread.

"Who will help me plant the wheat," she asked.

"I will," was the hearty reply of the watchdog. "But first I must be sure that your crop-growing procedures meet all the requirements of OSHA, EPA, FIFRA, XYZ, and all the rest." Being a bureaucrat at heart, he busied himself with making endless inspections and filling out triplicate forms . . . and never did find time to help until planting season was long gone.

But the Little Red Hen was a realist, and resolved at the appropriate time, "All right, I shall plant the wheat." And she did.

The wheat grew beautifully, and when it had turned a rich golden color, the Little Red Hen said, "Who will help me harvest the wheat?"

"I will," enthusiastically replied the pig. But he was in the habit of chiseling on the food-stamp program . . . making verbal statements and filing forms shot through with falsehoods. The strain and sweat of the harvest was not for him.

The Little Red Hen . . . knowing that time, tide, and harvest wait for nobody . . . said, "Then I will harvest the wheat." And she did.

With a bountiful harvest in the bin, the Little Red Hen asked, "Who will help me grind the flour and bake the bread?"

"I will," quoth the rooster. But he was a barnyard politician . . . full of loud crowing and bragging, invariably promising far more than he could accomplish. And that is the way this promise turned out to be . . . one part good intentions to two parts hot air.

The Little Red Hen, knowing that bread is created by neither rhetoric nor regulation, said firmly, "Then I shall do the job." And she did.

When the hot loaves of heavenly-smelling bread came from the oven, the Little Red Hen was approached by the watchdog, the pig, and the rooster. She looked them straight in the eye and told them that she had been offered 20 shekels per slice by customers from across the pond . . . and that would be the price to anyone else.

"I guess we'll show you a thing or three," retorted the watchdog. "Top Dog will slap an embargo on your lousy bread so you can't ship it across the pond!"

"A bread-boycott will force your price down," screamed the pig. "I have my rights!"

The rooster pompously intoned, "I have already convened the Clobber Committee to draft legislation that will impose a price ceiling on your bread . . . at a level deemed appropriate by the rest of us."

So it came to pass that the Little Red Hen was forced to sell her bread very cheaply to the watchdog, the pig, and the rooster . . . but she never baked any more bread.

And they all lived unhappily ever after.

*Gordon Conklin Editor  
American Agriculturist*

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MAGAZINE

— Our 39th Year of Publication —

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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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Dr. Cross . . .

*Continued from Page 3*

cording to Cross. But in spite of the plant's pervasiveness, Cross defines man's cultivation of this sensitive fruit as "365 days of the year in which to make a mistake."

"Under the supervision of Station Engineer John Norton, the station has developed a flotation sander to replace hand-shoveling of sand onto the bogs, in addition to designing new models of dry fruit pickers and other bulk handlers.

"Agricultural chemicals—both pesticides and fertilizers—are at "the root of the station's research," according to Cross.

"We're dealing with maybe a dozen insect pests in cranberries, plus numerous types of weeds and fungi," Cross said. "Controlling the pests is not the problem; we know how to do that. The problem is finding chemicals that do their jobs and then disappear in the aquatic environment."

The search for non-polluting but effective chemicals is in the realm of several researchers at the station. Robert Devlin, plant pathologist, has written several textbooks on the subject and is now concentrating on using plant hormones and enzymes to increase the effectiveness of various herbicides, enabling growers to reduce the amount of chemicals they use. Biochemist Carl Deubert uses equipment that traces the breakdown of pollutants to parts per trillion as he studies the effects of various chemicals on aquatic environments. Bill Tomlinson, the station's resident entomologist, handles all questions pertaining to insects and keeps growers up to date on the latest registered chemical controls.

"In addition to his studies of nematodes, Zuckerman has done pioneering work in developing fungicides which can be applied from the air. The station's extension specialist, Irving Demoranville, joins Tomlinson in collating data for

weather reports in addition to acting as a liaison and reference source between the station and growers in the area.

"His concern about the world's agricultural future has led Cross into the middle of the environmental crossfire over the agricultural use of several chemicals in the chlorinated hydrocarbon family, including DDT, which have been banned in this country. His position in the DDT controversy, as stated in a recent editorial he wrote for *Horticulture* magazine, is that the federal government removed the pesticide from the market place too soon without enough testing of its long-range environmental impact.

"In addition to his work at the station, Cross and his wife belong to several planning and conservation organizations on Cape Cod and in Sandwich where they live. He is chairman of the Sandwich Planning Board and Director of the Cape Cod Cranberry Growers Association; she is director of the Cape Cod Farm Bureau and secretary of the State Board of Agriculture.

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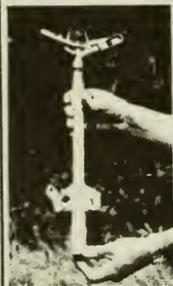
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## Ocean Spray Reports

### 1976 Operating Results

A business year termed "difficult and rewarding" by Board Chairman G. Howard Morse, Jr., was reported at Ocean Spray's 46th annual meeting held last month in Middleborough, Mass.

Fiscal 1976, according to Mr. Morse, was a year of substantial forward progress for Ocean Spray. Pool returns represented a significant improvement over fiscal 1975. The Middleborough processing facility was completed, and new ventures exhibiting great potential in the citrus industry and with fellow cooperatives were begun.

Ocean Spray President Harold Thorkilsen said that momentum from fiscal 1976 was continuing, and that the first four months of fiscal 1977 were very encouraging.

He spoke at length of marketing strategies implemented this past year, and paid particular attention to the healthy increases in drink categories and in the international sale of cranberries and cranberry products.

Over 14-million cases of Cranberry Juice Cocktail were sold in the last 12-calendar months, setting an all-time record. Export sales, meanwhile, increased 40% over fiscal 1975, and the current rate of increase for fiscal 1977 is even greater. Although operating from a relatively small base, international marketing has progressed rapidly.

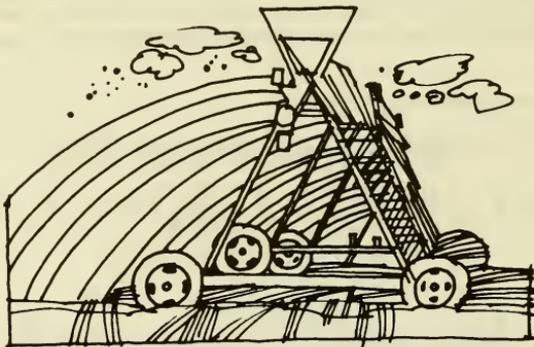


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## Severe Winter Storms May Limit Fertilizers

The worst winter in memory is having a significant impact on the fertilizer supply outlook. In planning for spring, it would be prudent to consider the following, says a source.

Natural gas curtailments have restricted the output of anhydrous ammonia at dozens of production facilities. Since ammonia is also the building block for other nitrogen-bearing products, the "domino effect" is obvious.

Midwest river transportation, always a vital fertilizer distribution artery, was nearly at a standstill. It takes weeks to achieve order out of chaos.

The competition for available rail cars is fierce. Grain movement for export makes it difficult to ship fertilizer overland on a timely, reliable basis.

Fertilizer deliveries last fall were not up to expectations and inven-

tories in the marketplace are minimal.

Planting acreages for major crops are forecasted upward. Many alert farmers anticipate increasing fertilizer usage to improve yields and combat rising operating costs. Clearly, buyer demand will be strong.

V.G.

## Nova Scotia Woman Picking Berries Feb. 1

It was February 1 in New Harbour, Nova Scotia, and Mrs. Henry Luddington was found picking cranberries.

That's how bizarre and hostile has been the weather across the North American continent in the Winter of 1976-1977.

*Cranberries* correspondent I. V. Hall reports there was hardly enough snow in Nova Scotia at times this winter to make a snowball.

New Harbour, according to a news account, has been noted for

the fox berry barren and cranberry bogs as well as lots of snow.

February 1 was a beautiful day, and there was Mrs. Luddington.

New Harbour is a south coastal town on scenic Route 316, known as the Marine Drive, nearing the approach to Cape Breton.

## Oregonians Calling It, Winter the Rain Stopped

In Oregon, they're calling it "the winter it stopped raining."

Thanks to Ray Bates, Bandon, Ore., grower, for finding this one, a feature in the *Oregon Journal*. Yet, it's true: Oregonians this winter have been worrying about forest fires and lack of water instead of the usual heavy rainfall.

By next Fall, says the *Journal*, "food prices might be higher,

### Sunshine Helpful...

*Continued from Page 1* normal, aggregating 165 hours of sunshine above average."

He noted that the heavy build-up of sunshine in the four important months of the preceding year has been exceeded only once since 1894.

However, sunshine aside, Dr. Cross also noted that the "severe cold of the whole winter is unfavorable."

Dr. Cross expressed hope that injury from oxygen deficiency was avoided by growers who were able to "pull off the floods from under the ice." He added that those who were unable to flood for lack of precipitation or low supplies in reservoirs may have sustained some winterkill.

"We'll know more a month from now," he said.

Opportunities for ice sanding were greater than for many years past. He felt that much work would be needed to lift vines in order to avoid "sharp reductions" in crop on newly sanded areas.

"The long, cold winter has put deep frost in the soils of New

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# About the Weather...

Oregon might face an energy shortage equal to or surpassing the 1973 shortage, workers might be laid off, forests might smolder and fishermen might have little luck.

"Officials are hesitant to make predictions but they are keeping their eyes cast expectantly skyward.

"Rainfall in Oregon is running below half of normal. Low water levels have already cut coho and steelhead salmon egg "takes" to 8 percent of expected. Grain production in eastern Oregon is expected to fall three bushels per acre below last year's totals.

Spring rains will be too late to help grain or fish situations, according to the *Journal*, but they can still save the state's fruit and vegetable production.

Crews in the Olympic National Forest one week recently fought a 40-acre blaze in the "rain forest" which usually gets six inches of rain in January and this year received 0.44 inches.



England and has chilled the waters off our shores to such an extent that we are likely to have more serious frost problems this Spring than usual," said Dr. Cross. "Get your sprinklers and other frost protection devices in order early.

"Hard frost, when it comes, may be very severe and you will need to be fully prepared."

On the subject of fertilizers, he urged growers to make more than one application per year. "It takes few rains or floodings to deplete soil fertility," he said.

"In Difolatan, we have a superior fungicide for cranberries.

"If you can use it, knowing that it must be kept out of waterways containing fish, it will assist materially in qualifying dry-harvested berries for fresh fruit. Also, it will substantially reduce the percentage of soft fruit on flood-harvested berries."

## Wisconsin Lives In Zero Much of Long Winter

Temperatures in Wisconsin earlier in the winter fell to well below zero on many occasions and on one day hit -60 degrees F. in Cameron, Wis.

This, added to the prolonged Wisconsin drought of last summer and fall, has compounded woes for Wisconsin farmers.

At one point, Shell Lake in the town of the same name in the heart of cranberry country, was void of ice fishermen. Too cold.

But most Wisconsin natives were baring up well under the extreme cold, according to news accounts. Louis Nickel, who tends bar at the Capital Bar in Shell Lake, says the place has been really packed on some of those cold Wisconsin nights.

\* \* \* \*

The International Maple Syrup Institute, Montreal, Can., has designed a distinctive new logo to represent pure maple syrup and maple syrup products wherever they are sold.

To identify and verify the natural source of the product, the logo

consists of half a maple leaf, a sap bucket, and a drop of sap from a spigot.

The Institute and its members will begin using the logo this spring to promote pure maple syrup products. Use of the logo is limited to members, who pay a minimum royalty for the privilege. The royalties are used to fund a promotional campaign for maple products throughout North America.

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# More on Tax Reform Legislation of 1976:

The Tax Reform Act of 1976 does more than change the ground rules for long-range estate planning: it also raises the general tax credit, among other things.

The tax credit is up from \$30 per exemption to the greater of 2 percent of up to \$9,000 (\$180 maximum) or \$35 for each exemption except age and blindness (no maximum).

The next credit, which is not a refund, applies in 1977 and 1978.

The amount of ordinary income that may be offset by capital losses increases to \$2,000 in 1977 and \$3,000 in 1978 and thereafter, up from \$1,000.

There are also three changes in the investment credit you should know about.

First, the 10 percent rate has been extended four years to December 31, 1980.

Credit earned prior to 1976 should be used before 1976 credit, that is, on a first-in, first-out basis.

Then, the \$100,000 limit on used property is also extended through 1980.

Another change brought about by the 1976 tax act is that you can deduct the expense of an office in your home only if used exclusively and regularly as your principal place of business.

Effective in tax year 1976, there is an additional two-year carry-over of operating losses/business losses. You may carry losses forward seven years. You may also elect to forego the carry back period of three years and simply carry losses forward.

Other changes not directly related to farm or business use include a new 15 percent tax credit for the elderly figured on a \$2,500 base for single persons and \$3,750 for couples filing jointly. This new credit replaces the "retirement income credit" and applies to all types of income.

Alimony payments can now be deducted from gross income rather claimed as an itemized deduction.

Other changes apply to all Americans and may well apply to you.

The optional tax tables for 1976 and thereafter are revised to allow

taxpayers with incomes of \$20,000 or less to use them. In addition, each taxable income bracket is limited to two pages for simplification.

For a more detailed discussion of estate planning, see *Cranberries*, December, 1976.

## Local Press Eulogizes New Jersey's Ted Budd

Theodore H. Budd, Sr., prominent New Jersey grower, passed away recently and his passing was noted in the editorial tribute which follows, published in the *Pemberton, N.J. Times-Advertiser*.

"Pemberton was saddened last week by the death of one of its leading citizens, octogenarian Theodore H. Budd, Sr.

"Banker, blueberry and cranberry grower, public office holder and civic leader he served his community and vocation well for many decades.

"As a banker he was active in the expansion of Peoples National Bank & Trust Co., serving as president when it merged with the Mechanics National Bank of Burlington County, which he served as director and chairman of the board until his retirement.

"Mr. Budd contributed much to his community as borough councilman, member and president for many years of the board of education and president of the Building & Loan Association for years.

"A descendant of the four Budd brothers who settled Pemberton, then Hampton-Hanover in 1678, he contributed much to his vocation through membership and activities in blueberry and cranberry associations. The Budd name has meant much to the history and development of this section of Burlington County.

"He lived to enjoy a few years of retirement in Florida, but was compelled by illness to return home last year.

"We'll miss you, Ted."

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# AGRICULTURE NOTES

Former Agriculture Secretary Earl Butz is up to his old tricks. He's now on the after-dinner circuit, bringing with him the same sense of humor for which he was noted while in office.

At one recent engagement he criticized George Meany, president of the AFL-CIO, for opposing American grain sales to the Soviet Union. He said he hoped Congress would not allow farm policy to be strongly influenced by organized labor.

Said Butz, "I heard the suggestion the other day that Jimmy Carter make George Meany a cardinal; then he would only have to kiss his ring."

\* \* \*

A former insect control specialist from the seacoast town of Palmetto in southwest Florida claims he's found the best pesticide yet: bug juice.

Just drop some of your favorite bugs in a blender, add water, liquify, and start spraying.

Bingo! Just like that, bugs start falling off your plants, dead.

It sounds too good to be true but Mike Sipe, fish farmer and pesticide opponent, says it works.

"The bugs dropped almost as I sprayed," reported one satisfied user.

The idea is so promising that *Organic Gardening and Farming* magazine has written about his discovery and asked readers to comment.

And the testimonials started rolling in.

A hotel operator wrote, "I rounded up some beetles and mashed them thoroughly with water. I dabbed the bug juice on the walls and counter where the bugs were the worst.

"Twenty-four hours later I checked the counters and found nothing but dead bugs!"

And a peanut farmer in Florida says he'd had enough of watching

bugs chew through \$2,000 worth of insecticides he sprayed on his crops each year. So he hired bug specialist Mike Sipe.

Would you believe his per acre peanut production jumped to 5,251 to 5,351 pounds per acre, when the county average was only 2,000 to 3,000 pounds per acre!

Frank Batey, the peanut farmer, says he's saved \$5,000 on insecticides to date. Batey keeps a supply of frozen bug juice, made from about 20 different kinds of insects. When he sees the need, he just defrosts some juice, dilutes it, and sprays.

According to Sipe, Batey's been using the bugfighter for three years and didn't need to spray at all last year.

Sipe figures there are three possible reasons why the method works.

One is that disease-causing agents called pathogens are released from healthy bugs when they are crushed. The freed pathogens then infect healthy bugs.

Another is that crushing the bugs releases an odor that attracts natural predators. And the last

likely reason is that the crushed bugs release the insects' distress pheromones (chemicals that stimulate activity) which alerts other bugs and drives them off.

Sipe readily admits that the method needs further research and application.

He says that the method is successful nine out of 10 times. Its success depends upon the insect (beetles, for example, are harder to eradicate).

Here's how to make bug juice. For a farm, collect 3/4 of a pound of the kinds of bugs that are threatening your plants, for each 10 acres.

Put the bugs in a blender, adding twice as much water as bugs. Blend, then strain the mass through a cheese cloth. Dilute the liquid that results, before applying it. Use four ounces of bug juice for 1,500 gallons of water.

\* \* \* \* \*

Ocean Spray reports more than 300 inquiries since the November article in *Food Product Development* magazine regarding cranberries as a red dye substitute (see *Cranberries*, December, 1976).

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# Macrolepidoptera In Nova Scotia With Blueberries, Cranberries, Etc.

C. J. S. Fox, Entomologist

Nova Scotia Department of Agriculture, Kentville, N.S.

The following is an alphabetical listing by genus and species of the Macrolepidoptera known to feed on blueberries, cranberries, etc., *Vaccinium* spp. in Nova Scotia. It is mainly derived from Ferguson's (1955) annotated catalogue and is presented as a handy reference list to those interested in the culture of blueberries and cranberries. Underlined common names have been approved by the Entomological Society of America.

SPECIES	FAMILY	COMMON NAME
<i>Abbottana clematoria</i> A. & S.	Geometridae	looper
<i>Acrionicta tritona</i> Hbn.	Noctuidae	owlet moth
<i>Anarta cardigera</i> Thun.	Noctuidae	cutworm
<i>Apharetra denata</i> Grt.	Noctuidae	cutworm
<i>Autographa ampla</i> Wlk.	Noctuidae	dagger moth
<i>Catocala sordida</i> Grt.	Noctuidae	underwing moth
<i>Chrysanympha formosa</i> Grt.	Noctuidae	
<i>Datana drexeli</i> Hy. Edw.	Notodontidae	witch hazel caterpillar
<i>Datana major</i> G. & R.	Notodontidae	
<i>Ematurga amitaria</i> Gn.	Geometridae	cranberry spanworm
<i>Epiplaea apiata</i> Grt.	Noctuidae	cranberry blossom worm
<i>Eufidonia discospilata</i> Wlk.	Geometridae	looper
<i>Halisidota caryae</i> Harr.	Arctiidae	hickory tussock moth
<i>Hydriomena furcata</i> Thun.	Geometridae	transverse banded looper
<i>Incisalia henrici</i> G. & R.	Lycaenidae	
<i>Incisalia polios</i> C. & W.	Lycaenidae	hoary elfin
<i>Itame andersoni</i> Swett	Geometridae	looper
<i>Itame fulvaria</i> Vill.	Geometridae	looper
<i>Itame sulphurea</i> Pack.	Geometridae	looper
<i>Lycaena epixanthe phaedra</i> Hall	Lycaenidae	bog copper
<i>Mesothea incertata</i> Wlk.	Geometridae	looper
<i>Metarranthis browery</i> Rupert	Geometridae	
<i>Metarranthis duaria</i> Gn.	Geometridae	looper
<i>Metarranthis franclemonti</i> Rupert	Geometridae	looper
<i>Orygia leucostigma</i> J. R. Smith	Lymantriidae	white-marked tussock moth
<i>Polia detracta</i> Wlk.	Noctuidae	cutworm
<i>Polia purpurisata</i> Grt.	Noctuidae	cutworm
<i>Polia subjuncta</i> G. & R.	Noctuidae	cutworm
<i>Sphinx gordius</i> Cram.	Sphingidae	apple sphinx
<i>Strymon liparops strigosa</i> Harr.	Lycaenidae	striped hairstreak
<i>Syngrapha epigaea</i> Grt.	Noctuidae	false looper
<i>Syngrapha octoscripta</i> Grt.	Noctuidae	false looper

Reference: Ferguson, D.C. 1955. The Lepidoptera of Nova Scotia, Part 1. Bulletin No. 2 of the Nova Scotia Museum of Science, Halifax.

# REGIONAL NEWS NOTES

## NEW JERSEY

The past month was the most frigid January in the 49 year weather recording history at Pemberton.

The average temperature was 21.1°F, or 2.40° colder than the previous record of January 1940. Although at nearby Philadelphia, it was the coldest month in the weather bureau history it did not come close to the most severely cold month at Pemberton.

In February, 1934 the average temperature there was 18.0. The coldest day ever at this station occurred in this month, 17° below zero, compared to a minimum of 11° below zero last month. In February, 1934 there were seven below zero readings as compared to only two last month. There were 16 days in which the minimum was below 10°F in February 1934 as compared to 15 in January 1977. The past month had 17 days in which the maximum temperature was below 32°F as compared to 15 for February 1934.

Snowfall totaled 24.4 inches in the record month while last month had only 10.2. As of February 1, the ice on cranberry bogs had the greatest thickness ever observed in New Jersey—averaging 18 inches. This resulted from the accumulative effect of a prolonged period of unusually low temperatures. It will undoubtedly be the coldest winter ever experienced here.

In 1934, January was actually warmer than normal and November and December were only slightly colder than usual. This winter the average temperatures in December and January have been record lows for these months and December was considerably below normal. January was the seventh consecutive month of temperatures well below normal.

The winter has also been quite dry. In January the precipitation

totaled 2.94 inches, about .23 inches below normal. However, 1.64 inches of this total occurred on January 11 with the soil well frozen and consequently almost all of it ran off. Over the past three months there has been a precipitation deficiency of about four inches. Soil moisture and cranberry reservoirs are well below capacity.

The lack of warm spells has apparently kept winter damage at a minimum. A recent survey shows from three to six percent injury to fruit buds of the Weymouth variety in the coldest fields where temperatures went to -20°F. Severe damage to blueberries has occurred in winters when minimums were well above this but severe damage has occurred most often when there have been warm spells fluctuating with the cold temperatures. Consistent snow cover has also helped to reduce damage.

As of February 1 the frost depth in a representative blueberry field was 15 inches. The root depth was only 14 inches. Under these conditions winter killing or desiccation can be accelerated with continued cold windy weather and lack of rainfall.

\* \* \*

After the most severe January weather ever recorded at Pemberton, the weather moderated. The first 10 days of February were a continuation of sub-normal temperatures after which milder weather and even some "balmy" days occurred. There were four days in the fifties, four in the sixties and two in the 70 degree range. The average temperature for the month was 34.4 degrees F which is 0.6 degrees F above normal. It was the first month with above normal temperatures in the last eight months.

There was only 1.70 inches of precipitation. This is 1.20 inches below normal. Only 1.0 inch of snow occurred during the month.

As of March 10th observations indicate that winter killing of

blueberries in New Jersey is at least moderate. Only about 6% to 8% of the flower buds are killed in fields where the temperatures dropped to about 20 below zero. However, with the advent of warm weather much injury to wood is becoming apparent. This damage will probably become more severe as the season progresses. All varieties are effected but Berkeley, Coville, Bluecrop, and Weymouth seem hardest hit.

P.E.M.

## NOVA SCOTIA

The weather seems to be the main topic of conversation. The temperature for the month of January was slightly below the 50-year average. Precipitation at 114.8 mm was very close to the 50-year average of 112.5. All told, here in Nova Scotia, the weather has been consistently cold and not all that bad.

I.V.H.

## WISCONSIN

Frost penetration continued to increase during early February but the snow cover was reduced by the first thaw in many weeks, according to the Wisconsin Statistical Reporting Service. Frost depths averaged 34 inches, an increase of 4 inches and double the average of 17 inches last year at this time. Frost depths for around mid-February averaged 18 inches from 1961-76. The deepest frost penetration for this period was an average of 38 inches in February 1961, which was the first frost survey reported in Wisconsin.

Rain and warmer temperatures in the last week of February resulted in a small decline in frost depths and a considerable reduction of the snow cover. Frost depths as

*Continued on Page 17*



McCarthy



Beeby



Tillotson

## Use of Pesticides Doubles in 16 Years

In spite of efforts to control pesticides, use of them has doubled since 1962.

The pesticide industry, in fact, has been called a "growth industry," according to two writers in the Washington Post. In a recent copyrighted story, Dan Morgan and Peter Milius reported that pesticides for insects and weeds are a 2.6-billion-a-year business. Some 1 billion pounds of chemicals are produced for use at home and another 600 million for use abroad.

The U. S. dominates the \$7-billion-a-year global market for chemicals.

Morgan and Milius claim that foreign countries rely on U.S. advice as to safety and effectiveness. Yet, they add, there is widespread disagreement as to the answer.

Cited specifically were kepone and leptophos, insecticides which can attack one's nervous system and have been linked to illnesses of workers at plants where they were made.

As the writers say, "national priorities play a powerful role" in decisions regarding the use of pesticides.

They cited the use of malathion in Pakistan recently which was attributed to five deaths and at least 2900 illnesses. Yet, Pakistani officials have ordered resumption of spraying against mosquitos again this year to halt a resurgence of malaria.

# Ocean Spray Announces Several Sales Promotions

Ocean Spray Cranberries, Inc., has announced from its Hanson, Mass. offices three major promotions at the vice presidential level.

Patrick M. McCarthy has been promoted to senior vice president, marketing; Kenneth J. Beeby has been named vice president and legal counsel; and Dr. James E. Tillotson has been promoted to vice president, technical research and development.

McCarthy has been with Ocean Spray since early 1968 in various sales and marketing positions. He has overall responsibility for marketing of all established Ocean Spray products within the U.S.

Beeby has served as legal counsel for Ocean Spray since early 1973.

Dr. Tillotson has worked in research and development for Ocean Spray since early 1969. He holds several advanced degrees and

is active in national professional associations.

Elsewhere at Ocean Spray, John E. Walsh has been promoted to director of marketing—food service, fresh fruit and industrial sales, a new position. He is responsible for the marketing, planning, and sales activities of the three areas.

Ms. Christine M. Masclee has been promoted to director, market development, from the position of group product manager. She joined Ocean Spray in 1972.

Horst Class has been promoted to director of marketing, international, a new position. He has been serving as manager, international marketing, since joining the firm in 1973.

Robert B. Porter has been promoted to national sales manager, fresh fruit, and will supervise all domestic fresh fruit sales activities

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## Big Retirement Cost

One of the major expenses retired people face is for medical care.

According to the American Council of Life Insurance, medical bills for the average person 65 or older amounted to \$1,360 in 1975.

Even though 71 percent of these medical expenses were taken care of by government or private insurers, this still left the average older person with \$390 in medical expenses to pay out of pocket.



(Courtesy American Agriculturist)

## Sermonettes

by the

Rev. Don Jennings

## The urgency of mending

One of the early childhood recollections I have of my father is seeing him, on a rainy day, working over his shoe-last. Keeping the shoes of a family of eight children in repair, especially five boys, was quite an undertaking!

Leather, or the money to buy it, was not always plentiful. Many a worn or ill-fitting horse collar was cut in pieces by my father, to make half soles for our shoes. The name O.M. Jennings could honestly have been O. Mender Jennings, for he took his mending seriously, whether it was shoes, tools, line fences or morals.

We should and do spend much of our time mending or repairing. This is true not only of the material but of the physical, mental and spiritual. Mending is not time wasted. A man of wisdom once observed that we should never become so busy sawing wood that we fail to take time to sharpen the saw.

Paul, the apostle, loved Timothy as though he were his own son. He had high hopes for him and was continually encouraging and directing him. Paul wanted Timothy to be ever alert that he might be prepared for the opportunities ahead of him.

In the course of one of Paul's letters to Timothy, he counseled him to "study to show thyself unto God, a workman that needeth not to be ashamed, rightly divining the word of God" (II Timothy 2:15).

It was Phillips Brooks, famous pastor of another era, who said to his congregation one Sunday morning, "Just as those humble fishermen of

long ago felt it necessary to keep their nets in repair, so do each of us need to spend time mending our spiritual nets."

Among the many folks who encouraged me, as a young pastor, was a quiet, motherly, kind woman. When she prayed, she always used a phrase that became quite familiar. She would say, "Lord, help us to take our places and stand in the gaps and help make up the hedges that reach from earth to heaven."

This good woman's prayer was Biblical. Israel's moral fences were badly in need of repair. The word of God came to Ezekiel, saying, "I sought for a man among you that could make up the hedges and stand in the gap before me for the land, that I should not destroy it; but I found none" (Ezekiel 22:30).

We can stand in the gaps and assist in making up the hedges by helping to heal the hurts, straighten out misunderstandings and mend the hedges of peace between individuals, races and nations. We can do this by interceding between man and God and person to person.

When we are diligent concerning the mending of our own spiritual inadequacies, we will be better able to assist others in their needs. ■

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The first all-aluminum two-piece home canning lid and band has been developed.

The lid has an audible button feature which helps warn the home canner if a package has been improperly sealed or if the seal has been broken during storage.

As a package that has just been sealed cools down, a vacuum is created in the air space under the lid depressing the audible button. If properly sealed, the button remains depressed. When the home canner breaks the seal upon opening the package, the lid reverts to its

original shape with a loud snap, assuring the consumer that the package was adequately sealed.

Aluminum's obvious advantage in the home canning market is its outstanding resistance to rust, which permits repeated use of the bands over an extended period of time.

The lids and rings will be marketed under the "HARVEST TIME™" label.

## New Tower of Power Cuts Insecticide Costs

Tower of Power is a new insecticide package that its manufacturers claim can reduce chemical cost up to 80 percent while substantially reducing labor costs.

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The Hadley Solar Energy Company, of Delaware, has produced a new publication on the building of solar heat collectors. Cost of the publication is \$7 and includes drawings, specifications and instructions.

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# Mass. Cranberry Station

of February 25th averaged 30 inches, a decline of four inches from two weeks earlier but still substantially more than the average of 18 inches for late February from 1962-76.

Cemetery personnel report no change in the very dry conditions of the soils.

Frost penetration in Wisconsin is usually at a maximum in late February or early March. With snow cover gone in many areas, frost depths could increase if temperatures in March are well below normal. Conversely, if temperatures are higher than normal the frost would come out fast as the ground warms up both above and below the frost line.

Snow depths as of February 25th averaged only three inches, a decline of five inches from two weeks earlier.

Temperatures were a little below normal in the third week of February and precipitation continued very light. The last week of February brought above normal temperatures and the most precipitation of the winter.

V.G.

## WASHINGTON

Cold, dry weather in November, December and January has changed the pattern of the normal mild, wet condition of the same period for the last three years. Fruit buds are numerous and in deep dormancy. In spite of low temperature during January, dipping to 14°F, bud examination showed injury of only 8.5% in Grayland and 8.8% in Long Beach, lower than average for this time of year.

The last quarter of 1976 showed 33.92 inches less of precipitation compared to the same period of 1975. Total precipitation for 1976, 68.10 inches, is 23.71 inches under that of 1975, 91.81 inches and 17.75 inches below a 14 year average, 85.85 inches.

A.Y.S.

January was just a continuation of the extremely cold winter that the entire eastern two-thirds of the country has been experiencing.

We were a frigid 9.7 degrees a day below normal and typical of this strange winter, it was not a record cold January; only the second coldest, topped by January 1970 which was an even 10 degrees a day below normal.

Precipitation totalled 4.46 inches or only 1/6 inch above normal, more than 3-1/2 inches came in the first half of the month. There was measurable precipitation on 11 days with 1.81 inches on the 7th as the largest storm. There was a total of 19-1/2 inches of snow, which is 2-1/2 times more than average.

Maximum temperature was 47 degrees on the 10th and minimum -4 degrees on the 19th. The only warmer than average day was the 10th.

February was another in our

string of cold months, averaging 1.8 degrees a day below normal. We have not experienced a warmer-than-normal month here since last June. October through February is the coldest period in our records, averaging more than 5-1/2 degrees below normal. Maximum temperature was 50 degrees on the 25th and 27th and the minimum was -5 degrees on the 9th. Warmer-than-average days were the 12th and the 24th through 28th. Colder-than-average periods occurred on the 1st, 2nd, 5-8th and 16-18th. In general, the first 2/3 of the month was cold and the last week warmed up enough to melt the snow and get temperatures more in balance.

Precipitation totaled 2.91 inches or about 2/3 inch below normal. There were 10 days with measurable precipitation with 0.89 on the 24th as the largest storm. We are about 1/2 inch below normal for the two-month period and 1-2/3 inches behind 1976.

I. E. D.



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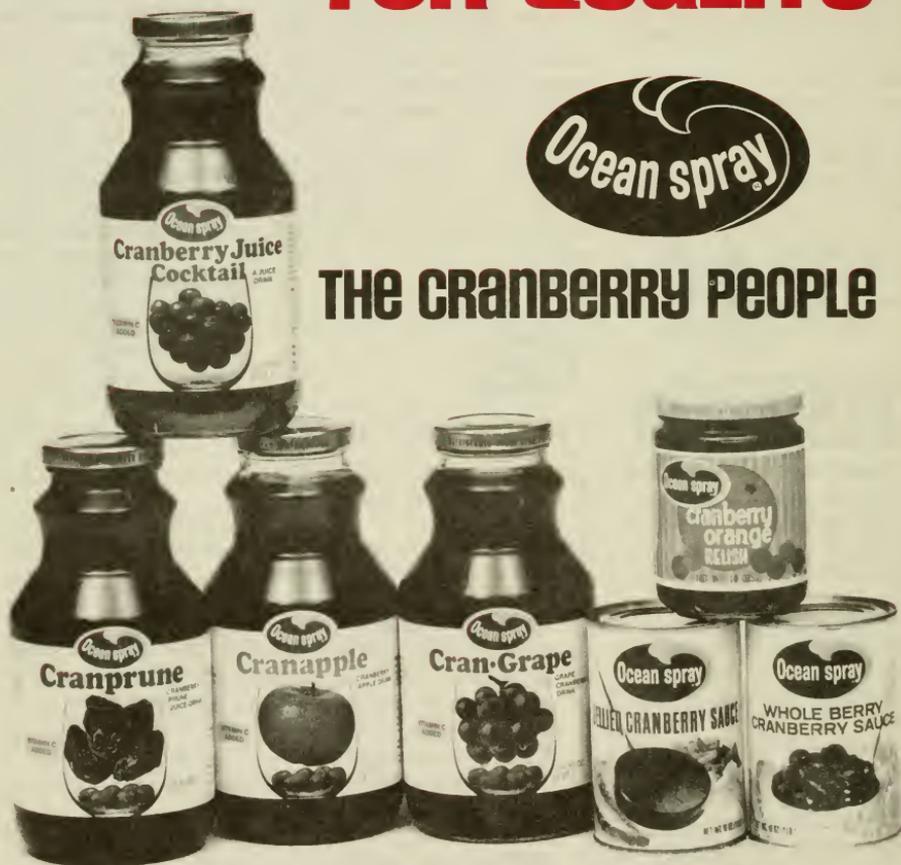
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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Vol. 43, No. 4

April, 1977

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*'If you're interested in the cranberry industry, then maybe you should be buying cranberry stocks,' says a Cape Cod broker. He's especially fond of A. D. Makepeace and Ocean Spray's 4% preferred.*

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**CASORON**

# 'Maybe You Should Buy 'Berry Stocks'

"If you're interested in the cranberry industry, then maybe you should be buying 'the cranberry stocks,'" says a Cape Cod broker.

"If the stocks are suitable for my clients' objectives, I recommend they look into the cranberry industry, where they can obtain reasonable yield on their principal of from 8% to 10%," he adds.

At least, that's the theory of Theodore R. Turner, Jr., the branch manager of Burgess & Leith Inc., members of the New York Stock Exchange, located in Centerville, Mass.

Mr. Turner concentrates his studies in securities of New England and Cape Cod-based companies. He buys and sells close to \$1 million of local stocks and bonds every year. He's also the best proof of his theory about cranberry stocks. Some of the dividends his family receives from cranberry stocks help them live comfortably on Cape Cod.

Why do cranberry stocks like Ocean Spray yield so much? "Although preferred stocks have a tendency to trade with interest rates, the cranberry stocks seem to stay down in price. Maybe investors can't see the forest for the trees or the berries for the bushes," states Turner.

In the past (and not necessarily in the future), Ocean Spray has provided "reasonable" dividends on its two preferreds (first preferred has always maintained the dividend) and its common shares, both of which were issued on a \$25 basis.

The common stock can only be purchased by a grower. It currently pays a dividend of \$1.50 per share. (Dividends were omitted on the common for two years.) The 4% preferred pays a dividend of \$1 per share and 4% participating preferred pays a \$1 dividend and participates equally in the dividends of the common stock (in this case a total of \$1.50 per share) as long as Ocean Spray stays in business. (The

common can never pay more than \$2).

As Turner points out, however, "stocks go up and down and there's not an overactive market for these securities.

"Suppose you can buy the first 4% preferred for \$12.50 per share with an indicated \$1 dividend. If you buy 100 shares for \$1,250,



you'll get \$100 a year in indicated dividends. That's a yield of 8%, which is certainly not bad."

Another cranberry stock that Turner is interested in is that of A. D. Makepeace Company, which has a history that dates back to 1870. The Makepeace Company has 7,643 shares of common stock outstanding, with a par value of \$100 per share. It recently paid a dividend of \$10 per share, its 50th dividend. In 1970 and 1972 it paid higher dividends of \$22.67 per share, but lower income recently has reduced the dividend by the large Massachusetts grower.

An investor could find an opportunity to buy this stock for about one-half its estimated book value of \$497.82 per share. Recent trades have been around \$110 to \$170 per share. However, it's not available on a day-to-day basis.

According to Turner, the book value of A. D. Makepeace stock includes 1100 acres of bogs and 4,000 acres of upland, including lakes and streams.

"Although the acreage is valued at \$882,000 in the company's statements, I feel the value could be worth much more than that, which could mean a much higher shareholder equity. That real estate, together with other assets of A. D. Makepeace, could make the shares worth more. However, the small dividend of \$10 per share keeps the yield low.

"A real gain on A. D. Makepeace could be realized, of course, if the company were liquidated or taken over. So, you're buying time, playing a waiting game, and still getting a return of about 5.8% on your investment at \$170 per share.

"I don't mind buying time with the Makepeace's and their directors. They're some of the finest people I have met.

"A. D. Makepeace may not be a very good investment vehicle for everyone unless it becomes available at the right price," says

*(Continued on Page 5)*

## Oregon Growers Protest Soaring Property Taxes

Valuations for tax purposes of cranberry acreage in Coos County, Ore., have risen so sharply that growers there have become quite vocal in protest, all the way to the state legislature.

Bandon area growers Mike Carver, Fred Cox, Allen Cram, Don Fraser, Tom Gant, Cecil Kemp, Jack McMahon, Lowell Meyer, Jim Olson, Terry Panter, Roy Peters and Wayne Scherer, along with their attorney, Myron D. Spader, called on the Senate Agricultural Committee in Salem last month.

The group is hopeful of changing legislation by an amendment to ORS 307-320 which would bring cranberry land valuations back to bare ground value.

According to Mike Carver, "Our tax valuation on a cranberry-producing acre runs anywhere from \$1,750 to \$2,220, while an acre of ~~any~~ other agricultural land in Coos

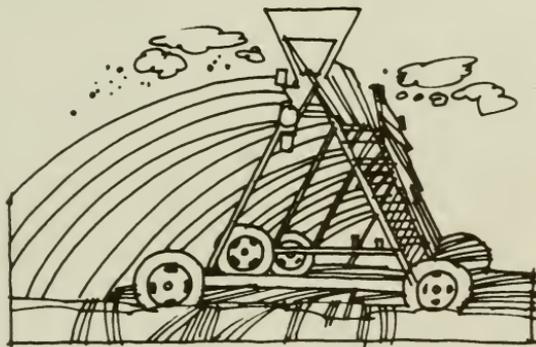
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MAGAZINE

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## Cranberry Stocks . . .

(Continued)

Turner. "If an investor has to pay \$200 for the stock, the \$10 dividend provides only a 5% indicated current return on investment.

"Right now Makepeace has some \$1.6 million on Ocean Sprav common as well as first and second preferred stock. Frankly, I would advise any investor interested in cranberry stocks to look at the 4% preferred of Ocean Spray. It seems to trade more actively than other issues and has been selling recently around \$10.50 bid to \$12.50 asked, providing a yield of 8% at \$12.50 per share.

"And who knows, maybe some day Ocean Spray for some remote reason, could call that preferred in for the par value of \$25 per share.

When asked what kind of investors buy Ocean Spray preferred, Turner says, "they're the kind of people who try to protect their money and preserve their capital, and yet take enough of a chance to get a good rate of return.

Then what about Ocean Spray as an investment?

"It depends on what a client's investment objectives are, and what he knows about the industry. If Ocean Spray's first preferred were available at \$10 per share, I'd recommend that an investor, if it suited his needs, take a long look at that investment at those levels. It would provide a current yield of 10% and if the dividend continues, and is a fairly good investment.

"Maybe I am right, maybe I am wrong," says Turner, "but I believe my family and I will be shareholders in Ocean Spray and A. D. Makepeace for a long time to come.

"I have faith in the management of these companies, especially A. D. Makepeace. Their past records speak for themselves."

*(Mr. Turner's opinions do not reflect the opinions of Burgess & Leith or their officers. Mr. Turner's family owns Ocean Spray 4% preferred, 4% second participating preferred and A. D. Makepeace Company.)*

## Fewer Feel Hard Work Will Lead To Success

The belief that "hard work will lead to success" has diminished among Americans in recent years, surveys by the American Council of Life Insurance have disclosed.

In a 1968 survey, 58 percent of respondents said they believed that "hard work will always pay off if you have faith in yourself and stick to it," while another 35 percent agreed that "hard work alone will not guarantee success, but if you don't work hard you don't have a chance of succeeding." Only 7 percent agreed with the statement: "The idea that hard work leads to success is a lie. Nowadays you have to know someone or be just plain lucky."

By 1976, 43 percent agreed that "hard work will always pay off," while 42 percent felt that "hard work alone will not guarantee success."

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## *Letter to the Editor*

What should you tell the non-farmer who wants to know why farmers need a break on estate taxes, or how it is that a farmer can live poor and die rich?

A New York farmer wrote to the editor of his farm publication the following reply:

"Instead of giving him (the non-farmer) a direct answer, I suggest you and he make an appointment with a banker who specializes in farm loans. The banker could give objective data about capital investment, interest rates, and projected return on investment. He would also mention such things as the uncertainty of market prices . . . as well as cost of materials, labor and so on.

"It wouldn't require much information to assure your friend that farming is often a shaky investment with relatively little material return on capital and labor.

"Farming is a way of life. I feel that the family farm is the backbone of our great nation. It is ridiculous to imagine that the 5% of our populace (farm families) could influence our legislators to pass legislation that is favorable to such a small group. I feel that our representatives in Washington are on the whole a pretty astute group. I believe that they have the foresight to see what might happen if the family farm were taxed out of existence.

"As more land went out of production, food prices would increase. The cost of returning fallow land to production would increase food prices. Large tracts of corporate farmland would invite large-scale unionization of farms . . . after all, isn't a man driving a tractor entitled to the same hourly wage as a man driving a truck or bulldozer? And think of the overtime!

"Our legislators are aware that this could be a possibility for the future. This is why they have passed estate-tax legislation that seems to favor the farmer, but actually favors everyone in our nation."

# Carter Speaks up on Environment

What does President Carter see as major issues regarding this nation's environment and possible solutions to problem areas?

An idea of what might lie ahead can be seen in a position paper candidate Carter released during last Fall's campaign. *Cranberries* recently acquired an extract of his comments, edited here to those points most germane to agricultural interests.

"We must meet many challenges, if we are to maintain and improve the quality of our natural environment," says Carter.

"One is the control of pollutants. What is at stake here is nothing less than the health of our people. We pay a heavy price for pollution. Health problems, lost work days, and damage to crops and physical property are only part of the price.

"This cannot be allowed to continue.

"We must vigorously enforce the pollution control and occupational health laws already on the books. We must preserve the nondegradation standards of the Clean Air Act. We must require the auto industry to meet the emission control standards. And we must enforce the Water Pollution Control Act, and reach our goal of making our lakes and streams suitable for swimming and fishing.

"Now that we have the Toxic Substances Control Act we must see that it is vigorously implemented and enforced. Premarket screening of new chemicals intended for commercial use is essential to preventing human and environmental exposure to dangerous compounds.

"Much of the environmental damage which now occurs can be prevented. The additional cost of responsible surface mining, or preventing oil spills, or cleaning auto and power plant emissions is low, compared to the costs to society and future generations if we fail to act.

"We need far more research to find environmentally sound ways to achieve economic goals without unacceptable pollution damage. My administration will support such research and will encourage a greater effort by the private sector. We have never put the best brains in this country to work in a concerted effort to find ways to live in greater environmental harmony. *I intend to do that.*

"Another of my top priorities as President will be to reverse the deterioration and systematic neglect of parks, refuges, forests, and the public lands.

"These areas offer priceless opportunities for us to refresh ourselves amid the tensions of our fast-paced world.

"On weekends when I was Governor, my wife and I often rode the wild rivers of Georgia in rafts, canoes, and kayaks. We panned successfully for gold in a remote north Georgia stream. We visited wildlife programs on isolated game preserves. Our favorite place was Cumberland Island, off the southeast Georgia coast, where you can watch sea turtles coming ashore to lay their eggs in the early summer. I want future generations to be able to have those same experiences.

"Our public lands, representing an enormous national investment, are being badly mismanaged. Significant advantages can accrue to our people, including substantial employment opportunities, simply by improving, preserving, and enjoying this great national heritage.

"We must maintain and restore the parks, forests, refuges, wilderness areas, and other public lands already held in trust for all of us, and we must step up our acquisition of other natural and recreational areas.

"Wildlife is a prime indicator of the health of our environment. We must recognize that habitat destruction and pollution are the major threats to wildlife today. Endangered species pose particular

problems. Once they disappear we can never bring them back. We must deal with all of them, from the great whales to the most minute plant, wisely and reverently.

"As a former naval officer, and as a saltwater fisherman, I am deeply concerned about our oceans. The oceans are a major source of food and recreation. But the oceans are also the ultimate repository for most of our pollutants. We do not have even a basic understanding of their full impact on ocean life.

"Pollution control does not prevent economic progress. This is a tremendous new industry which can give us many new jobs and a better quality of life at the same time. We must have all three: employment, energy, and a decent environment.

"I will work to achieve this goal. I will direct our nation's great technological know-how toward finding solutions to our urgent problems.

"The President has a responsibility to the people who elect him. But he also has a responsibility to future generations. The President is their steward. I intend to be a worthy steward and to see that we pass on to our children, and our children's children, an environment and a country of which we can be proud."

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## U.S. Agricultural Exports Rose in '76; Sight Increase Recorded in Cranberries

U.S. Agricultural exports jumped by more than a billion dollars in 1976, USDA reports. Total for the year was \$26 billion.

Commodities providing the major increases were animal products, corn, soybeans, oilcake and meal, and vegetables.

At the same time, however, the value of imports rose 18 percent to \$11 billion. About two-thirds, of the increase is attributable to higher coffee prices.

Exports of fruits, nuts and vegetables during 1976 were up 20 percent in value. Strong volume growth was recorded for most commodity groups, including almonds, walnuts, canned and fresh vegetables, fresh and dried fruits, and potatoes.

No U.S. figures were given for cranberries.

One USDA report did comment on the 1976 Massachusetts cranberry crop saying that "air freight and especially boat movement to Europe continued to grow in 1976.

"All shipping reported record export movement to Europe. Destinations were generally to England and Belgium.

"No statistical records have been kept on export movement but it is apparent the Northern European population has increased in acceptance of Massachusetts cranberries.

"A contributing factor in this acceptance has been pointed to the recent decline of the lingonberry crop in Northern Europe and the substitution of Massachusetts cranberries which many consider superior.

"The heaviest export movement was again, naturally, to Canada.

## Sales Up Again, Says Ocean Spray

Hanson, Mass.—Ocean Spray reports a continuation in early fiscal 1977 of the solid gains shown in the year previous.

Sales of cranberry juice cocktail from September through January, are up 15 per cent over the same period a year ago, according to the cranberry cooperative headquarters here.

Cranapple shipments were up 20 per cent for the same period. Cran-grape sales were nearly double that of a year ago.

Sauce volume, including relish was off 13 per cent, reflecting what Ocean Spray calls "promotion shipments" which occurred at the end of fiscal 1976.

Ocean Spray grapefruit juice has expanded into nearly half the U.S. according to a report. The marketing firm said that the Florida product escaped the killing frosts of the past winter and that no curtailment of citrus operations is expected.

## Bergland Consumer-aware Says Mass. Rep. Heckler

USDA under Secretary Bob Bergland will be more sensitive to consumer interests, says U.S. Rep. Margaret Heckler (R-Mass.)

Former Secretary Butz considered "consumers" a bad word, Heckler told a recent meeting of New England food wholesalers.

Speaking as a member of the House Agricultural Committee, she says, "I have a great deal of confidence in Mr. Bergland. He will be accessible to all, and also bring consumer interests under his tent.

"Consumers want to know what they're buying, what they're paying for and then make their own decisions.

"There has to be a compatibility . . . a compromise between the consuming public and the producers.

" . . . (Finding that compromise) will be what the new agriculture secretary will try to achieve."

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# AGRICULTURE NOTES

The cranberry experiment station, Wareham, Mass., has issued guidelines on herbicides, following winter ice sanding.

"The choices will be somewhat restricted this year because Morcran will only be available in very limited quantities.

"Growers with a wide range of different weed species and especially where there are asters, horsetail, haircap moss, wool grass, ferns and various grasses and sedges, especially cut grass, nut grass, smoke grass and corn grass, then Evital at 80-90 pounds per acre is a possibility.

"Chloro IPC at 100 pounds per acre will work well where the problem consists only of annual grasses, sorrel, hairy panic grass, haircap moss, cut grass, summer grass or other upland grasses.

"Simazine at 3-3/4 pounds per acre could be a possibility where the problem consists of annual grasses, pitchforks, ragweed, smartweed, tear thumb and summer grass especially if the weeds are concentrated on ditch edges or small areas in the bog.

"Kerosene and Stoddard solvent can be used on grassy type weeds in spots, but cost is a factor to be considered.

"Alanap is still registered for use on nut grass, rushes, needle grass and corn grass but unless used before May 1 will cause blossoms to be frost tender.

"Of course iron sulfate should not be used as it will kill newly sanded vines and late water after sanding will decrease crops considerably."

\*\*\*\*

How the Perishable Agricultural Commodities Act (PACA) protects members of the fruit and vegetable produce industry is explained in a revised leaflet issued recently by the USDA.

The leaflet explains how PACA establishes a code of fair trading

practices for the produce business. It also outlines unfair business practices prohibited by the law. It explains how a complaint may be filed and how it is handled. Most complaints filed under PACA, the leaflet notes, are settled informally, without court proceedings, saving time and money for all concerned.

The publication includes guidelines in avoiding disputes and a listing of PACA offices across the country where members of the produce industry can obtain advice on their business problems. It also tells what a PACA license is, who must have one, and how a license may be obtained.

Single free copies of PA-804, "The Perishable Agricultural Commodities Act—Fair Trading in the Fruit and Vegetable Industry," are available on postcard request to: Information Division, AMS, USDA, 26 Federal Plaza, New York, NY 10007.

\* \* \* \*

Consumer representatives and home economists for supermarket chains want more information on nutri-

tion, fresh produce availability and recipes and food serving ideas, according to a recent survey conducted by Botsford Ketchum Inc., San Francisco advertising agency.

As a link between industry and the consumer, supermarket consumer representatives are growing in number and influence, according to BK Vice President Bee Marks.

The BK survey was developed to determine how food communicators can work most effectively with nearly 150 supermarket representatives who have been appointed in recent years. The objective, says Marks, is to offer better and more reliable information to them so we can ultimately better communicate to our consumers.

According to the survey, better information about nutrition was ranked as top priority by more than 80 per cent of the survey respondents. More than two-thirds of them requested recipes and serving suggestions to pass on to their customers and 59 per cent said they wanted reports on fresh produce and crop sizes to keep the buying public informed.

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# Land Rushes, Ghost Towns in 1800's As Cranberry Mania Swept Wisconsin

Wisconsin now leads the nation in total cranberry production but it took more than 300 years to do it.

According to The State Historical Society of Wisconsin, Jesuit missionaries first reported in 1642 that Indians were using the berries for food, dyes and medicine.

Marilyn Dilley, editor of Wisconsin Then and Now, writes:

"The Wisconsin history of the commercialization of the prolific berry is a tale of land rushes and ghost towns, money made and lost, and of the people who owned the land and those who worked it.

"Settlers in the Berlin area, including sections of Green Lake and Waushara Counties, were the first to develop the cranberry crop. In 1850 the wild harvest was considered important enough to warrant a law to insure the proper ripening of the berries by levying a \$50 fine for picking before September 20.

"Also in 1850, according to one

story, the Carey brothers fenced in an acre of wild marsh land, starting the Carey Marsh which eventually became one of the largest in the state.

"Most accounts, however, credit Edward Sacket, who arrived in Berlin from New York about 1860, as the first cranberry developer. Sacket described his 700 acres, which he had bought from an agent, sight-unseen, as "shaking bog covered with marsh grass and many Wisconsin plants including cranberry vines."

"He immediately began to improve the land, copying methods used in Eastern cranberry bogs. He cleared brush, built dams, and dug ditches to regulate flooding. In 1865 the Sacket Marsh sold 938 barrels of berries in Chicago for over \$13,000.

"Neighboring marsh owners, including the Careys, quickly followed Sacket's cultivation method, making tremendous profits from

relatively minor investments.

"News of the potential wealth spread rapidly, and the cranberry boom began. In November, 1866, the *Berlin Courant* reported:

"Preparations are being made by various parties to go into the culture on an extensive scale... The owner of a cranberry marsh has a better thing today, than an oil well or a gold mine, because his 'mine' grows better the more it is worked."

"In 1869 the Sacket Marsh harvested a \$70,000 crop. Speculation was rife. Men caught cranberry mania similar to the gold fevers of the West. Marshes or ground that had even the slightest marshy appearance sold for huge sums as cranberry land. The *Courant* called the development of the cranberry industry 'magical' and noted that land once considered worthless marsh 'is now valued at and richly worth from \$100 to \$300 per acre.'

"A few marsh owners quickly became wealthy, but countless others lost their investments and moved on—many into the Wisconsin River Valley where the state's final phase of cranberry development occurred."

## Growers' Deaths Noted

In New Jersey, W. Arthur Reeves, 83, formerly of New Lisbon, died in Pemberton in early March. He was a Pemberton township tax collector for many years.

Mr. Reeves is survived by his widow Edith C.; three daughters, Mrs. Dorothy R. Lord of Mt. Holly, Mrs. Elinor R. Barker of Pemberton and Mrs. Hope C. Comar of Worthington, Ohio; and one son, William H. Reeves II of St. Petersburg, Florida.

In Oregon, Louie W. Lowe, 80, a lifelong resident of Bandon, passed away in January. He had retired in 1974 and was a 19-year member of the Ocean Spray cooperative.

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# REGIONAL NEWS NOTES

## NOVA SCOTIA

We have had a good snowcover throughout January, February and the first half of March. During February the temperature at -4.2 Celsius was slightly above the fifty-year average of -6.1. Precipitation for the month was below normal.

At the present time there is a strong demand for apples in the juice form rather than as solid pack or sauce and probably this situation will prevail for cranberries in 1977.

I.V.H.

## WASHINGTON

March was about average with a maximum temperature of 55 degrees on the 16th and a minimum of 28 degrees on the same date. The month's average temperature of 43.35 compares favorably with the past five years.

Precipitation totaled 9.54 inches for the month which is about 1/4 of an inch above average. However, when September 1976 through March 1977 are considered as a unit the precipitation total of 33.41 inches is well below the average which is 69.78 inches for that period. The 1975-76 for the same period was 80.50 inches. At present the water table is at a normal level for the last of April. Time will tell, the first six days of April have only .03 of an inch compared to 1.06 inches in 1976.

A.Y.S.

## NEW JERSEY

Last month was the warmest March at Pemberton in 31 years. The average temperature was 47.0,

which is 5.3 degrees F above normal. This made it the fourth warmest March in the 47 years of weather recording at the Cranberry and Blueberry Laboratory. Previous warmer months (with average temperatures) were 1945 (52.5), 1946 (50.1) and 1936 (48.4). There were eight days in the sixty degree range. three in the 70's and two in the 80's. The extremes in temperature were 83 on the 30th and 23 on the 1st, 2nd and 27th.

A total of 3.06 inches of rain occurred during the month. This is 0.79 inches less than normal for March. For the first three months of the year there has been an accumulated deficiency of 2.22 inches. Normal precipitation for this period is 9.92 but only 7.70 has occurred.

The severe winter has caused some serious damage to blueberries in New Jersey. Some fields in the Hammonton area have an estimated loss of 20 to 30% of the crop. In the Pemberton region the damage is not as severe.

P.E.M.

## Mass. Station

### Weather

March averaged 3.9 degrees a day above normal, our first "warm" month since last June. This was the fifth warmest in our records and a welcome relief after our long, cold winter. Maximum temperature was 74 degrees on the 30th which tied a record for the warmest day in March set in 1948. Minimum was 19 degrees on the 1st. Warmer than average periods occurred on the 5th, 9-14th, and 26-31st. The only cooler than average day was on the 18th.

Precipitation totalled 5.95 inches which is about 1-1/8 inches above normal and the wettest since 1968. There was measurable precipitation on 10 days with 1.87 inches on the 13th as the largest storm. We are 2/3 inch above normal through the first 3 months and about 1/2 inch ahead of 1976. Snowfall was only four inches on two days, well below normal.

I.E.D.

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## Planting a Christmas Tree Farm

If you're planning to get into the Christmas tree business, Spring is a good time to start, say the experts.

Shrubs take hold best when planted in early May although some experts dispute this. October is a good second try. Otherwise, April through June are good months to plant.

Colorado blue spruce are among the most favored trees to grow. They are attractive and are known to provide a good return on investment.

Ten years is an average growing time, from planting to harvest, for Colorado blue spruce. Some Scotch pine have been harvested in six years.

As many as 1,200 trees per acre can be planted, allowing a space for each of about six-foot by six-foot.

Before any trees are planted, you should plan out your setting of trees on paper. Know where your skipped rows (for access) will be.

Plant with a long-handled,

round-pointed shovel. Push the shovel into the ground, move the handle forward, insert the tree roots, and pack the dirt tight back against the roots as you remove the shovel. As you walk about your nursery planting trees, keep the young trees in a bucket of water to keep the roots wet.

Pruning is a definite likelihood in all tree farming, although it's possible you may not have to.

Those that are most scraggly or inferior should be culled. Sell those that do not measure up to standard to a large-lot buyer. Those that are less than grade take up space that should otherwise be filled with a marketable tree.

Premium trees bring premium prices. When potential buyers realize that you sell only quality trees, you attract buyers who are willing to pay for only the best.

Cull trees, on the other hand, bring only the price of the branches for greens, if you can find a buyer.

Bill Rawlings, a veteran Christmas tree grower in upstate New York, has this to say about the business.

"I assure you that the investment is a good one, and you will usually get a good rate of return," he says.

The cost of Colorado blue spruce should be around \$100 per thousand in 1977.

"Our cheapest tree sells for \$5 on the stump. If we plant 1,000 per acre, and sell 60% of them, we get a return of \$3,000 per acre, generally over a 12-year period. This is a rate of \$250 per acre per year. At the end of 12 years, we clear-cut the area (if any trees are left) and replant. Of course, the more marketable trees per acre, the higher your return.

"Perhaps the figure of \$5 per tree is low. Maybe the price should be \$7.50 per tree," says Rawlings.

## Christmas Tree Pesticides

Two pesticides were field-tested in Maine in 1976 and have been suggested for control of balsam gall midge and balsam twig aphid.

Diazinon AG 500 was applied both by helicopter and by knapsack mist blower. Cygon 2.67 was applied by mist blower.

It was concluded that balsam twig aphid can be controlled using mist blower applications of Diazinon or Cygon toward the end of May or when 20 per cent of the buds are broken.

The balsam gall midge can be controlled, it was concluded, with Diazinon applied either by mist blower or helicopter. Application should be after oviposition has occurred and galls are forming, usually in late May or early June.

However, as of December, 1976, neither pesticide had been registered for use against the balsam twig aphid and the balsam gall midge.



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Cranberry Growers:

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Of the many customs related to tying the nuptial knot none is as symbolic as the wedding cake. As in ancient cultures, the bread, or cake as we know it, symbolizes the hope for a long, happy and prosperous life.

For a magnificent baked creation, which can easily be prepared with loving hands by mother and daughter, or relatives and friends, consider "Cranberry Pink Wedding Cake." Don't be concerned about time, the cake layers can be made a week ahead and simply wrapped well in foil or plastic wrap and then kept in a cool place. A day ahead of the big event, prepare the fluffy pink frosting combining cranberry apple drink and confectioners' sugar. Spread cranberry-orange relish between each layer, and when it is assembled, generously spread the frosting over the entire cake. To make decorative designs, such as scalloping or rosettes, use a star-tipped pastry tube. As the last touch for this wedding piece de resistance decorate the top and base of the cake with fresh pink and white roses. For the bride who "thinks pink" this marvelous cake will be a splendid remembrance of this most special day in her life.

#### **CRANBERRY PINK WEDDING CAKE**

(Makes 1 tiered cake - 10, 8, 6-inch layers)

- 24 eggs
- 3 cups corn oil
- 3 cups water
- 3 cups finely chopped nuts
- 2 jars (14 ounces each) cranberry-orange relish
- 1 cup vegetable shortening
- 6 packages (1 pound each) confectioners' sugar
- Cranberry apple drink
- Red food coloring
- Fresh pink and white roses

In a large bowl or dishpan, combine cake mix, pudding, eggs, oil and water. Beat until smooth. Fold in nuts. Use half of the batter to fill greased and floured layer cake pan: one 10-inch pan, 2 inches deep; one 8-inch pan, 2 inches deep; and one 6-inch pan, 2 inches deep. Refrigerate remaining batter. Bake in a preheated moderate oven (350° F) for 1 hour for the 10-inch layer, 40 to 45 minutes for the 8-inch layer and 30 to 35 minutes for the 6-inch layer. Cool layers on racks. Wash pans, grease and flour. Repeat with remaining batter. With a serrated knife trim layers so the tops are flat and even. In a large bowl, mix vegetable shortening with sugar until crumbly. Gradually stir in enough cranberry apple drink to make a spreadable frosting. Add enough red food coloring until the desired shade of pink is obtained. Spread cranberry-orange relish between layers stacking layers until entire cake is assembled on its

servicing platter. Spread frosting on sides and top of cake layers. Spoon some frosting into a pastry bag with a star tip. Pipe scallops and rosettes on each tier of cake.

Readers of *Cranberries* are invited to offer suggestions and tips for inclusion on these pages in each issue which are largely devoted to items of interest to women. Items of women in the world—in business, agriculture, politics or at home—are especially invited. Every consideration possible will be given to the use of submitted material.

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each irrigation water analysis report and interpretation is \$37.50.

To order free sampling kits, simply indicate the number of samples you plan to collect and write to: Harris Laboratories, Inc., P. O. Box 80837, 624 Peach St., Lincoln, Nebraska 68501 or call toll free 800-228-4091.

## Growers Protest . . .

*(Continued from Page 3)*

County is valued somewhere between \$50 and \$350 an acre.

"We feel the vines are being taxed instead of the land.

"We are willing to pay our fair share of taxes but we feel we are being unfairly discriminated against, in comparison to other agricultural producers in the area," Carver says.

Carver says he doesn't understand why valuations of cranberry land have increased so disproportionately in the last 10 years.

"When the assessor came around last Fall and told us that our taxes were going to rise to \$3,000 an acre next year, we got together and decided to see what we could do about it as a group."

Attorney Spader is prepared to take the fight all the way to the Oregon Tax Court if satisfaction is not forthcoming from the local

Board of Equalization.

The growers are scheduled to meet with the Coos County Board of Equalization next month.

"Our next move will depend on what happens at that hearing," Carver says.

Carver is a partner with his father-in-law Jim Olson in Jim-Pat Cranberries, Inc.

Spiralling property taxes are believed by most to be the greatest increase in farm costs in recent years. According to USDA economists (see *Cranberries*, September, 1976), taxes in Oregon jumped 27 percent in one year recently, the largest single increase recorded in the nation that year.



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## Sermonettes

by the

Rev. Don Jennings



## Joyful living

Living life at its best may be determined by the way we interpret joy. It is not always an audible exuberance, but more often an inward experience that expresses itself in our actions.

We were visitors one Sunday morning at a worship service. The first three pews in the front of the church were reserved for a special group of deaf and mute worshipers. As the service progressed, an interpreter, the minister's wife, stood before them.

Even though these people could not hear the audible service, they "heard" it through their interpreter. During the service I observed the expressions of joy on their faces. They were enjoying the service as much as those of us who were hearing with our ears.

Joy is not a selfish experience. It is like the favorite Psalm, "My cup runneth over." Joy is something you can't hide. It is something you share. Joy is something you spill on yourself when you share it with others. To pursue joy, as you pursue happiness, for the sake of possession, is to lose it.

### Suffering

The highest joy often comes through suffering or sorrow. It often comes to us when we have given ourselves to others in their times of sorrow. Someone has observed that no flower can bloom in paradise which is not transplanted from Gethsemane.

The author of Hebrews spoke of Jesus as the author of our faith and the example of courage in suffering. He wrote . . . Who for the joy that was set before Him, endured the cross . . ." (Hebrews 12:2). Our Lord knew the victory that was to follow His cross.

The joy is not the experience of enduring our crosses but rather the joy is in the victory we experience after we have faithfully done that which had to be done. The Psalm writer once said, "They that sow in tears shall reap in joy" (Psalm 126:5).

The route to real joy is marked by milestones, such as light, repentance, forgiveness and acceptance. The outcome is joy.

Jesus talked with His disciples about the cost or formula for joyful living. He concluded by saying, "These things have I spoken unto you, that My joy might remain in you, and that your joy might be full" (John 15:11). Joy to the fullest does not come through material or physical things alone, but rather in love. It is the kind of love that does not ask for favors but gives itself instead. ■

*(Courtesy American Agriculturist)*

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## Bionomics and Spatial Distribution

by J. O. Jackson and C. F. Koval,  
University of Wisconsin,  
Madison, Wisconsin

(First of a Series)

A vine killing infestation (ca. 25-30 mature female scale per vine) of an armored scale, *Rhizaspidiotes dearnessi* (CK11.) (Homoptera: Diaspididae), viz. the dearness scale, was discovered in a cranberry marsh near Valley Junction, Wisconsin, in August 1973.

This infestation alerted the industry to a potentially severe pest to Wisconsin cranberry production.

The first documentation of dearness scale in Wisconsin is based on vines collected by L. A. Sorensen in 1961 and subsequently determined to be dearness scale by Professor W. E. Tomlinson, Jr. of the Cranberry Experiment Station at East Wareham, Mass. Specimens collected from Valley Junction in 1973 were verified as dearness scale and cited



Fig. 1. Locations of nine dearness scale infestations in Wisconsin cranberry marshes for the period 1973 through 1976.

as a new State record (Anon. 1973). Two additional infestations were discovered in May 1974 (Anon. 1975), and in 1975, L. A. Sorensen reported two new infestations in Wood County, Wis.

From 1973 through the 1976 season, nine infestations were reported in Wisconsin (Fig. 1). Heavy infestations (25 female scale per vine) cause defoliation and dieback of vines. The center of an infesta-

tion has a "browned out" appearance due to defoliation, dead leaves and exposed vines. After the first year of infestation, however, many vines were found to be alive at the roots.

An area of defoliation of 1885 square ft. located near Millston in 1975 was the largest center of infestation observed. If all infestations from the same marsh are included, a total 4035 square ft. of cranberry vines were defoliated. Although a major infestation center covered 707 square ft. in a marsh near Wisconsin Rapids, the infestation centers usually range from 350-600 square ft. when first noticed. Crop loss in the infestation center is complete, but yield loss at lower infestation levels are not determined. If left alone, it can be estimated that losses to dearness scale would increase.

The present knowledge on the biology and ecology of diaspidid scale insects was recently reviewed by Beardsley and Gonzalez (1975). Although much data has been collected for some scale species on other crops (e.g. California red scale on citrus), the specific biologies of many others are essentially unstudied. Some observations on dearness scale biology and ecology were made in Massachusetts in 1924 by Lacroix (1926).

In Wisconsin the dearness scale passes the winter as a gravid (egg filled) female. First nymphal instars (crawlers) hatch from eggs and emerge from the parent female in early June. The crawler is minute, measuring 0.25-0.33 mm (1-3/100 in.) along its longitudinal axis, and is bright yellow-orange.

Crawlers are the primary dispersal stage, moving to adjacent vines or different sites on the same vine by walking. Conceivably crawlers may be carried further distances by an irrigation flood or tossed shorter distances by the impact of drops from sprinkler irrigation. The best known method of conveying crawlers long distances is by wind.

Quayle (1916) demonstrated dispersal of crawlers by wind relatively early, while later studies by Brown (1958) and Greathead (1972) lend substantial support to the importance of wind as a dispersal factor.

After a period of wandering, the crawler settles on one site and begins to feed and secrete a white shell-like covering. The period of wandering varies among species and is apparently dependent on temperature, humidity, substrate and sex



Fig. 3. Top view of female dearness scale. Actual length ca. 1.5 mm.

(Beardsley and Gonzalez, 1975). Most crawlers of species reported are settled within 24 hours. An estimate based on laboratory observations of dearness scale indicates the period from hatch to complete secretion of the shell to be about 3 to 4 days. Experiments to determine the precise period were inconclusive.

Once a crawler has selected a site and begun to feed, the developing scale will not move from the site. Developing dearness scale are set on the vine as individuals or in groups, but are rarely observed on leaves.

From crawler emergence in June to mid-August the female scale attains full size, ca. two mm, a seven-fold increase in size. Male scale becomes distinguishable from females as development proceeds. Female shells remain oval and "clam-like," (Fig. 3) while male shells elongate (Fig. 4) until they



Fig. 4. View of six male and one female dearness scale. Actual length of males ca. one mm.

become approximately three times longer than wide. Male scale are somewhat smaller than females.

Male flight activity begins with subsequent mating in late August, followed by male mortality, while unseminated females enter the fall and winter seasons. There is one generation each year.

Timing and duration of crawler emergence are important factors in the control of this insect, since this stage is the most susceptible to insecticide treatment. While males may be equally susceptible to insecticides, their late season and prolonged flight activity suggest difficulty with chemical controls due to temperature conditions and proximity to harvest. In Massachusetts, Lacroix (1926) observed first crawler emergence June 16, and within three days hatch was complete. In Wisconsin, first crawler emergence was observed June 14 at two infested sites in 1974 and June 9 and 10 at the same sites in 1975.

To aid protection of crawler emergence, vines with overwintered female scale collected in mid-May of each year were maintained under moist conditions in temperature controlled growth chambers. Temperature was set at 27°C (81°F), day and 15°C (59°F), night. A neutral day length of 12 hours was used in 1974, but a summer photophase of 15 hours was used in 1975. Heat units<sup>1</sup> (Arnold, 1960) were accumulated (ca. 30

H.U./day) until crawlers emerged (HU=725).

Since conditions in the growth chamber were advanced over field conditions, laboratory emergence was expected to precede field emergence by a measured amount based on H.U. accumulation. N.O.A.A. climatological data from the Mather, Wis. station was used to calculate field H.U. accumulation. Crawler emergence based on H.U. accumulation and laboratory observations on developing crawlers was

scale collected from Valley Junction. Emergence from parent females ranged from 7 to 55 percent (mean % = 33), with remaining eggs in late developmental stages. By June 26 (Millston) between 1-35 eggs (estimated average of 11%) per female had not hatched from a sample of 112 parent scale.

(Continued Next Issue)

<sup>1</sup>Heat units (H.U.) calculated from base 40°F.

Site of Infestation	1974			1975		
	6/28	7/3	7/10	6/18	6/26	7/9
Valley Jct. (%)	86.7	96.5	100	73.9	-	100
(N) <sup>a/</sup>	251	250	100	100	-	100
Millston (%)	92.1	100	100	-	95.0	100
(N)	250	250	100	-	112	100
Wis. Rapids (%)	-	93.7	100	-	-	-
(N)	-	250	100	-	-	-

<sup>a/</sup> N = total number of dearness scale females examined.

Table 1. Percent egg hatch during the period of dearness scale crawler emergence from three Wisconsin infestation sites in 1974 and 1975.

predicted for June 15 in 1974, but was first observed in the field June 14 (948 H.U.). In 1975 emergence was predicted for June 9 or 10 (887 H.U.) and was first observed June 9. Differences between lab and field H.U. accumulations amounting to about 125 and 190 H.U. indicates the necessity to develop data on the actual developmental threshold of dearness scale and the on-site monitoring of field temperatures. Accuracy of prediction in both years was attributed to combining both observation on development and H.U. accumulation.

The earlier onset of crawler emergence in the field in 1975 was attributed to the warmer days in May of that year. Where data are available (Table 1) the completion of hatch was earlier in 1975. Egg hatch was all but complete within 21 days following onset of crawler emergence, but more than 85 percent of the crawlers had emerged within the first two weeks.

Apparently all eggs for a given female do not hatch at once. Partial hatch was observed (June 18, 1975) among 34 of 100 dissected female

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# CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

Vol. 43, No. 5

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May, 1977



*'It is time to think about insect control during the growing season . . . Several insects are potential threats to cranberries but only a few are sure to be in many bogs each year . . . The blackheaded fireworm is probably the most important pest . . .'* C. H. Shanks, Jr.

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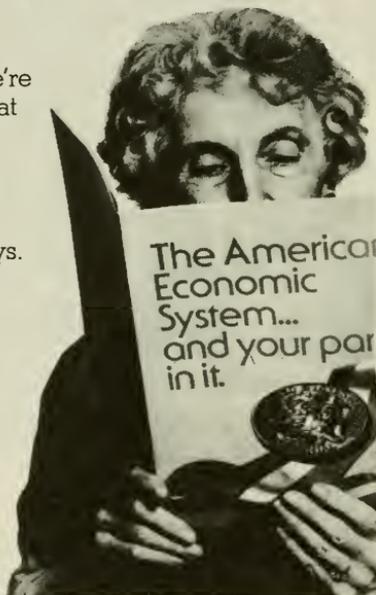


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## Tax Reform Sideshow

### All that Glitters is not Gold

The Tax Reform Act of 1976 has been enthusiastically greeted by many farm families because it greatly lowers inheritance taxes, at least those below \$500,000 in value.

But hold on, says an economist from a college of agriculture in the northeast. Granted, the Act extends the 10% investment tax credit to 1981, saving a pile of income-tax dollars for farmers.

But in two other areas, the news is not all that good.

For one, the Act increases the minimum tax on items enjoying favorable tax treatment. For another, additional income tax is due from heirs who sell farm property they inherit.

"In the long run," says our source, "farm families lost more than they gained."

The minimum tax is one levied on tax-preference items like capital gains. The exemption has been lowered from \$30,000 to \$10,000 and the tax raised from 10% to 15%.

When an estate transfers, it used to be that property was stepped up in value when inherited. The inheritance tax was paid on the appraised value of the property at death, but the heir could use that same value as a cost basis when he sold it later.

That no longer will hold. An heir now must pay income tax on the difference between the value of property when previously purchased and next sold.

In the opinion of some, thus, the total tax from farm families (income tax and inheritance taxes combined) has not been lowered by the Tax Reform Act of 1976. In some cases, it may actually have been increased.

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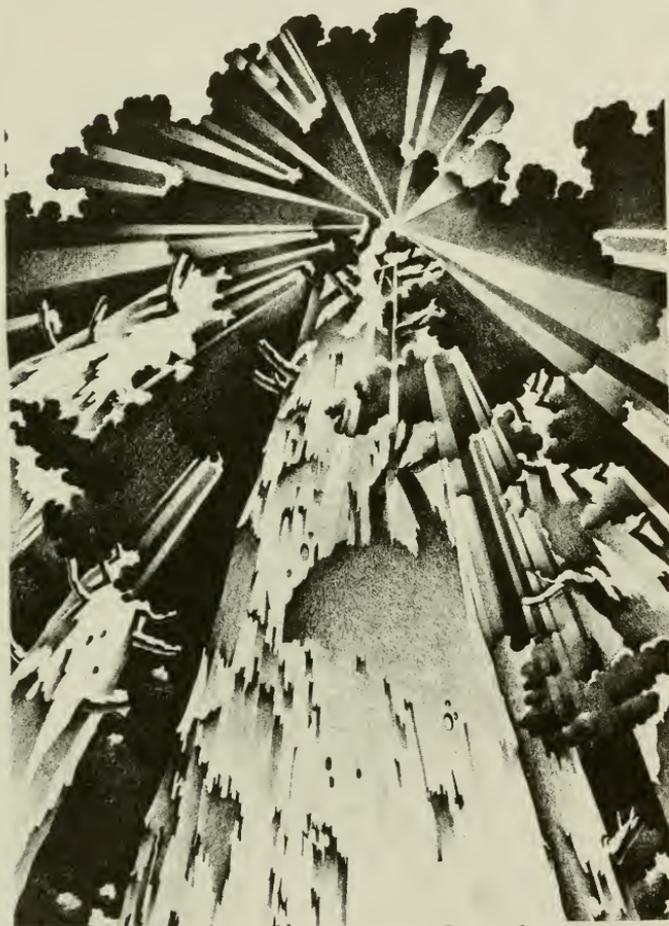


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MAGAZINE

— Our 39th Year of Publication —

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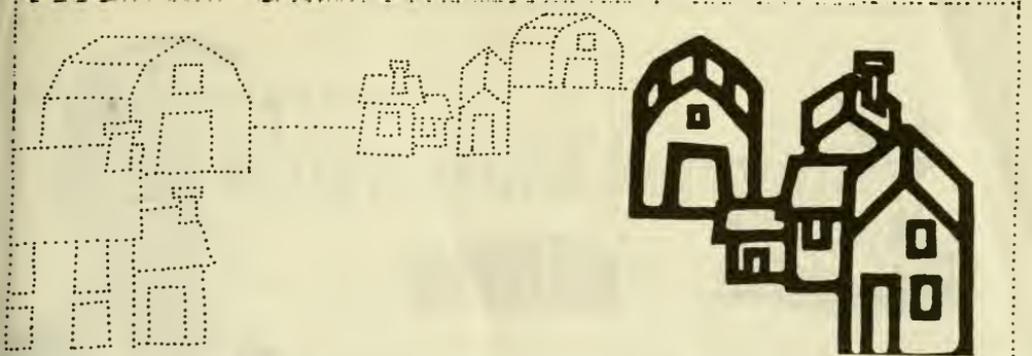
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# Acres Per Farm Rising, Total Farms Decreasing

The number of farms in the U.S. continues to diminish, says the Statistical Recording Service of the USDA.

The number dropped a mere 1% from the previous year to an estimated 2.78 million farms in operation around the country.

Early estimates for 1977 show a similar decline, another 1% drop to around 2.75 million.

By the same token, the size of the average U.S. farm rose.

The gradual trickling away of the Nation's farms also reaches over into the amount of land in farming. In 1966, for example, American farmers raised crops and livestock on 1.13 billion acres. But a decade of successive year-to-year declines brought last year's total to 1.08 billion. This year, another 2.75 million acres are expected to drop out of the farmland inventory.

But while U.S. farm numbers have shrunk by 15 percent in the past 10 years, total land in farming registered only a 4 percent decline. That's reflected in the average size of the American farm, which has climbed each year from 1966's 348 acres to 390 acres in 1976. Experts see the 1977 average edging up another 3 acres per farm—as in the past 2 years—to 393 acres.

While it lost roughly 2,000 farms since the 1975 count, Texas claimed the most farms and ranches in last year's tally—some 205,000. In 1977, another 3,000 farm operations could disappear in the Lone Star State. And after remaining

unchanged since 1973, total farmland in Texas is expected to slip by about 400,000 acres—the biggest decline seen for any State except Kansas, which is expected to lose 100,000 acres more.

Not surprisingly, the smallest of

our 48 adjacent States also showed the fewest farms. Only 680 farms dotted the State of Rhode Island in 1976, with 65,000 acres in crop and livestock production. The forecast for 1977: No change.

## Statistical Barometer

Item	1974	1975	1976—latest available data	
<b>Farm Food Market Basket:<sup>1</sup></b>				
Retail cost (1967=100)	162	175	173	November
Farm value (1967=100)	178	187	169	November
Farmer's share of retail cost (percent)	43	42	38	November
<b>Farm Income:</b>				
Volume of farm marketings (1967=100)	111	115	157	November
Cash receipts from farm marketings (\$bil.)	92.6	89.6	93.8	3
Realized gross farm income (\$bil.)	100.2	98.2	103.3	3
Production expenses (\$bil.)	72.4	75.5	81.5	3
Realized net farm income (\$bil.)	27.8	22.7	21.8	3
<b>Income and Spending:</b>				
Disposable personal income (\$bil.)	982.9	1,080.9	1,216.9	2
Expenditures for food (\$bil.)	167.0	184.8	204.3	2
Share of income spent for food (percent)	17.0	17.1	16.8	
<b>Agricultural Trade:</b>				
Agricultural exports (\$bil.)	22	22	2.1	November
Agricultural imports (\$bil.)	10	10	1.0	November
<b>Hogs and Pigs:</b>				
Hogs and pigs on farms,				
December 1 (million)	55.1	49.6	55.1	December
Kept for breeding (million)	7.4	7.6	8.0	December
Market (million)	47.6	42.0	47.4	December
June-November pig crop (million)	38.9	35.8	42.4	December
Annual pig crop (million)	84.0	71.3	84.6	December
Value per head (\$)	45.10	80.30	47.00	December
<b>U.S. Farms:</b>				
Number (thousands)	2,830	2,808	2,778	December
Total land in farms (million acres)	1,088	1,086	1,084	December
Average size of farms (acres)	384	387	390	December

<sup>1</sup> Average annual quantities per family and single person households bought by wage and clerical workers, 1960-61, based on Bureau of Labor Statistics figures.

<sup>2</sup> Annual rate, seasonally adjusted, fourth quarter

<sup>3</sup> Annual rate, seasonally adjusted, third quarter



# editorial



## Senate Confirms Costle As New EPA Administrator

If you think that Americans by and large are disgusted with the economics of the free enterprise systems, then cheer up. There's good news at last.

"There is no evidence that the free enterprise system is on trial with the public," is the leading conclusion of a survey conducted recently under auspices of *U.S. News & World Report* magazine.

A full 70% of the more than 6,000 respondents agreed that "competition is better than governmental regulation to make sure that the public gets what it wants."

How do you feel about this one? "Two out of three feel that government regulation breeds inefficiency," the survey showed. The respondents, however, did endorse regulation for product safety and safe working conditions.

"Government and labor are blamed for inflation nearly two to one over business," the survey indicated, adding that no limit should be set to what profit a company can make.

No, the economics of business and industry do not seem to be questioned. What is questioned is the integrity, social consciousness and concern for consumer interests.

Here's an interesting parting shot. While business got low marks in the survey on "honesty, dependability, and integrity," the public gives even lower marks to labor leaders, the House of Representatives, regulatory agencies, Federal bureaucracy, politicians, and the Republican and Democratic parties.

What the survey seemed to say, according to *U.S. News*, is that "we believe in free enterprise . . . profits are not too high . . . and we respect your many accomplishments.

"But we are not sure how much we trust you, and how much you really care about us."

That all strikes a responsive chord to us. That seems to be the way most in agriculture regard U.S. government and the American way of life. Don't you agree?

*from the editor's desk*

Douglas M. Costle, a Californian has been confirmed by the U.S. Senate as the country's new administrator of the Environmental Protection Agency, (EPA).

Costle had been serving as a member of President Carter's transition team. He had previously served, since July, 1975, as assistant director for natural resources and commerce at the Congressional budget office.

From January, 1972, to July 1975, Costle served the state of Connecticut first as deputy commissioner and then commissioner of the department of environmental protection.

He was a Fellow of the Woodrow Wilson International Center for Scholars, Wash., D.C., in 1971, and in 1969 served as a member of the President's advisory council which recommended creation of the EPA.

At his confirmation hearing Costle said, "For too long, environmental concern has been portrayed as an obstacle to energy development. This Administration, in contrast, believes that environmental protection is not an obstacle but merely a necessary precondition for energy development.

"The costs of pollution control are substantial but the record since 1970—and estimates of future impact—clearly show that the costs are tolerable and sustainable for our economy."

## A Fungus to be Kept in Check:

# *Guignardia Vaccinii*

By Dr. Peter Bristow

Assistant Plant Pathologist

Western Washington Research and Extension Center

Stem and leaf blight, blossom blast and blight, leaf spot, and early storage rot, are all names commonly used for the disease of cranberry caused by the fungus *Guignardia vaccinii*. Most of the names refer to the particular plant part affected, and this fungus can attack all aerial portions of the cranberry plant. This disease is present in all cranberry growing sections of the country, and it also occurs on wild cranberry.

The disease is favored by wet, cool conditions, thus it is easy to see why a bog is an ideal place for its development. To better understand the various practices used in attempts to control this disease, and also what we see in the bogs, knowledge of the disease cycle of this fungus-plant combination can be very helpful.

The fungus survives the winter months (overwinters) primarily as immature perithecia on fallen twigs, leaves and berries that were diseased the season before. Perithecia appear as very small black spots. In the spring, usually beginning in April, the perithecia begin to mature and produce large numbers of ascospores. Ascospores are violently shot into the air, where they are carried by the wind throughout the bog.

Once a spore lands on a plant, long periods of wetting are required in order for it to germinate and begin to attack the plant. Usually within a few days after *Guignardia* has entered the plant (infection), other small black bodies called pycnidia begin to appear on the surface of the affected plant part.

Conidia, the spores produced in the pycnidia, ooze out in a sticky mass. Water dissolves the mass and the conidia are spread by splashing rain. Like ascospores, conidia also need prolonged wetting periods to germinate and infect. Again newly infected plant parts form pycnidia with masses of conidia.

If favorable conditions (cool, moist weather) exist, this cycle of infection by conidia can be repeated many times, resulting in a very rapid buildup of the disease. In the fall immature perithecia are formed on diseased plant parts. When the fungus is in this form it is ready to survive another winter.

### Symptoms of the Disease

Other disorders can affect the same aerial portions of cranberry plant that *Guignardia* can attack. However, when this fungus is involved, the small black pycnidia or perithecia will be seen. When hooks and blossoms are attacked, they wither and die. Fruit may be attacked at any stage in its development. When half-grown fruit is infected, the fungus first causes a light-colored soft spot, which later spreads and may appear as more or less distinct dark-colored rings. If attacked early in its development, the berry will become shrivelled, blackened, and covered with pycnidia.

Sometimes fruit may be infected but not exhibit any symptoms, and after harvest the fungus will become active. Dormant infections can cause considerable losses in some years as a storage rot. The particular storage rot caused by *Guignardia* is called "early rot."

Control of *Guignardia* is approached from three directions.

First, is sanitation. The aim is to reduce the amount of the fungus in the bog, thereby lowering the number of spores produced in the spring. Dormant sprays (lime sulfur) kill the fungus in fallen leaves, etc. Sanding buries these infected plant parts which have accumulated for several years.

Second is the use of protective fungicidal sprays to place a chemical barrier between the fungus spore (ascospore or conidia) and the healthy plant.

Third, is the use or adherence to good cultural practices, which keep the vines in good condition. Avoid excessive or rank vine growth, and keep weeds under control. Both of these will help create an environment in the bog that is less favorable for the development of *Guignardia*. Remember this fungus thrives when it is cool and moist for extended periods of time.

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# Washington Researcher Urges Insect Control

Carl H. Shanks, Jr.  
Southwestern Washington

Research Unit  
Vancouver, Washington

It is time to think about insect control during the growing season.

There are several insects that are potential threats to cranberries but only a few are sure to be in many bogs each year. Some insects, such as the tipworm, were a serious problem at one time but modern insecticides have greatly simplified their control.

The blackheaded fireworm is probably the most important pest of cranberries, at least on the West Coast. It is a moth which lays its eggs on the foliage. The larvae which emerge from them feed on the buds, growing tips, and berries.

There are two broods per year, one about mid-May to June and another in July. It is important to time the sprays in order to kill the larvae before damage becomes extensive. The second brood espe-

cially can cause serious damage to berries and the next season's fruit tips. Therefore, bogs should be watched closely and spraying begun as soon as the larvae are observed. Diazinon, Guthion, malathion, or parathion may be used.

Bogs should be observed after treatment to make sure control was complete. This spray also controls the fruitworm and tipworm, which were serious problems 25 years ago.

Root weevils, especially the black vine weevil, have become a serious threat to many bogs that are dry-harvested. This has occurred in the last three years since the manufacture of dieldrin was banned.

Unfortunately, there is no good new control available yet. We are still hoping for eventual registration of Furadan for this purpose, but for a number of reasons, registration is probably two to three years away. Other chemicals are being evaluated and, hopefully, one of them will someday be available. If bogs can

be flooded in the winter, that will give control of the weevils.

Government regulations on use of pesticides are becoming ever more strict. Therefore, it is extremely important that the label directions for use be followed. To do otherwise, is to invite problems for yourself and your industry.

## Canners Co-op Urges New Fruit Grading

A cooperative of California canners has successfully caused the USDA to consider a new schedule of peach grade standards.

USDA has proposed revising its canned clingstone peach grade standards to update grading procedures and to eliminate alternate grade names for canned clingstone peaches.

The new procedure suggested by the Canners League of California, calls for classifying quality defects according to severity, using the categories of minor, major, severe and critical.

The number of defects in individual samples may not exceed specified limits, in each of these categories, for each grade. The attributes concept would replace the current system of numerically scoring quality factors on a 100-point scale.

The proposal would provide for two separate inspection plans—one for fixed lot inspection after production, and another for on-line inspection during production. Both procedures would require the same quality levels for each grade.

USDA would retain the three grades, U.S. Grade A, U.S. Grade B, and U.S. Grade C for canned clingstone peaches. However, the descriptive terms Fancy, Choice, and Standard would be dropped as alternate quality grade terms, in line with the Food Safety and Quality Service (FSQS) policy to standardize grade terminology for all canned and frozen fruits and vegetables.

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Frederick E. Gebhardt

## Fred. E. Gebhardt, Wisconsin Grower

Frederick E. Gebhardt, 73, a philanthropist and one of a long line of growers in the Gebhardt family, died recently in Black River Falls, Wisc.

He was born Sept. 1, 1903 in Black River Falls to Frederick W. and Ida Kinkead Gebhardt. He attended the Tomah schools and graduated from Tomah High School in 1924. He worked at his parent's cranberry marsh near Warrens and the George Gebhardt Upper Marsh near Millston.

He was employed as a railway freight clerk at Milwaukee for the Milwaukee Road from May 1926, until his retirement in January, 1955, when he moved to Black River Falls.

He married Charlotte Hass on June 29, 1935 at Barre Mills near West Salem.

He was a member of the Wisconsin State Cranberry Growers Association since 1954 and contributed to the educational communication program for cranberry growers. He operated the Herman Gebhardt Marsh south of Black River Falls for 18 years, retiring in December, 1970.

A philanthropist, he and Robert Gebhardt donated land to establish the Gebhardt Park at Black River Falls, as a memorial to the Gebhardt family.

## Corn Syrup Product

### Alternate to Sugar

Increased use of corn syrup as a sugar replacement is likely, says the chief executive of a major corn processing company.

Donald E. Nordlund, chairman of A. E. Staley Mfg. Co., Decatur, Ill., said in New York recently that new versions of high fructose corn syrup will lead to its further growth as a sugar replacement.

Nordlund cited a 90 percent fructose product with potential in low calorie foods and beverages, a 55 percent product for use in soft drinks, and, longer-range, a crystalline fructose for "the consumer's sugar bowl."

High fructose syrup is the first corn sweetener to compete directly with sugar on a sweetness basis in processed foods and beverages. The product has made substantial inroads as a sugar replacement in recent years. The present industry standard is 42 percent fructose.

Nordlund said interest in the 90 percent product, which is about *one-and-one half times sweeter than sugar*, has increased sharply since the recent proposed ban on saccharin. He said the corn processing industry's ability to produce such a product is limited but could be

increased if the ban becomes effective.

A new 55 percent fructose product is aimed at the soft drink industry, said Nordlund.

Nordlund said a longer-range objective of corn sweetener producers was the creation of a crystalline high fructose. He said the capability to produce such a product exists at the laboratory level and that it could become commercially available in the early 1980's. Nordlund described the development as "placing a corn sweetener in the consumer's sugar bowl for the first time"

## Few College Students Choose Farming Careers

Only four percent of incoming college students look ahead to careers in agriculture, according to a survey reported in *Forethought* magazine.

The big winner was "business," according to the survey, which said that 19% of some 314,000 freshmen chose the subjects as their major field of study.

"Engineering," "health care" and "fine arts" also led agriculture. Those showing less interest were the humanities, English and mathematics.

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# REGIONAL NEWS NOTES

## NOVA SCOTIA

The month of March had temperatures slightly above the 50-year average. Our snow is pretty well gone at this time (April 20) and we think our cranberries came through reasonably well. Our precipitation in March at 119 mm was considerably higher than the 50-year average of 84.5.

I.V.H.

## WASHINGTON

March may have been the turning point in changing the low precipitation trend during the last six months. The first quarter of 1977 showed 15.04 inches less compared to the same period of 1976. It is very interesting to notice the warmer temperature reached an average of 5.3 degrees F higher than

the same period of last year. A good rest period during winter and a rise in temperature of 5.3 degrees F in early spring are an indication of an early and short blooming period.

The following hints may help in making your bees more efficient: a) Mow weeds where hives are to be located. b) Spread a black plastic sheet or roofing tarpaper under hives. This will absorb heat and warm hives faster, bees may work earlier. c) Put hives away from sprinklers to avoid cooling in case of irrigation or pesticide application.

The Annual Cranberry Field Day will be Friday, June 24, 1977.

A.Y.S.

## Mass. Station

April averaged 0.4 degrees a day above normal which was considerably cooler than Boston. Maximum temperature was 78 degrees on the 12th and minimum 22 degrees on the 9th. April started out cool but

by the middle of the month turned warm and stayed that way. Warmer than average days were the 3rd, 12th, 14th, 16th, 18-22nd, 27th, 28th and 30th. Cooler than average days were the 2nd, 4th, 7-9th, 24th and 25th.

Precipitation totalled 3.64 inches or about 2/3 inch below normal. There were measurable amounts on only eight days with 1.76 inch on the 5th as the largest storm. Nearly 50% of the rain came on this one day and there was only one other rain the rest of the month. We are exactly normal for the year and about 2-1/2 inches ahead of 1976.

Water supplies are generally good this spring and the bogs are advancing about as last year. There has been some winterkill scattered around but the total acreage affected is small; a little oxygen deficiency injury, but nothing major in total acreage. The bud is somewhat spotty but there are many bogs that are outstanding in this respect.

The Frost Warning Service has 182 subscribers which is better than for the past two years. There have been frost warnings issued on April 29 with temperatures in a range of 21-26 degrees and another on May 3 with some readings as low as 17 degrees, but generally in a range of 19-25 degrees.

I.E.D.

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# AGRICULTURE NOTES

Another alcoholic beverage made from cranberries has made its debut, this one from Heublein.

Boggs Cranberry Liqueur has been introduced in one liter bottles (a bit more than a quart) with a listed alcoholic content of 20% by volume, about the same as port and sherry wines.

Boggs Cranberry Liqueur is reported to be slightly tart, as one might expect., and is especially refreshing when served on shaved ice or sipped straight.

\* \* \* \*

Growers are apt not to be too happy about two recent Carter appointments. M. Rupert Cutler, Michigan State University environmental law and policy professor, is new assistant secretary of agriculture for conservation, research, and education. Among things Cutler is not known for are his support of ag research or experiment stations, says one source.

Carol Foreman's appointment to assistant secretary of agriculture for food and consumer services is another that's not expected to be greeted enthusiastically in some circles. Her duties include directing fruit and vegetable inspection, both fresh and processed. (N.B. Her husband, Jay, is a lawyer for Retail Clerks International.)

\* \* \*

"Wives are just awfully important to the success of a farm business," observes a banker involved in farming. "I can name you a dozen farmers who would never have gotten anywhere without the good sense their better halves brought to business decision.

"Some men tend to be plungers ... to make decisions without really thinking through all the angles ... and their gals are great stabilizers.

"If the wife is not actively interested in the farm business, it

always waves a red flag in my mind. Again, I could name you a dozen farms I've seen that have developed serious financial problems partly because the missus tended strictly to the home and never went to the barn."

\* \* \*

"Cranberries in Storybrook Land" will be the theme of the annual Bandon, Oregon Cranberry Festival, thanks to an eighth grade teacher.

Sharon Hennick's theme was selected at a recent meeting of the Cranberry Festival Association. She was awarded a \$10 prize.

\* \* \*

If you have a black walnut tree standing on your property, or know someone who has, treat it with love. It's worth some money.

A Williams County, Ohio, lady was recently paid \$30,000 for hers, what one source says is the most ever paid for a single black walnut. The tree stood 135 feet tall and measured 38½ inches across the diagonal at chest height.

Washingtonian Floss Ferguson, writing in the *Pacific Tribune* in Ilwaco, offers this salad which she says is a delightful accompaniment to any dinner and is especially good with roast turkey or ham.

## FROSTY CRANBERRY SALAD

- 1 can crushed pineapple (13-1/2 ounce size)
- 1 package lemon jello (6 ounce)
- 1 bottle ginger ale (or about 9 ounces)
- 1 can jellied cranberry sauce (1 pound size)
- 1 envelope Dream Whip
- 3 ounce package cream cheese

Drain pineapple (saving the juice), add water to make one cup liquid and heat to boiling. Dissolve gelatin in the pineapple juice and cool. Gently stir in the ginger ale and chill until partially set. Blend pineapple and cranberry sauce together, then fold into the gelatin mixture. Turn into a 9x9x2" dish and chill until firm. Whip Dream Whip according to directions. Set aside. Beat cream cheese until smooth. Fold both mixtures together and spread on gelatin.

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A versatile trio of dinners made all-in-a-skillet include Berry Peachy Skillet Chicken, Cranberry Salisbury Skillet Steaks and Berry Fish 'N Cheese Fillets. Each requires little cooking time and conserves energy by using one stove top burner.

#### SKILLET CHICKEN

- 4 skinless and boneless chicken breast halves
- Salt and pepper
- 1/4 cup butter or margarine
- 2 large sweet potatoes or yams, peeled and cut into 1/2 inch thick slices
- 4 Cling peach halves, frozen
- 1 package (10 ounces) frozen baby whole carrots
- 1/2 cup whole berry cranberry sauce
- 2 tablespoons lemon juice
- Dash nutmeg

Sprinkle chicken with salt and pepper. Heat butter in large skillet and brown chicken on both sides. Add remaining ingredients and 1/2 cup water; stir to blend. Cover tightly and simmer for 20 to 25 minutes or until potatoes and carrots are tender.

#### BERRY FISH 'N CHEESE

- 1 package (6 ounces) rice and wild rice mix
- 2 tablespoons butter or margarine
- 2-1/2 cups cranberry juice cocktail
- 1 cup thinly sliced celery

- 1 package (10 ounces) frozen peas
- 4 flounder fillets
- Salt and pepper
- 4 slices American cheese

In a large skillet, combine rice mix, butter and cranberry juice. Cover and simmer gently for 15 minutes. Stir in celery and peas. Sprinkle flounder with salt and pepper. Place a cheese slice on each fillet and roll up like a jellyroll. Place rolls seam-side down into rice. Cover skillet and simmer for 15 minutes or until fish flakes easily. Serve hot.

#### CRANBERRY SALISBURY SKILLET STEAKS

- 1-1/2 pounds ground chuck
- 2 teaspoons salt
- 1 onion, chopped
- 1/2 cup cranberry-orange relish
- 1/4 cup butter or margarine
- 1 can (10-1/2 ounces) condensed beef broth
- 1/2 cup red wine mixed with 1/4 cup all-purpose flour
- 1-1/2 cups frozen whole baby onions
- 1 package (10 ounces) frozen mixed vegetables
- 12 whole small mushrooms

In a bowl mix chuck, salt, onion and relish. Shape mixture into 4 oval patties. Heat butter in a large skillet. Brown patties on each side. Remove patties from skillet. Stir beef broth and wine into pan drippings. Cook, stirring constantly over low heat until sauce bubbles and thickens. Add all vegetables and then patties. Cover and simmer gently for 20 minutes or until vegetables are cooked.



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*Bob Alberghini*

Robert Alberghini  
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#### Editor's Note

Readers of *Cranberries* are invited to offer suggestions and tips for inclusion on these pages in each issue which are largely devoted to items of interest to women. Items of women in the world—in business, agriculture, politics or at home—are especially invited. Every consideration possible will be given to the use of submitted material.

# New Products In Agriculture



Bernzomatic has introduced a portable, compact cutting/welding torch called the Model OX5000. It is capable of cutting up to 1/4-inch steel plate and 3/4-inch bolts, is handheld and has no hoses to crimp or tangle.

The torch uses separate oxygen and fuel gas (either propane or Mapp gas) cylinders which screw into a stainless steel assembly. Gas flow is controlled by separate knobs on top of the torch. A fully-regulated valve provides complete control of the oxygen flow.

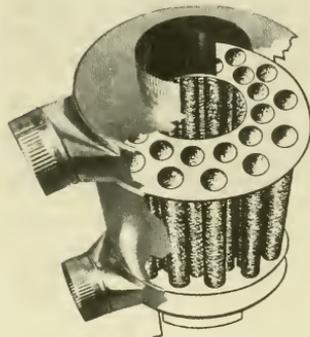
\* \* \*

Gateway Supply Corporation announces the Free-Heat-Booster. Designed to work with furnaces, free standing fireplaces, wood stoves, and space heaters, the Free-Heat-Booster reduces fuel consumption by re-capturing heat previously wasted.

Installed on the vent stack of furnace, fireplace, heater or stove, the Free-Heat-Booster replaces a portion of the vent pipe. Combustion exhaust passes through the Booster, surround the 24 internal heat exchangers. Fresh air traveling through the 24 exchangers is heated safely and reliably. The fresh, hot air can be re-cycled through a forced-air furnace system to supplement the furnace, or directed to a new previously unheated area.

Furnace fuel consumption is

normally cut by more than 25%. With fireplaces and stoves the savings can be even more impressive. The higher vent stack temperature of a free-standing fireplace or stove gives the Booster more heat



to work with and that means more heat is returned. In addition, the Booster blows the heated air across the surface of the stove, or fireplace, "scrubbing" the surface heat off and out into the room where

it's needed most. The Booster is expected to double the efficiency of a fireplace or stove.

The exhaust and fresh air systems are discrete, so there is no risk of noxious gas escaping.

\* \* \*

"Pump Up A Rain," a sales bulletin and selection guide for irrigation engines, has been updated by the Allis-Chalmers Corp., engine division.

Half of the four-page bulletin consists of charts which permit users to correctly size Allis-Chalmers engines for their agricultural irrigation requirements. One chart plots horsepower demand in multiple combinations of GPM flow and total dynamic heads. The other plots engine horsepower, continuous-duty speed, torque and other design details specific for each Allis-Chalmers irrigation engine model.

Copies of "Pump Up A Rain," EE436G, can be obtained from the Engine division, Box 563, Harvey, Ill., 60426.

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# Dearness Scale, A Vine Pest of Cranberry:

## Bionomics and Spatial Distribution

by J. O. Jackson and C. F. Koval,  
University of Wisconsin,  
Madison, Wisconsin

Preliminary laboratory observations based on 140 gravid females dissected in lots of 10 each day for 14 days indicates that approximately 10% of eggs per female remain unhatched after two weeks (Fig. 5). From these results, initial hatch up to 50 percent occurs in five days. However, it remained at approximately 50 percent between days 5 and 12, during which time

variation in hatch among females is greatest. As egg hatch nears completion at 14 days, this variation becomes less. The prolonged hatching time for each female scale gives the scale population the advantage of an extended emergence period, so that elimination of the population due to single catastrophic event (e.g. frost, flood, insecticide) is avoided.

Emergence in late August by winged males was first observed in Massachusetts Aug. 20-24 in 1925 by Lacroix (1926). In Wisconsin,

male flight was first observed on Aug. 23 in 1973 and 1974. In 1975 sticky board traps, 35 square in. each, placed in the infested area indicated that male flight began between Aug. 20-23 (Fig. 6) at both Millston and Valley Junction marshes. Peak male activity occur-

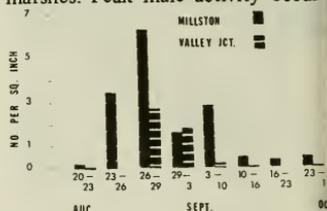


Fig. 6. Male dearness scale collected per square inch of sticky board traps in Fall, 1975.

red between Aug. 26-29. However, male activity continued until Oct. 1, when further surveillance was terminated by harvest.

At Millston a "T" pattern of sticky traps was placed tangent to a large scale infestation. The center trap was placed just within the south border of the defoliated ellipse. Traps on the north-south axis were spaced 10, 25, 50 and 100 feet from center, while traps on the east-west axis were set at 25 and 50 feet on either side of center. The number of male scale per square in. accumulated (Sept. 3 - Oct. 1) on the traps tended to be greatest at 25 and 50 feet along the north-south axis (Fig. 7). The

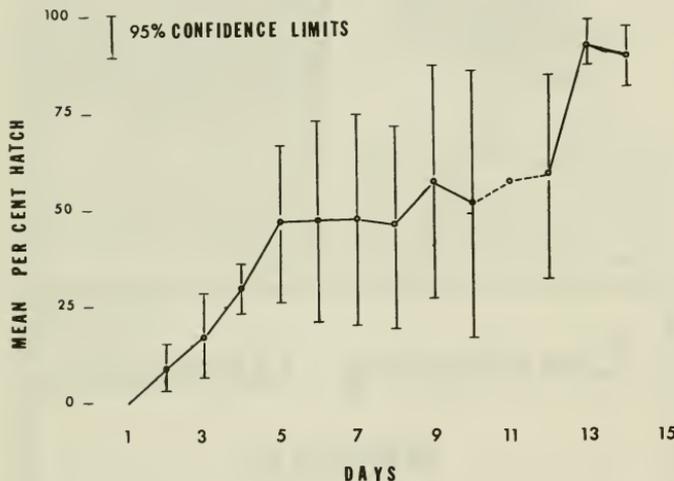


Fig. 5. Time sequence in egg hatch from female dearness scale.

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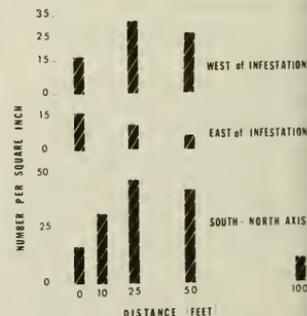


Fig. 7. Collection of male dearness scale at indicated distances from the infestation center at Millston between August 26 - October 1, 1975.





**Sermonettes**  
by the  
**Rev. Don Jennings**

## Labor and wait

Henry Wadsworth Longfellow, American poet, left a rich heritage of poetry of moral elevation as well as fine artistic sense. His life was not all roses; he lost his wife in his youth, and felt that he could not go on with his work.

Early one morning, as the sun streamed through his study window, the words came to him: "Let us then be up and doing, with a heart for any fate: still achieving, still pursuing. Learn to labor and to wait."

There is a saying: "All things come to those who wait, but when they come they're out of date." This, however, was not Longfellow's philosophy in the poem he called "A Psalm of Life." In the last verse are the words, we must "learn to labor and to wait." Waiting upon God surely means to pray, but it also means to trust Him and keep going on.

It is not always easy to take up the load when, in sorrow and disappointment, life seems so hopeless. Paul the apostle, writing to the Christians at Corinth, said, "We walk by faith not by sight" (II Corinthians 5:17). There are many experiences in life that we cannot understand. There is the loss of a loved one in the very prime of life, a sudden sickness that means the changing of many plans, or the disappointment in our life's work that changes our entire future hopes. What can we do?

### Weak

The attitude of the weak in the face of these situations is to display impatience, worry and deep frustra-

tion. Those who have a profound faith in God have built up a strong wall of trust. They have learned to "walk by faith, not by sight." They have learned to "labor and to wait."

A familiar verse has been given to us by the prophet Isaiah. He says that even the strongest may faint by the wayside and give up. But, says Isaiah, "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" (Isaiah 40:31).

A most able pastor had an invalid wife, who many thought was a handicap to his work. Instead of being a hindrance, however, she was a tower of strength to her companion. In times of greatest difficulties, this pastor and husband went to his devoted wife, and through her strong faith, and their council together with God, found inner strength equal to the task. Longfellow was right. Through faith in God, we have "a heart for any fate," we learn "to labor and to wait." ■

*(Courtesy American Agriculturist)*

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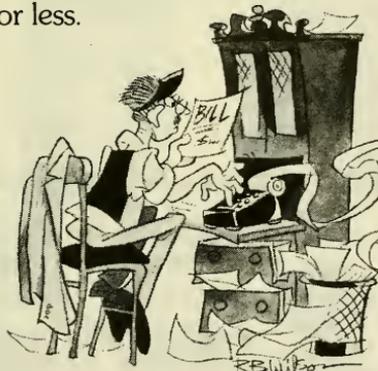
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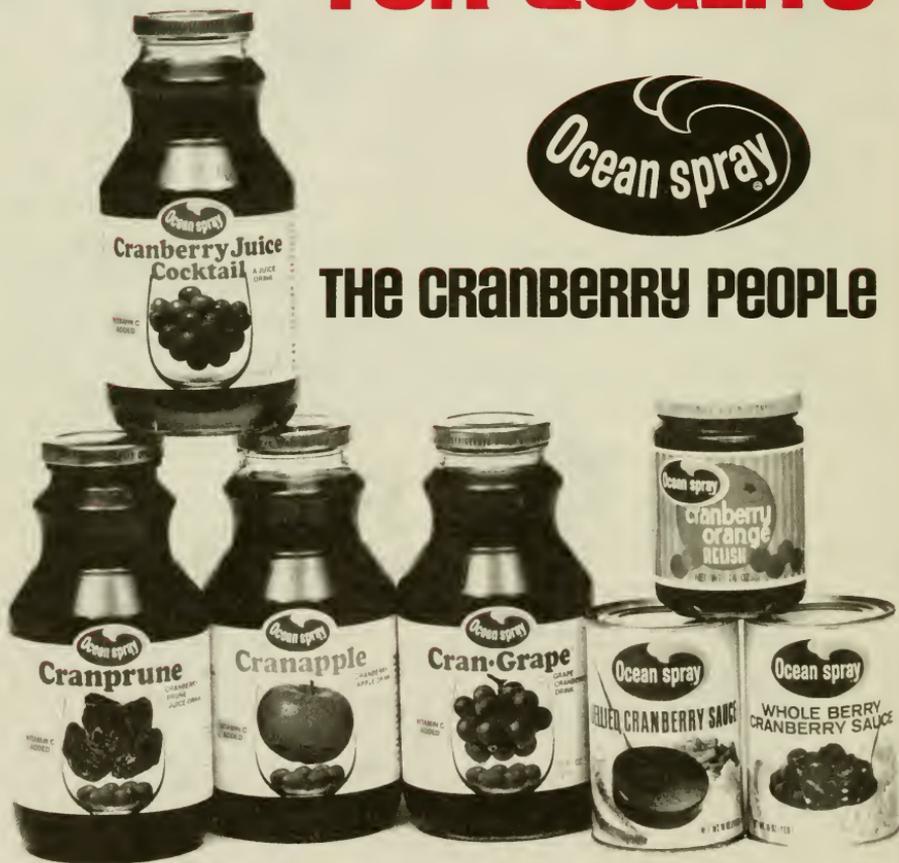


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THE NATIONAL CRANBERRY MAGAZINE

Vol. 43, No. 6

JULY 1977  
UNIV. OF MASS June, 1977

*In This Issue . . .*

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## 'No Water' Problem Lingers

(Page 3)

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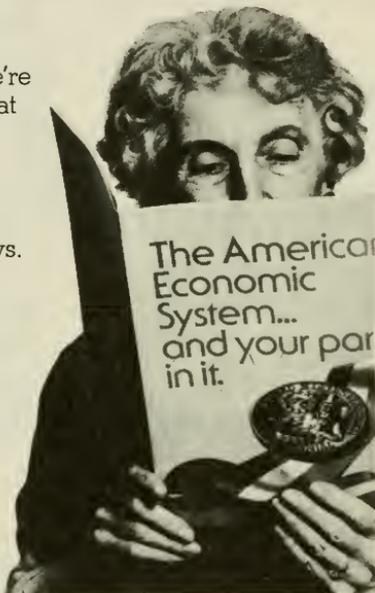


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# Mass. Town Acts to Abate Farm Taxes

**Middleboro, Mass.**—Residents of this rural town, in the heart of cranberry growing country, have recently taken action to help shelter farmers from soaring property values.

The town has agreed to propose a bill to the Massachusetts legislature that would allow Middleboro to abate water and sewer betterment charges for land in active use as a farm.

Town fathers and residents look at improvements as a problem of growth and want to do something about "disappearing agricultural land."

The town's treasurer and tax collector, its assessor, and selectmen met recently to discuss provisions of the bill. Town counsel is drawing up the bill for submission

in the current legislative session.

Bruce G. Atwood, chairman of the town's board of selectmen, explained, "We want a means of protection for the farmer or landowner with a lot of land, so that he won't be forced to sell it."

The move started some time back when a town dairy farmer squawked about a large assessment on his farm for a water main which was installed along some 1,000 feet of his property. The new main was required because of rapid growth in the community, which is attractive to urban workers who want to commute to the city from "a place in the country."

When farmer Wil Schobel requested an abatement from selectmen, who also serve as water and sewer commissioners, he was re-

jected. Selectmen claimed at the time that there was no provision to recover the cost of the water main if the land were cut up into house lots and sold. Thus the betterment could not be abated.

The bill proposes to allow selectmen to abate such fees for farmers as long as the land remained farmland and was not sold. Fees would be imposed at such later date as the land was subdivided into houselots, and would be assessed on a per-foot basis for each lot.

Provisions of the proposed law are thought to include a continuation of the abatement if the land were sold but continued in use as a farm. It also would not affect inheritance, or a widow's obligation to pay for past betterments.

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"Farmers Feed You 3 times a day," a new auto bumper sticker popular among agricultural interests, is now available in your area through *Cranberries* magazine. The bumper sticker, in red-white-and-blue, is the same size as shown and is vinyl coated to protect from rain; a companion envelope sticker in paper, measuring 1-1/2 by 1-1/2" is also available. Bumper stickers are five cents each; envelope stickers, in pads of 100, sell for \$3 per 10 pads (1,000 stickers). Checks payable to Farm-City Council, should be addressed to Robert Cudworth, secretary, Farm-city Council, Inc., c/o T. A. Best, Inc., 42 East Genesee St., Skaneateles, New York 13152. Larger orders, in multiples of 500, without the Farm-City credit line, may be ordered through *Cranberries* magazine. Write for details.

# Lack of Water Plagues Western Growers

Water, or lack of it, continues to be a large question on the minds of growers in Oregon and Wisconsin.

In the West Coast state, growers in the Bandon area recently met with water resources officials to declare an official state of emergency. They are seeking state financial assistance for their plight. The frequent shortages of water threatened vines early this Spring when in years past an abundance of water has helped growers protect their crops from freezing.

Grower Jim Olson, one of those leading the search for assistance, reported at an organizational meeting last month that creeks were as low then as at mid-summer.

Other growers cited the alarming rate at which ground water table is lowering. Wells are at their mid-summer level and dropping daily, it was reported.

Waterfall in the area has been decreasing in recent years, to a low of 19 inches year-to-date in May. At the same time in 1976, 23 inches were recorded, 33 inches in 1975, 39 in 1974, 25 in 1973, and 35 inches in 1972.

Farmers, supported by the town's newspaper, think their problem is more than waterfall, however. They also believe that new dams and other water storage facilities should be constructed. And that's why they're seeking state aid.

Says Olson, "Growers who don't already have wells could drill them now to increase their supply. Others, perhaps the majority (of growers) could increase their reservoirs so they could store more water which is otherwise wasted following a rain.

"Still others could build or enlarge their dams in the creeks to create enough storage capacity to carry them through the critical period.

"All this could be done if funds were available," said Olson.

"But, following two or more years of depressed prices and low

returns for their crops, it is impossible for the farmers to finance any project. To accomplish the necessary water conservation projects for the industry it is conservatively estimated that it will cost approximately \$300,000."

In Wisconsin, the Department of Natural Resources recently held public hearings to propose emergency rules for irrigation permits to divert surface water. The emergency rules would modify present irrigation permits to establish a "public interest" stage below which

diversion would not be authorized.

The Wisconsin drought, by late Spring, had reduced stream flow to that of late summer. DNR officials expressed concern not only for agricultural interests but also for the aquatic environment, namely fishing.

Results of the meeting and any changes are to be announced in July. Growers seeking further information were directed to contact the Natural Resources Board, DNR, P.O. Box 7921, Madison, Wis. 53707.



Bandon, Ore.—Beauty queens, selected by their high school classmates for the honor, have been named for the 1977 Bandon Cranberry Festival, I. to r., Tina Weston, daughter of Mr. and Mrs. Gilbert Weston; Sondra Stinnett, daughter of Mr. and Mrs. Graydon Stinnett; Debbie Wilson, daughter of Mr. and Mrs. Frank Wilson; Alison Jones, daughter of Mr. and Mrs. Jack Jones; and Michelle Van Leuven, daughter of Mr. and Mrs. Darwin Van Leuven.

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### Says Marketing Group

Retail dollar sales of agricultural equipment will remain relatively stable during 1977, says an industry group.

Members of the Farm and Industrial Equipment Institute (FIEI), manufacturers of farm machinery and equipment made the forecast in a State of the Industry Report at the organization's marketing and management conference held recently. The outlook is based on a survey of member companies.

Harry C. Lusk, general manager of the Agricultural Sales and Marketing Division of Allis-Chalmers Corp., noted that demand for farm equipment would likely be met for 1977, with some very strong markets, both geographically and by product.

Lusk said factors which may benefit farm equipment sales are improving economies, both domestic and foreign; continued large acreage; improved moisture in many areas; continued hope for high levels of exports; increasing cattle, dairy, soybean and cotton prices; stable level of farm income; increased 1977 loan rates and an increased need to improve farm efficiency. Negative factors which may influence sales during the year are inflation rates higher than farm price increases; rising world grain stocks; continued drought in parts of the west; excellent worldwide crop outlook; relatively low wheat and corn prices and lack of export emphasis in government policy.

### Ocean Spray Denied Street Number

Ocean Spray, Inc., which has bought the "old clam factory" property at the waterfront in Plymouth, Mass. for relocation of its main offices and development of a cranberry-related museum and park, has been turned down in its

bid to have its new address listed as No. 16-20 Water St.

Officials of the firm contacted the engineering division of the town's Dept. of Public Works, requesting a "house number that would be appropriate—something sexy."

Verne Porter, staff engineer for the town and the Ocean Spray people decided that No. 16-20 would be "sexy," apparently, said selectmen.

However, selectmen disagreed and will inform them they must "find an appropriate number, one in keeping with the other numbers on that side of Water St." Original street number of the Clam Factory was 18 Water St.

Selectmen reasoned that if Ocean Spray were allowed their request, other property owners would feel they had the right to have a "sexy" house number and the selectmen's office would end up with numerous requests for changes in addresses.

# Sign of the times.

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## CRANBERRIES

THE NATIONAL CRANBERRY  
MAGAZINE

— Our 39th Year of Publication —

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# Pesticides in Mass.: Politics as Usual

It's politics as usual in Massachusetts, this time with pesticides.

Friends in the state legislature apparently are steering responsibility for a Pesticide Board in the direction of George Michael. Michael is much maligned and thought by many to have too much power already.

Michael joined the public health department as a chemist in 1940. In 1959, he was given life tenure as director of the food and drug division.

To comply with Federal directives, the Massachusetts legislature considered a bill to place all pesticide related matters under a Pesticide Board in the department of environmental quality engineering.

In time, the Board was moved to the department of food and agriculture, with a powerful subcommittee in charge. Mr. Michael was to be named chairman.

Michael would be responsible for directing the work of commissioners with higher rank. The subcommittee would exercise nearly all powers of the Pesticide Board. In "emergencies" which the bill does not define, Michael could take any actions he considers necessary!

Michael is known to believe that it is "most important" to have those government agencies which

do not use pesticides make the decisions.

The subcommittee would decide which pesticides can and cannot be used. It would boss the chemical industry in the state. And, it would approve retail sales and commercial

users of pesticides.

Michael favors DDT. He recognizes that the "emergency" clause would allow use of DDT, if he says so. He's previously called environmentalist and medical complaints of pesticides "sensationalism."

## Western Farmers Allowed Emergency Pesticide

Farmers in Oregon and Washington are getting an emergency assist from the Environmental Protection Agency this year in their fight against an aphid-like insect called the pear psylla.

In addition to a major contribution to the cranberry industry, farmers in those two far western states also account for 53% of the nation's annual pear crop.

The emergency use is for an insecticide called BAAM, made by Upjohn, and containing the toxin Amitraz. The use of BAAM was authorized because of "significant economic" problems. Estimates of the lost market value of the pear crop without BAAM range as high as \$13 million.

Although not yet registered, basic studies on the chemical have been completed.

EPA Administrator Douglas M. Costle, in allowing use of BAAM, said that it was a "tough risk-benefit decision."

"Weak evidence exists that BAAM may be a suspect cancer agent.

"Although at this point we feel this evidence is outweighed by the economic and social consequences of a severely damaged pear crop, I

will be seeking a full public view of BAAM's benefits and risks to guide us in future decisions."

Conditions imposed for use of the chemical include a limit to acreage certified by state experts to be in genuine need, restriction to use by trained growers and applicators as certified by the state, and use on acreage only where other pesticides have proven ineffective, among others.

## Housewives Eligible For IRA Programs

A retirement plan for housewives?

Under tax legislation passed in 1976, the American Council of Life Insurance reports, the American housewife who holds no paying job now has the same chance as her husband to set up an Individual Retirement Account—or IRA, as it is more familiarly known.

After January 1, 1977, an employee who is eligible to set up an IRA and who has a non-employed spouse may set up separate, equal accounts for self and spouse, or one account with equal subaccounts. A total of 15 percent of earned income, or \$1,750, whichever is less, may be contributed to the accounts and deducted from gross income each year.

As of March 1976, more than 1.4 million individuals had put away a total of \$1.9 billion in IRAs, most set up through savings accounts, life insurance annuities and mutual funds.

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## editorial

*When you think about it, we survive in a very fragile system. The first few feet of the crust of the Earth, the water on the surface of the Earth, and a few miles of atmosphere represent a narrow band containing the requisites for our very survival.*

*The photographs that were taken from manned space flight showing the globe against the black void of space have left an indelible impression on everyone and will for future generations. Those photographs drove home the fact that we must live within the limits of our own life support system, and that ecological foresight is imperative if we're to guarantee survival of our species.*

*EPA has been working under severe resource constraints. President Carter recognized that and gave us some relief in the 1978 budget. That relief included 600 new positions and authority to begin staffing in advance of the start of the fiscal year.*

*He also left the door open for us to come back if we are able to demonstrate that our needs are critical.*

*The burden of persuasion is clearly on us, but I feel the President will be a fair and sensitive judge of our needs. I might point out that we were given very generous relief, when measured against that given to other agencies, which also have real and legitimate needs.*

*I'm not in a position to say right now that we need new federal legislation. I will not hesitate to ask for it if I perceive a need in the future, but I am impressed with the fact that we have an enormously wide-ranging legislative authority. I think that we have an urgent need to consolidate that authority, employ it, and seek refinements when experience suggests they're needed.*

*I can't emphasize enough the importance of EPA's role in educating the public. Public support turns on our credibility, and our credibility in large measure turns on how effective we are at educating the public in language that they can understand.*

Douglas M. Costle  
Administrator  
Environmental Protection Agency

## Has Your Insurance Kept Pace With You?

The time to make sure your life insurance will provide a cushion for you and your family during your retirement is long before you're ready to fall back onto that cushion, the American Council of Life Insurance advises. Below are several questions to ask yourself every few years, or as the occasion arises, along with some advice from the Council:

*Do your policies designate the right beneficiaries?* Old policies may not have the names of all the people you want to benefit, or they may include people no longer living. You may also want to alter the proportions designated to some beneficiaries.

*Do you have enough protection?* The cost of living has increased by more than 70 percent since 1966. The \$20,000 life insurance policy, the \$100-a-week hospitalization plan and the \$25,000 major medical policy that seemed adequate 10 years ago provide much less protection today.

*Should you convert your term insurance?* You might be nearing the end of an option to convert a term policy into whole life insurance without meeting medical qualifications. Remember that the premiums charged for renewing the term policy rise sharply during your later years. If you're changing jobs, check to see whether any of the group term insurance your former employer might have purchased for you can be converted into an individual policy.

*Should you trade in your policy?* Generally, insurance experts advise against cancelling one life policy to buy another. In some situations, though, a trade-in can reduce premium costs with no loss of protection. Consult your life insurance agent.

# REGIONAL NEWS NOTES

## Mass. Station

### Personals

Dr. Robert Devlin attended the Annual Meeting of the Northeastern Section of the American Society of Plant Physiologist at the University of Delaware from May 5 to 7.

### Weather

May temperatures were slightly above normal by 0.6 of a degree a day; however, the official Weather Service temperature for Boston was much warmer. Maximum temperature was 86 degrees on the 18th and minimum 33 degrees on the 9th when we actually had a trace of snow here at East Wareham and from 1-4 inches recorded in the immediate vicinity such as New Bedford, Carver and Kingston. This has never happened at this late date in any of the records of the weather observers in this area. Warmer than average periods were the 12th, 16-18th, 22-28th and 31st. The only cooler than average days were the 5th, 9th, 10th, 11th, 19th and 29th.

Rainfall totaled 3.84 inches or about 0.4 inch above normal. There was measurable precipitation on only six days with 3.11 on the 9-10th as the largest storm. Actually, except for the one big storm, the month was very dry with only 1/2 inch for the last three weeks and none the last 12 days. We are just short of 1/2 inch above normal for the 5-month period and 3-1/4 inches ahead of 1976.

There have been frost warnings issued on nine nights through the end of May. None have turned out to be very cold because of the influence of clouds or wind, but a lot of sleep has been lost and at least two could have been damaging. We have issued a total of 15 warnings for the spring season to date as compared to 24 in 1976, none in 1975, 7 in 1974, 6 in 1973 and 5 in 1972.

The first fruit worm moth was trapped in the black light by Bill Tomlinson on May 26. This is two weeks earlier than last year.

Only four of a total of 16 points in the weather pattern as of June 1, 1977 are favorable to the production of good keeping quality cranberries this year. The prospect, therefore, is for only fair or poor keeping quality this year. We urge growers to make extensive use of fungicides as recommended on the insect and disease control chart to reduce as much as possible both field and storage rots in this year's cranberries. This is an *urgent* recommendation, because we have faced such a poor prospect only once in the last 10 years.

I.E.D.

## Nova Scotia

The weather in early May was cold and wet. Here at Kentville we had no accumulation of snow but on May 13 a mixture of snow and rain fell. The temperature for the month of April at 4.3 degrees Celsius was exactly the same as the 50-year average. Precipitation for the month of April was 64 mm slightly below the 50-year average of 73.9. Our sunshine of 192.8 hr was above the average of 150 hr. We are therefore expecting a late bloom this year.

Bob Murray and I visited the Chase and Bezanson bog on June 9 and the florets were visible but tightly appressed to the stem on the plants of the original plantings. The two dales planted last year were just starting to produce new vegetative growth. Two more dales have been added this spring. We had a frost on the morning of May 27, but it appears that fruit crops were not seriously affected. We also had a prolonged wet spell during the first and second weeks of June.

I.V.H.

## New Jersey

April was warmer than normal. The average temperature was 53 degrees F, which is 1.5 degrees higher than the norm. After one of the most severe winters ever experienced at Pemberton and a series of seven consecutive months with below normal temperatures, it has now been above normal for three successive months.

The rainfall during April was only 2.71 inches, or 0.66 inches below normal. This was the sixth consecutive month during which there has been a deficiency of precipitation. The accumulative rainfall during this period has been only 13.46 inches, or 6.28 inches below normal.

May was slightly warmer and much drier than normal. The average temperature was 62.7 degrees F which is only 0.6 degrees warmer than normal. Nine unusually warm days when temperatures were above 85 (two in the low 90's) were balanced out by 10 in the thirty degree range.

Rainfall totaled only 1.10 inches or 2.45 inches less than normal. It was the seventh consecutive month of below average precipitation. Dur-

(Continued on Page 8)

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# AGRICULT

Cash awards up to \$300 are available from Allis-Chalmers Corp. to undergraduate students in agricultural engineering.

A new design competition was announced by the corporation recently in conjunction with the American Society of Agricultural Engineers (ASAE).

"Learning basic equipment design is of utmost importance for undergraduate agricultural engineering students," says A-C executive Roy W. Uelner. "This award will help recognize that fact, as well as the excellence of student effort."

Cash awards of \$300, \$200 and \$100 will be presented to the first, second and third place entries respectively.

The farm equipment manufacturing company will also award a \$250 scholarship to the school or college sponsoring winning entry.

Contestants must be student members of the ASAE and undergraduates at the time the design program is conducted. Projects may be conceived and conducted by a group of agricultural engineering students or individuals.

Color continues to be a factor in determining quality of agricultural products.

The U.S. Department of Agriculture, responsible for establishing many food standards, now proposes new standards for maple syrup. Color is a major factor.

USDA proposes to retain two grades, U.S. Grade A and U.S. Grade B. Packers, whose recommendations are input to the proposal, say consumers prefer syrup in colors ranging from light to dark amber.

It has been proposed to classify Class A in a choice of light, medium, or dark amber; Grade B in all shades darker than dark amber. USDA uses color guides to evaluate the shades.

Grade A would also be required to have a good characteristic maple flavor and be practically free from off flavors and odors and any defects that would affect edibility or shipping quality. Grade B would

have similar but more lenient requirements.

USDA's Food Safety and Quality Service (FSQS) establishes grade standards and provides official grading for food products. Use of the standards and grading service is voluntary.

\* \* \* \*

A tiny, tough insect without natural predators is vigorously attacking majestic red pines that line reservoirs and other watersheds in North America.

The insect is the red pine scale which acts in a manner not too unlike the dearness scale recently studied by Professors Jackson and Koval at the University of Wisconsin (see continuing series, *Cranberries*).

The scale, a sixteenth of an inch or slightly larger, is a sap-sucking insect that burrows under bark.

Throughout metropolitan New York, for example, the scale has ravaged red pines, sometimes called Norway pine. It is known to attack some Oriental pines but not the white pine of the northeast.

Almost invisible to the naked eye, the scale is creeping northward.

Fred L. Gerty, Jr., a New York state forester, says, "we have no way of controlling it. If it continues to spread, it will kill every red pine tree on the North American continent."

Gerty says the outlook for red pines is as bleak as the Dutch Elm disease has been for the American elm and the chestnut blight for the American chestnut.

In lieu of natural predators, powerful insecticides have been used in an effort to combat the scale. DDT and Endrin were tried in 1965 and proven ineffective.

There is one slight hope, however, a thermal barrier. Initial research has indicated that the scale dies where the winter temperature normally reaches 10 degrees below zero or more.

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# URE NOTES

According to Gerty, however, "Entomologists have no idea of how far north it can travel or whether the cold temperature will in fact inhibit its spread.

"Just as some insects have built an immunity to chemicals, so too the scale may become adapted to frigid winters and eventually move all over the country."

## NEW JERSEY

(Continued from Page 7)

ing this period there has been an accumulated deficiency of 8.73 inches. As of the end of May, reservoirs on small properties were close to control levels and it was feared that there would not be sufficient water for reflows to protect against late frosts.

P.E.M

## Wisconsin

Temperatures in May averaged about 9 degrees above normal, one of the warmest Mays on record. Growing degree days at the end of May were averaging 86 percent greater than normal. Development of crops was about 2-1/2 weeks ahead of last year and 3 weeks more advanced than usual. Where moisture was more adequate during May, crops grew at a phenomenal rate. Rainfall during May averaged around an inch below the normal of 3.6 inches for the month. The distribution of rain during May was very spotty, being more typical of that for a mid-summer month like July. Warm, humid conditions in the second half of May caused sporadic thundershower activity, resulting in some locally heavy rains but bringing only light amounts to other areas.

Good rains fell at the end of May, with heaviest amounts of up to 2 inches in the northwest, west central, and east central areas. More rainfall occurred on the first week-end of June, with the southeast receiving the greatest amount.

Showers and thunderstorms have continued in the second week of June. These rains in late May and early June have boosted development of crops and encouraged farmers to be more optimistic about the 1977 crop season. Prior to the weekend rains of June 4-5, soil moisture supplies had been rated as 50 percent short and 50 percent adequate. At a comparable time of the season last year, soil moisture supplies had been rated as 50 percent short and 50 percent adequate. At a comparable time of the season last year, soil moisture supplies were 75 percent short and 25 percent adequate. June of 1977 has begun cooler and wetter than a year ago. A cold front on June 5th set off some severe storms in the southeast. Record low temperatures in the 30's occurred on the mornings of June 7th and 9th.

Planting weather and field conditions during May were favorable for a continuation of rapid spring planting. Nearly all of the crops were planted by June 1.

Farmers completed their corn planting at the earliest dates ever

this year. Germination of the late corn was helped by the rains but growth is more uneven. Cutworms have caused serious injury in corn fields throughout the State, necessitating spraying or replanting. Planting of soybeans was completed well ahead of normal. Early beans are off to a good start.

The oats looks very good except where it was stunted by dry weather or hurt by atrazine residue. Early oats is heading out on short straw. Winter wheat and barley are heading also. Growth of winter wheat is short because of the dry weather last fall. New seedlings in oat fields look excellent.

Tobacco transplanting was underway in the last week of May, about two weeks earlier than in 1976. The tobacco growing areas have sufficient moisture to give the crop a good start in contrast to last year. Potatoes have shown fine growth. Strawberries are ripening a couple weeks earlier than usual and picking has begun. Spring frosts have reduced the strawberry crop, and apple trees also show winter injury and frost damage in many orchards. The cherry crop looks good to excellent in most Door County orchards.

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## Bionomics and Spatial Distribution

by J. O. Jackson and C. F. Koval  
University of Wisconsin  
Madison, Wisconsin

Dearness scale, *Rhizaspidiotes dearnessi* (ckll.), was reported in Massachusetts over 50 years ago at which time observations by Lacroix (1926) indicated that injury to vines or fruit by the sparse populations observed was of little consequence. This insect has probably been in Wisconsin for a considerable time, also existing in sparse populations and causing little or no damage. Recent infestations in Wisconsin have been severe and have given impetus to collecting data and formalizing records on this insect. All interacting factors which maintain the scale population below an economic level as well as the conditions allowing for outbreaks have not been firmly established. However, production practices may be indirectly responsible for recent population increases in Wisconsin. Such practices have influenced

weed composition and may effect parasitoid success in certain areas.

The parasitoid, *Coccidocyrtus dearnessi* (How.) (Hymenoptera: Encyrtidae) was collected in varying abundance from dearness scale from all infested sites. Adults of the parasitoid were dissected from and observed emerging from both female and male scales. Emergence holes were observed in shells of immature scale (2nd instar). Although the wasp-like parasitoid was active during the time of crawler emergence (June 10-July 2), actual oviposition into the crawlers was not observed.

Female parasitoid wasps were observed parasitizing mature female scale. The first step was the wasp's examination of the host by tapping its antennae over the scale's shell surface. If the scale was accepted as a host, the wasp reversed herself 180° and began boring through the scale's shell with her ovipositor. After inserting the ovipositor, a pumping action by the wasp's



Fig. 1. The parasitoid, *Coccidocyrtus dearnessi*, (approximate length = 0.75 mm) parasitizing female dearness scale. This was followed by the extraction of the ovipositor and movement to a new site (with 25 percent of the scale shell's edge for the next insertion and egg laying (Fig. 1)). The observed maximum number of insertions into a female scale was five, each taking 4 to 5 minutes. Female scale with shells removed were examined by wasps, but not parasitized.

In 1974 *C. dearnessi* were first observed emerging from parasitized scale on June 9 from samples collected May 23 at Millston and last seen to emerge in October from scale developing on greenhouse maintained goldenrod collected in July at Valley Junction. At the Millston marsh in 1975, the wasps were active prior to June 9 and during the period of crawler emergence—June to early July. In late season the wasps were collected on sticky board traps set to monitor the emergence of the male scale. At the Millston marsh major peaks of wasp activity occurred between Aug. 26 and 29 and Sept. 23 to Oct. 1 (Fig. 2), while at the Valley Junction marsh the wasp, present in much lower numbers, showed greatest activity between Sept. 10 to 16. Although harvest operations pre-

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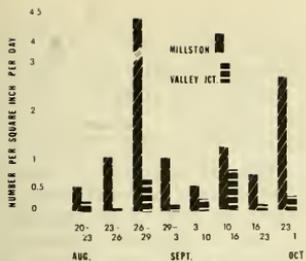


Fig. 2. Average daily collection of parasitoid wasp, *Coccidencyrtus*, per square inch of sticky board traps in Fall, 1975.

vented trapping beyond Oct. 1, the parasitoid wasp's activity probably continues until frost or flood. A "T" shaped pattern of sticky traps tangent to a large scale infestation at the Millston marsh accumulated parasitoid wasps between Sept. 3 and Oct. 1. The arrangement of these traps on north-south and east-west axes are the same as described in the male dearness scale flight results.

Most wasps were collected at 25 and 50 feet from the defoliated edge (Fig. 3) of the infestation while fewest were collected at 100 feet. The lower number at 0 feet indicated an outward dispersal of the wasp from the infestation center. Fewer wasps were collected at 25 and 50 feet west of the infestation when compared with the center and east and south axes. Since winds prevail from the west it is conceivable that more parasitoid wasps would be deposited east of the infestation center. Based on this study, much of the parasitoid's host

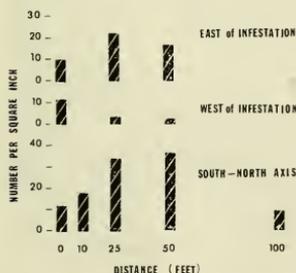


Fig. 3. Collection of parasitoid wasp, *Coccidencyrtus*, at indicated intervals from the infestation center at Millston between August 26 - October 1, 1975.

seeking activity apparently takes place from 10 to 50 feet of the edge of maximum defoliation by the scale.

The level of parasitization was not established for 1974. However, of 175 scale developing on 15 goldenrod plants collected in 1974 from Valley Junction and examined later, 25.9 percent were parasitized. Levels of parasitization were established by dissection of scale for 1975 and 1976. At Valley Junction the low level of parasitization in early 1975 increased more than 27 fold by early 1976. No viable scale were found at this site in Aug. 1976. At Millston, parasitization in the first infestation studied in 1974 (site 1) increased until no viable female scale were found late in 1976. Observation on parasitization at sites 2 and 3 is consistent with this trend.

*C. dearnessi* is a "super-parasite," i.e., more than one individual of the same species developing in the same host. Based on dissections of 126 female scale, the mean parasitoid number per female scale was  $2.1 \pm 0.8$ , with a maximum of 6 occurring in one host (Range = 1-6).

Late season parasitization of female and male scale was estimated from examination of 500

(346 female, 154 male) scale collected from Millston. The levels of parasitization of males was 27.4 percent and 34.4 percent of females. The difference between these two values was not significant ( $t = 1.45$ , d.f. =  $\infty$ ).

Results presented in Table 1, indicate *C. dearnessi*, inflicts substantial mortality on the scale population. Capacity of dearness scale to increase is limited by parasitism and factors such as overwintering mortality, mortality of wind-borne crawlers and failure of nymphal scale to develop. Parasitization and overwinter mortality were estimated by dissection, while an estimate on failure of nymphal scale development was based on examination of 456 one square foot vine samples. No satisfactory estimates were made on population loss during crawler dispersal, and predation of crawlers was not observed. However, net reproductive rate ( $R_0$ ) and capacity for increase ( $r_c$ ) were estimated for available data. Results on determination of dearness scale sex ratio were variable, as well as those reported for other scale species. Since sex ratio of some scale species when examined over time approaches unity (Beardsley and

(Continued on Page 12)

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(Continued)

Gonzalez, 1975), the dearness scale sex ratio is assumed even, i.e., half the progeny are female.

The values for  $R_0$  and  $r_c$  in Table 2 indicate increase of dearness scale. With the exception of Millston site 2 in each of the other sites the scale could be expected to more than double each year. At Millston site 1, with a replacement rate of 7.5 and given an overwintering mortality of 20 percent, an average of 195 progeny would be available in 1976 from each parent female from the year before. However, samples taken from site 1 in spring 1976 indicated the infestation was dying, with parasitization near 95 percent. With increased overwinter mortality at Valley Junction in 1975,  $R_0$  was decreased from 1974. Parasitization was near 83 percent in June 1976, while no viable female scale were found later in August. Late season parasitism at Millston site 2 strongly suppressed dearness scale, so that replacement of each female by two female progeny was expected. If parasitization increases as it did at site 1, a

viable infestation is not expected at site 2 in 1977. Apparently, the parasitoid *C. dearnessi*, is an important key factor in dearness scale population regulation.

### HOST RANGE

Broad host adaptation is common among armored scales, e.g. Oleander scale, *Aspidiotus hederæ* (Vallot), which infests more than 100 plant families (Beardsley and Gonzalez, 1975). The dearness scale is capable of developing on a number of host plants. Dearness scale was reported by a grower on blueberry, *Vaccinium angustifolium* Ait. in Burnett County, Wis. Host plant species other than cranberry and blueberry identified in 1974 and 1975 from both Millston and Valley Junction are as follows:

Grass-leaved goldenrod, *Solidago graminifolia* (L.)

Smooth-stem goldenrod, *S. gigantea* Ait.

Boneset, *Eupatorium perfoliatum* L.

Joe-pye weed, *E. maculatum* L.

Yarrow, *Achillea millefolium* L.

Common ragweed, *Ambrosia artemisifolia* L.

Horseweed, *Erigeron canadensis* L.

Leatherleaf, *Chamaedaphne calyculata* L.

Bugleweed, *Lycopus virginicus* L.

With the exception of bugleweed, a mint, and leatherleaf, a heath, the species listed are composites. The greatest numbers of developing scale were found on grass-leaved goldenrod, a problem weed in some cranberry marshes. Horseweed and leatherleaf are also found in beds. Although bog-rosemary (*Andromeda glaucophylla* Link.), cranberry and leatherleaf are related, i.e., all heaths (*Ericaceae*), and bog-rosemary occurred within infested beds, it was not observed as a host for the scale. The remaining species listed were found growing on the dikes and were probably infested by wind-borne crawlers. None of the grass species or jewelweed (*Impatiens biflora* Walt.) which occupied the same dikes served as host for dearness scale.

Both cranberry and the weed species are common to several native Wisconsin vegetational communities. The composition and environment of each community<sup>a</sup> are discussed by Curtis (1959). Cranberry as well as leatherleaf and bog-rosemary are associated with bogs, which are characterized by wet acid peat soils, low average temperature, low amounts of available nitrogen and a surface composed of a living layer of sphagnum moss. The other weed species are primarily common to other plant communities. For example, grassleaf goldenrod is more common in northern Wisconsin sedge marshes, which are characterized by muck soils and a predominance of sedges. Grassleaf goldenrod also occurs in wet-mesic prairies. As soil moisture decreases sedge marshes grade gradually into wet prairies. Smooth stem goldenrod is more common in wet prairies. Boneset, on the other

<sup>a</sup> Community: Roughly defined as an assemblage of species living in the same environment, mutually sustaining and to some degree interdependent.



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hand, commonly occurs in fens, which are characterized by wet alkaline peat soils and a predominance of grasses. The incursion of plants normally associated with fens and prairies into cranberry plantings indicate that changing cultural techniques (i.e. sprinkler irrigation, use of fertilizers or herbicides) can change weed associations. However, if outbreaks of dearness scale are related to such changes, the reasons at this time are unclear.

In Massachusetts Lacroix (1926) found the scale on Early Black, Howe and Chipman cranberry cultivars. The major Wisconsin infestations occurred on McFarlin, Howe and Searles cultivars. It appears that tolerance or resistance to dearness scale among existing cultivars is insufficient to reduce injury or prevent population increase by this cranberry pest.

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Feather light desserts include cranapple chiffon souffle, berry pink angel feathers cake and cranberry cream puffs.

#### BERRY PINK ANGEL

##### FEATHERS CAKE

(Makes 1 - 10-inch cake)

- 1 package (14.5 ounces) angel food cake mix
- 1/2 cup cranberry-orange relish
- 1 cup (1/2 pint) heavy or whipping cream, whipped
- 2 packages (9.5 ounces) whipped vanilla frosting mix
- 6 tablespoons vegetable shortening
- 2/3 cup cranberry juice cocktail
- 1 (8 ounce) can jellied cranberry sauce for decoration

Prepare and bake angel food cake in a 10x4 inch tube pan as directed on package. Cool cake in pan; then remove as directed on package. Place cake top side down on a platter. With a sharp serrated knife cutting with a sawing motion evenly slice off the top third of the cake. With serrated knife cut out the center section of the cake leaving a shell 1/2 inch thick all around. Crumble removed cake into a bowl. Stir in relish. Fold in whipped cream. Use mixture to fill cake shell. Replace cake top. Place remaining ingredients into a bowl and beat for 5 minutes with an electric mixer until frosting is fluffy. Spread frosting mixture over the top and sides of the cake. If desired, cut jellied cranberry sauce into 1/2-inch thick slices. With the tip of the knife cut feather shaped pieces from slices of sauce and arrange on top of cake.

#### CRANBERRY CREAM PUFFS

(Makes 12)

##### Pastry Puff

- 1 cup water
- 1/2 cup butter or margarine
- 1/2 teaspoon salt
- 1 cup all-purpose flour
- 4 eggs

##### Filling:

- 1 can (1 pound) whole berry cranberry sauce
- 1 cup (1/2 pint) thick sour cream
- Confectioners' sugar

In a large saucepan heat water, butter and salt until water boils and butter melts. Stir in flour all at once and beat until dough leaves the pan clean and forms a ball.



Remove from heat and cool 5 minutes. Beat in eggs one at a time beating smooth after each addition. Drop mixture by plum size spoonfuls onto an ungreased large cookie sheet, placing them about 2 inches apart. Bake in a preheated hot oven (400° F.) for 20 to 25 minutes or until richly browned. Remove cookie sheet from oven and pierce side of each puff with the tip of a sharp knife. Replace cookie sheet in oven and bake another 5 minutes. Cool on a rack. In a bowl, mix cranberry sauce and sour cream. Slice tops from puffs and fill them with cranberry mixture. Replace tops and dust with confectioners' sugar. Serve at once.

#### CRANAPPLE CHIFFON SOUFFLE

(Serves 8)

- 3 envelopes unflavored gelatin\*
- 1 pint (2 cups) cranberry apple drink
- 1 can (20 ounces) pineapple, undrained and whirled in blender
- 1 pint (2 cups) heavy or whipping cream, whipped
- Pineapple slices
- Whole berry cranberry sauce

In a large saucepan, stir gelatin into 1 cup of the cranberry apple drink. Stir constantly over low heat until gelatin is completely dissolved. Stir in remaining cranberry apple drink and pineapple. Chill until syrupy. Fold in whipped cream. Pour mixture into serving bowl. Chill until firm. Serve garnished with halved pineapple slices and whole berry cranberry sauce.

\*For a sweeter chiffon, stir 1/3 cup sugar into warm gelatin until dissolved and prepare as above.

# Wife Writes Tribute to Late Tony Jonjak

*(Antoni Francis Jonjak, prominent northern Wisconsin grower, died suddenly while on his way to a meeting of the directors of Ocean Spray last month. His widow, Lucille, penned the vignette which follows. George C. Klingbeil, secretary of the WSCGA, says Tony was "one of the giants of the industry.")*

Tony Jonjak was born August 13, 1908 in Ironwood, Michigan, of Polish immigrants who worked in the iron mines. His father eventually saved enough money to buy land in Hawkins, Wisconsin where the family moved when Tony was 10.

He learned his work habits hoeing crops beside his mother and building log barns with his father. He helped feed the family by snaring rabbits and trapping muskrats to earn money. Summers were spent planting cranberries for the Hotz Cranberry Company.

He never attended high school, but took a correspondence course in electrical engineering and spent a year's apprenticeship in Chicago. After that year he went to work for Western Electric where he remained until the great depression of '29.

He then returned to Wisconsin to work on the Jacob Searles cranberry marsh in Wisconsin

Rapids where he learned the techniques of cranberry culture.

When he was 21, he decided to start his own cranberry marsh. His father had a good potato crop and was able to loan \$1,000 to Tony and his brother, Stanley. They bought tax title marsh land at Weyerhauser and with friends from Hawkins built the marsh using only hand tools.

In 1939, Tony married Lucille Murch of Weyerhauser. They moved to Hayward and bought the present home marsh.

The first one-acre cranberry bed was planted by hand tools Tony designed and built. He continually worked to develop new and easier ways to accomplish the work on the marsh. He designed cleats to permit use of a caterpillar-type tractor for planting vines. Using car parts and timbers, he built a dragline for clearing land and digging ditches. His experiments with fertilizers led to bumper crops that were harvested with machinery he built.

Tony was always applying his mind to solve problems which for others might have been barriers. He loved a challenge and he loved to meet it. His spirit of self-assurance enabled him to shoulder responsibility. He eventually owned the

very marsh in Hawkins which he once helped plant as a boy. He became an area representative on the board of directors of Ocean Spray Cranberries and a leading influence within the industry.

Not only did he shoulder the responsibilities of his business but he also became chairman of the Town Board of Bass Lake and a member of the Sawyer County Board of Supervisors in 1949. Since 1970 he has been chairman of the County Board.

He had great respect and friendship for the people who worked with him on the cranberry farms and throughout the industry. He valued each person as an individual and appreciated the help each one gave. Together they accomplished much that neither could have done alone.

He will be missed.

## Services for Carver Grower L. Johnson

Funeral services were held last month for Leon W. Johnson, 47, of South Carver, Mass., at the Zion Congregational Church, West Wareham. Johnson died after a lingering illness.

Born Feb. 17, 1930 in South Weymouth, Mass., Johnson was the son of John E. and Ida E. (Kaski) Johnson. He attended Carver schools and graduated from Plymouth High School in the class of 1949. He was also a graduate of the Mass. Radio School, Boston and attended the Capitol Radio & TV School, Washington, D.C.

A grower in the Carver area, he leaves his widow, Beverly, and sons Neal A. and Barry L.

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Both models are designed for normal tilling, cultivating and planting associated with small scale farming, plus farmstead, fruit and vegetable operations.

\* \* \* \*

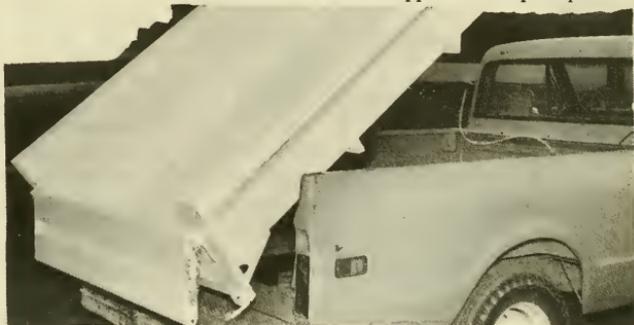
Boggs 40 proof cranberry liqueur by Hueblein, Inc., is now available throughout most of the country. Most popular use of the liqueur seems to be as a colorful mixed drink served for special occasions but it is also used as flavor and color in a variety of menus from appetizers to entrees to

desserts. The liqueur is also well suited for candied vegetable recipes.

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## Sermonettes

by the

Rev. Don Jennings

### GREATNESS

The measure of greatness is often exaggerated. To say that one is great because he has become famous may not always be true. Riches, talent, popularity, or anything one possesses does not always make one great.

My Quaker grandmother had a saying, "Pretty is as pretty does." It is the same, I believe, with greatness. Greatness is as greatness does. It is not just having a very high I.Q. Nor is it having a noble opinion of oneself. It is rather how we use what God has given us that counts.

The disciples of Christ were discussing among themselves who was the greatest in the kingdom of heaven. Matthew tells us that Jesus called a little child to Him and said, "Whosoever shall humble himself as a little child, the same is the greatest in the kingdom of heaven" (Matthew 18:4). He was saying that greatness comes from a repentant heart, a spirit of humility, and a dedication of service.

It seemed that the young men Jesus chose as His disciples were plagued with the temptation of the position of greatness. In the midst of another debate on this subject, Jesus informed them, "But he that is the greatest among you shall be your servant" (Matthew 23:11).

#### True example

The Master Himself was the true example of greatness. He came to be the servant of all—even unto the cross.

The greatest men and women the world has ever known have

been the most humble. Abraham Lincoln was made fun of, and even insulted by those who should have honored him. But in those dark days of the Civil War, he showed the true spirit of greatness when he said of one of his generals who had insulted him, "I would gladly hold his horse if he would bring us victories."

One of the true marks of greatness is not lording it over someone else. It is, rather, displaying a true spirit of humble service.

Phillips Brooks, a famous pastor and author of another era, once observed, "No man has come to true greatness who has not felt in some degree that his life belongs to his race, and that what God gives him He gives him for mankind."

Most of us will never become great as far as the world measures greatness. We can, however, give ourselves in humble service to those around us and to the age in which we live. By doing this in the Master's name, we can leave the rest to the greatness and goodness of God.

*(Courtesy American Agriculturist)*

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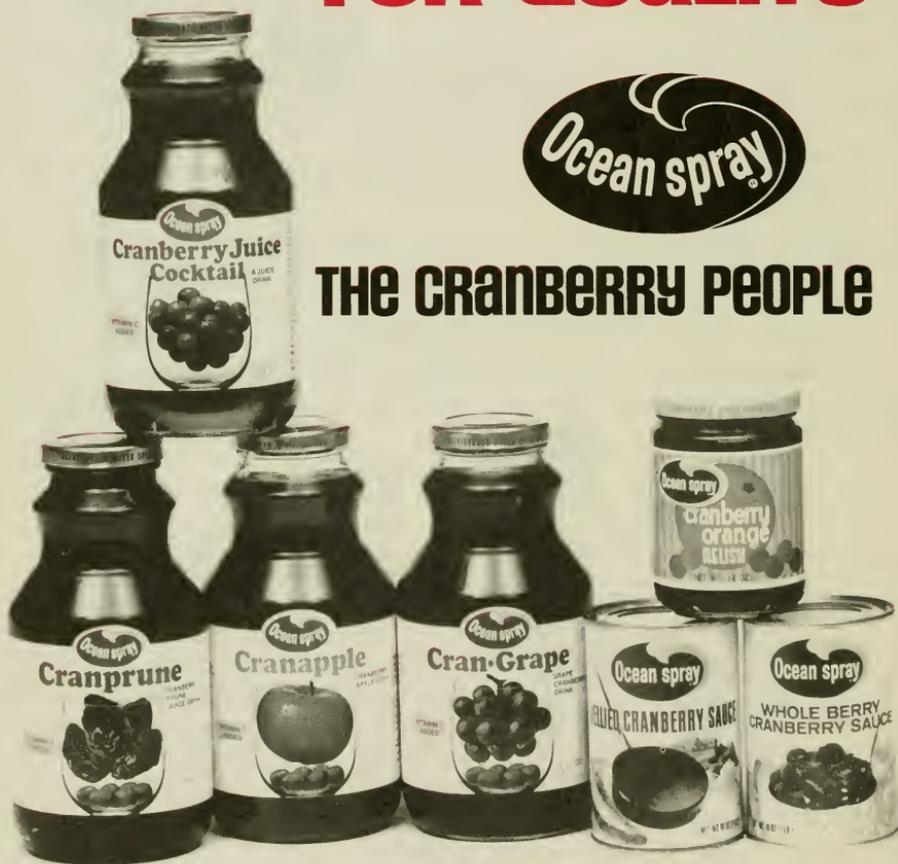


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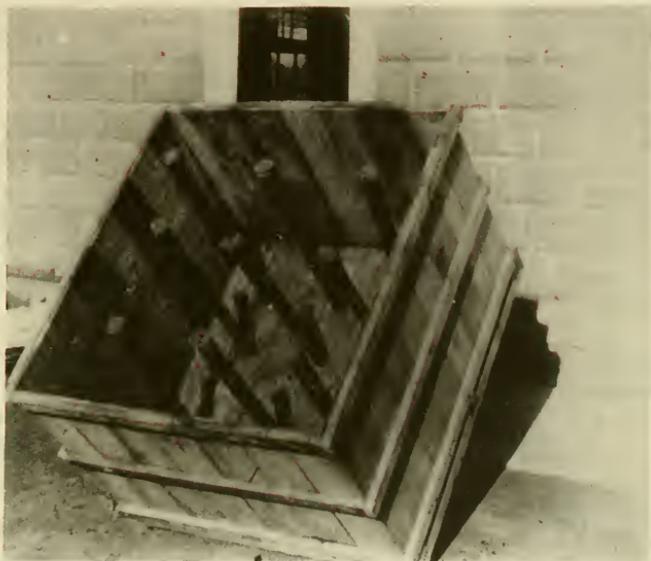
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Vol. 43, No. 7

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## *Also in This Issue:*

- Successor to DDT? . . . . .Page 1  
Random Thoughts . . . . .Page 6  
Upland Management . . . . .Page 10



# Our American Economic System is good bad.

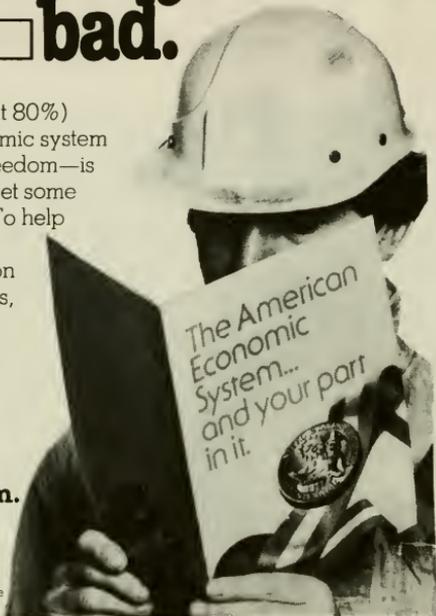
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Most Americans (about 80%) believe that our economic system—with its individual freedom—is the best in the world, yet some changes are needed. To help give you a clearer picture of our system on which to base decisions, a special booklet has been prepared. For a free copy, write: "Economics," Pueblo, Colorado 81009.

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# Utah Scientist Seeks Successor to DDT

Are the mosquitos bugging you in the bogs this year, and do you rue the day that DDT was banned?

Well, be of good cheer. A scientist at Utah's Brigham Young University may have the answer to your prayers—and that of a lot of other Americans.

For the past seven years, Dr. Gary Booth has experimented with the insecticide Dimilin. He says it could replace significant uses of DDT with little environmental effect.

According to Dr. Booth, the chemical appears to give excellent control on at least 30 species of insects, including several species of mosquitos, cotton boll weevil, cabbage butterfly, Colorado potato beetle, tussock moth, cabbage loopers, stable fly, horn fly, house

fly, hemlock looper and several soybean insects.

The Environmental Protection Agency has already granted registration of Dimilin for use on the gypsy moth, one of the serious defoliators of America's northeastern forests. Petitions to use Dimilin on soybeans, cotton and mosquitos are now pending before the EPA. Dr. Booth is hoping for approval sometime this year.

Dimilin is a relatively simple compound as far as insecticides go. It was discovered by scientists in the Phillips-Duphar labs in Holland who were trying to put two very effective herbicides together to make a topnotch weed killer. The results wouldn't kill a single weed, but proved to be very effective on insects.

Dimilin acts by interfering with the synthesis and desposition of chitin, a structural substance that is one of the main components of insect exoskeletons. As a chitin inhibitor, Dimilin interferes with the formation of the larva's cuticle. At the time of molt, the treated insect's cuticle is improperly formed, which results in death from rupture of the new malformed cuticle. The insect simply starves to death.

In the United States, Dimilin is being developed by the Thompson-Hayward Chemical Company. Dr. Booth has been responsible for about 85 percent of the environmental research on dimilin.

*(Continued on Page 8)*

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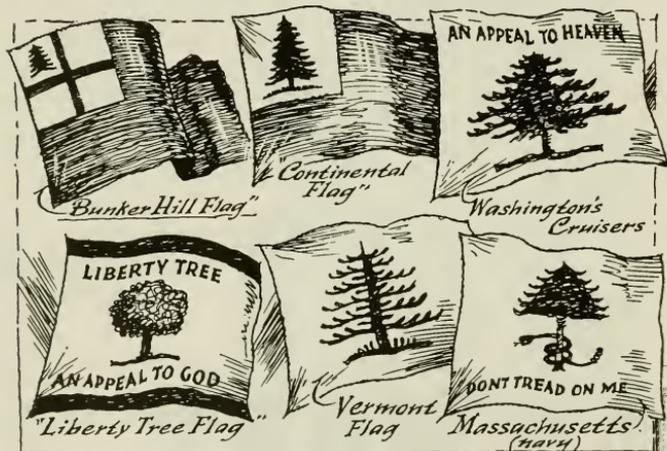
# America and America's forests have grown up together.



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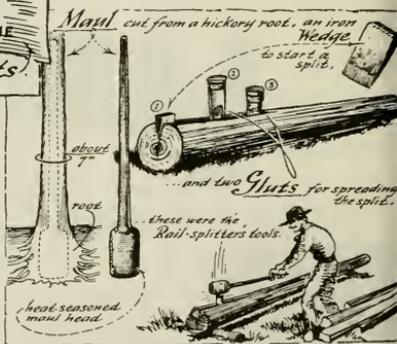


America's first flags bore trees as their emblems.

Wood gave our pioneers their furniture, medicine, fuel, homes, tools, weapons, toys.

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Even our country's legends come from the forest.



## Please be careful of fire. Because a country without its forests is a country without its future.



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# Mass. Researcher Seeks More Answers

When the world of technology develops more productive means of harvesting fresh berries, it will also have to develop more lasting means of bulk storage, says simple logic.

Convinced that it will happen, a Massachusetts technologist has already come close to solving bulk storage problems. He's still perfecting the solution.

## OSHA Regulations Still in Effect

In spite of rumor to the contrary, OSHA is still with us. The influx of farm workers causes one to be more aware of OSHA regulations at this time of the year.

The law can be tough. For one thing, you must comply with it if you employ one or more persons full or part time on your farm.

The "general duty clause" covers all eventualities. You must provide employees with a place of work free from all hazards that are likely to cause death or bodily injury, which can include almost any darn thing on your farm, after it's caused an accident!

There are specific standards, and more to come, regarding a slow moving vehicle emblem, anhydrous ammonia, pulp wood, rollover protective structures, temporary labor camp housing, and machinery guarding.

You must also display the OSHA emblem to inform employees of their rights, instruct employees in the proper use of machinery, and cooperate with Department of Labor inspectors.

If five or more persons are injured and hospitalized, or a fatal accident occurs, it must be reported within 48 hours.

And, if you employ 11 or more persons, you must keep and maintain records on all job-related injuries and illnesses.

According to Prof. John S. Norton, agricultural engineer at the Wareham, Mass. cranberry experiment station, long term bulk storage of fresh berries will be possible when the most effective combination of ventilation and temperature and humidity are worked out.

In studies conducted after last fall's harvest, Norton updated techniques first investigated in the mid-sixties.

Prof. Norton's studies began with the 1964 harvest, storing field run berries in seven-barrel bulk storage bins borrowed from and in cooperation with Ocean Spray Cranberries, Inc., at its Onset, Mass. processing facilities.

(The cooperative had used the large bins for storing processing berries or culls for short periods. It had quickly learned that good berries, or those to be held for fresh fruit sale, could not be stored in the bins for more than a few days without suffering substantial rot.)

Why store in bulk bins, when storage in field boxes was deemed adequate and optimum, by most?

"When a fresh fruit harvester is developed that can pick up to three acres a day, 150 barrels an acre, it will be necessary to pick into containers much larger than field boxes," says Norton.

A machine with such high capacity would fill three field boxes a minute, according to Norton's mathematics. "That would create a container handling problem that would practically eliminate the advantage of the high-capacity harvester," he adds.

So, the research followed. The goal was to prevent rot at a rate better than normally found in field boxes under the same storage conditions.

His findings in 1964, 1965 and 1966 were reported in "The Modern Art of Cranberry Culture," Ex-

tension Service Publication No. 112.

The object of the 1964 tests was to prove that use of ventilation tubes through the bins could be the solution to excessive rot in bulk storage.

Encouraged with the results, Norton and his assistants proceeded in 1965 to determine which types of containers and what storage conditions proved most effective.

And in 1966, testing determined the efficacy of stacking bulk bins, fixed with vertical ventilation tubes, three bins high.

One peculiar aspect of Norton's early studies was that research stopped for simple lack of "perforated tubes of the desired diameter." (Ed's note; Norton doesn't report this but another reason may be that that big bulk harvester has not been developed yet, either.) Expanded metal tubes used in the initial studies were not suitable for commercial use because of the sharp edges which injured some berries.

Some time last year, through Ken Beaton of Cranberry Growers Service, Wareham, Mass., Norton located the two-inch diameter perforated plastic tubes he needed to resume his studies.

He again went to Ocean Spray and borrowed bulk storage bins. Each bin was stacked one on top of the other. Twelve, two-inch perforated plastic tubes were installed vertically in each bin.

Air was circulated through the tubes by ducting air from the storage room's cooling unit circulating fan down through the tubes (a fan which delivered about 250 cubic feet per minute, greater than the air circulated in the 1965 tests).

On Oct. 28, 1976, the four bins were filled with Howes, as were four field boxes placed alongside a

*(Continued on Page 16)*



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THE NATIONAL CRANBERRY  
MAGAZINE

— Our 39th Year of Publication —

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R. S. Sexton . . . editor

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# EPA Questions Toxaphene, Popular Insecticide

The Environmental Protection Agency (EPA) has now turned its guns on toxaphene, one of the oldest and most widely used insecticides in the U.S.

Toxaphene is used mainly for insect control on cotton, soybeans, peanuts, cattle and pigs but also in smaller amounts on other commodities. Often found in combination with other pesticides, it is an ingredient in more than 800 different brand name products.

Studies have shown that the insecticide may be lethal to certain fish and shellfish like largemouth bass, rainbow trout and shrimp when used on rice and cranberries, it has been reported. Since 1966, toxaphene spraying has led to 94 reported fish kills around the country, according to EPA.

As usual, the testing has shown that the chemical compound increases tumors in mice and rats,

## Poor '77 Crop Seen For Blueberries

The 1977 blueberry crop is forecast as one of the poorest in years, according to Phil Sheriden, executive secretary of the North American Blueberry Council.

The amount projected for harvest is 90 million pounds, down from the 110 million reported last year.

Two growing areas expected to be hit hardest are in cranberry growing states, New Jersey and Wisconsin. The severe weather conditions of last winter are blamed. Growers in Michigan have applied for government disaster loans.

The wild blueberry growing areas of Maine and the Canadian maritimes have also suffered frost damage, along with poor pollination due to cold, rainy weather during the blossom period this Spring.

suggesting to EPA officials that it may also be a cancer threat to people. Tests on fish, rats and black ducks have also shown that toxaphene may interfere with bone development in "higher forms" of life, including man.

Developed in 1947 and applied annually in the U.S. at the rate of some 100 million pounds, according to figures compiled for 1974 and 1975, toxaphene has now become the subject of a "rebuttable presumption against registration" notice by EPA.

"This simply signals a public investigation into the advantages and disadvantages of the pesticide," said EPA pesticides chief Edwin L. Johnson. "It means that there are studies, in this case quite a few, that indicate that toxaphene may be too hazardous to people or the environment to allow continued use. But we want to give the makers of toxaphene and other interested people the chance to comment upon these studies and argue the compound's benefits, before we decide whether to take further action."

While the EPA inquiry is in progress, toxaphene may continue to be sold and applied.

The compound is rarely used in indoor household bug killers.

Toxaphene is a persistent pesticide. Almost half of an applied amount remained in sandy soil for 14 years, according to one study. It can retain its toxic effects in water for three to six years, according to various tests. Toxaphene also "bio-accumulates," that is, it builds up in increasing amounts in the food chain, for example from water to small fish to larger fish.

To rebut the hazards cited in the EPA notice, the producers of toxaphene may demonstrate that EPA erred in evaluating the scientific studies on it. They may also show that human or environmental exposure is insignificant or may contend that the compound's econ-

omic and social benefits outweigh its risks.

After evaluating whatever comments are received, and after additional study and consultations, if needed, EPA must decide whether to leave some or all uses on the market, or whether to propose cancelling them.

## Ag. Notes . . .

If you're travelling Cape Cod this summer and have yet to see it, Ocean Spray's cranberry museum will remain open through Labor Day, September 5, 9 a.m. to 3:30 p.m., daily. It's located at the Junction of Routes 6 and 28, Buzzards Bay. Admission is free.

\* \* \*

Last year, the index of per capita food consumption in the U.S. advanced nearly 3%, topping the 1972 record by more than a percentage point. Livestock products supplied most of the increase, with record large production and lower prices boosting beef consumption 7%, and pork use rebounding 6% after a sharp drop in 1975. But poultry proved the real leader, with per capita use climbing 8½% over a year earlier. Among crop products, vegetable oils, cereal products, and vegetables all posted good gains.

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## editorial

### *Random Thoughts*

Heard from Brigham Young University the other day. Of all our news sources, that has to be one of the most unusual.

Not that the folks there should be automatically declared unimpeachable as a source, but they did go out of their way to tell us all they know about something unusual going on there, and a few other places where Dr. Gary Booth has been lately.

The results of his search for a DDT substitute appear elsewhere in this issue.

\* \* \* \*

Something seems unfair to Wisconsin growers, in the weekly crop and weather report, among other services from USDA in Madison.

We note with interest reports from farmers around the state on status of corn crops, soybeans, strawberries, even hay.

With the state now consistently leading the nation in cranberry production each year, isn't there some significance to a crop that large worth reporting every week. Come on USDA, let's hear it for Wisconsin cranberry growers!

Writer Calls Farming

### 'Vital' to New Jersey

Agriculture is a "vital, big business" in New Jersey, says a writer in the *Pemberton, N.J. Times*.

"Many segments of agriculture have growing production and increasing greater impact on the state's economy," the newspaper comments.

The story was promoted by the recent release of "Garden State Agricultural Trends, 1959-1976," published by the Rural Advisory Council in Trenton, a citizens group appointed by the governor to study and make recommendations on social and economic problems in New Jersey's rural area.

The new study points out that the type and quantity of crops grown and livestock raised have experienced a major reversal in the past 17 years.

In 1959, sale of livestock and poultry and their products exceeded the sale of all crops by a million dollars. By 1964, the two segments were about equal and five years later in 1969 the sale of crops exceeded livestock sales by \$35 million.

During the time period studied, 40 percent of New Jersey farmers changed the type of crops grown or livestock raised. Factors the report pointed to which influenced changes include labor, profitability, age or health, regulation, and the high capital investment required.

### U.S. Food Bill Rises

American consumers spent just under \$200 billion on food last year, up 7% from 1975. The increase reflects both a significant gain in total food use, and a 3% hike in retail food prices (the smallest hike, incidentally, since 1971).

Food bills also took a smaller chunk of disposable personal income in 1976—16.8%, versus 17.1% the year before. Roughly \$150 billion of the total outlay went for food eaten at home, with the remaining \$50 billion spent at restaurants, fast food outlets, and other places away from home.

# REGIONAL NEWS NOTES

## Mass. Station

### Personals

Prof. Stan Norton attended the annual meeting of the American Society of Agricultural Engineers at North Carolina State University last month.

### Weather

June was cool, averaging 1.4 degrees a day below normal. Maximum temperature was 83 degrees on the 30th and minimum 44 degrees on the 4th. The only warmer than average days were the 20th and 30th. Cooler than average days occurred on the 3rd, 7th, 8th and 10-12th.

Rainfall was a big plus, totalling 8.47 inches, which is nearly 5-1/4 inches above normal. There was measurable precipitation on 15 days, but the storm on the 10-12th was 5.55 inches breaking a record from 1931. In spite of all this it was only the third wettest June in records behind 1938 and 1972. We are 5-2/3 inches above normal for 1977 and 10 inches ahead of 1976.

There were a total of 15 frost warnings released during the spring of 1977; the first on April 29, the last on June 3. To compare there were 25 warnings in 1976, 4 in 1975, 8 in 1974, 1973 and 1972.

### Crops

Reports and observations indicate a somewhat spotty bloom this year, with areas sanded last fall rather poor. There has been a little winterkill injury especially on the lower Cape and also some oxygen deficiency injury scattered around. This was a fairly good frost season in spite of the large number of warnings and frost damage is minor. Pollination weather has been good and Early Blacks appear to have set well. Howes are further behind than usual but look OK. It would appear at this time that our prospects are for a crop of last year's magnitude.

### A Final Note

The 90th Annual Meeting of the Cape Cod Cranberry Growers Association will be held at the Cranberry Station on Tuesday, August 30 beginning at 10 A.M. The program will consist of the usual equipment displays, exhibits and a tour of the research plots with a chicken barbecue lunch. In the afternoon there will be a business meeting, committee reports, industry reports and the official crop forecast by Byron Peterson of the Crop Reporting Service. The guest speaker will be Dr. Thomas Jukes from the Sapce Services Laboratory, Univ. of Calif., Berkeley.

I.E.D.

## Nova Scotia

The mean temperature for the month of June was slightly below the 50-year average. Precipitation, however, at 141 mm was nearly twice the usual 73.2 mm. With so much rain the sunshine was only 140 hours compared with the 50-year average of 206.

The weather has changed markedly during the first three weeks of July with unusually hot moist weather. Although a lot of bloom is still present, some green cranberries about 1 cm in length are now present on July 21.

Chase and Bezanson have their new packing plant nearly finished and it is located at Aylesford beside their bog.

Friends of Mr. A. B. Balcom will be sorry to learn that he is in the hospital recuperating from a slight heart attack.

I.V.H.

## New Jersey

June was colder and drier than normal. The average temperature was 67.7 degrees F, which is 3 degrees below normal. Extremes in

temperature were 88 and 39.

Rainfall totaled 3.32 inches, or 0.40 inches below normal. It was the eighth consecutive month of deficiency of rainfall. Since October of 1976, there has been an accumulated deficiency of 9.13 inches. The dryness continued through the first ten days in July. At this time many cranberry reservoirs are at critically low levels.

There is some blasting of flowers on some bogs where the water supply is low. If drenching rains do not occur soon the cranberry crop in New Jersey will be significantly reduced.

P.E.M.

Loss of agricultural land continues to plague local governments, this time in Pemberton, N.J. township.

Just after the Township Committee rezoned a 550-acre parcel from agricultural to industrial use, several officials protested efforts to purchase 81 acres of it for a township-sponsored industrial park. The price tag: \$320,000.

Farmer and landowner Charles Jones, somewhat of a local politician himself, retains the right to farm the land not used for industrial development. His long-term agreement provides for a 60-day notice prior to the town's development of any of the land under cultivation.

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fisheries processing firm has joined in the effort to find sufficient water resources in the Bandon, Ore. area.

Bandon Fisheries plans to expand its processing facilities at Bandon but can't without sufficient water. Its present shrimp processing facility uses two million gallons of water a month. A new processor is expected to use up to six million gallons per month.

Bill Magness, a local horticulturalist and developer, has undertaken a private study in the area to locate new water sources. He's talking about deep wells deep underground.

\* \* \*

AG-EXPO will hold Grand Opening ceremonies at permanent grounds in Sabillasville, Maryland, this September, heralding the start of an expanded U.S. effort to attract foreign markets for its agricultural products.

This sprawling 89-acre site is just an hour's drive from Washington. Officials hope the convenience will serve as a natural starting point for

foreign officials and businessmen who travel to this country on buying missions.

The Agricultural Trade Council (ATC), AG-EXPO sponsors, will continuously conduct publicity and informational campaigns to contact and invite the thousands of overseas importers of U.S. agricultural products to visit the Center. The Center exists for trade purposes only. Educational and scientific programs will be held there year 'round.

Those in the agribusiness community who want to be represented at the Center should contact the Council, 1028 Conn. Ave., N.W., Suite 407, Washington, D.C. 20036.

\* \* \*

This ought to be interesting: candidates for the Plymouth, Mass. title of Cranberry Queen this Fall have been asked to submit a short written statement why they like cranberries. On top of that, they've

# AGRICULT

got to submit an original cranberry recipe.

Oh, yes, and a recent photo, along with three bucks entry fee.

Wonder what's in store for the winner? "Candidates must be available through the month of September and into October in order to participate in the activities planned for the queen and her court," says a local announcement.

The winner will be selected by a three-judge panel at a Cranberry Ball. The local Chamber of Commerce and Ocean Spray are co-sponsors.

## DDT Successor?

(Continued from Page 1)

Dr. Booth was able to speed up the research required by the EPA on new insecticides by testing Dimilin in miniature ecosystems, a procedure he helped develop at the University of Illinois under direction of Dr. Robert L. Metcalf, who conceived the model-ecosystem concept.

The miniature nature systems, with land and water surfaces, were set up in small aquariums. Plants and animals were treated with Dimilin and introduced to start a miniature, seven-step food chain similar to what is found in the environment. After 30 days, measurements were taken to determine how much of the insecticide was dissolved and excreted, which organisms were likely to be affected by Dimilin and how degradable the new material was.

"It takes only 30 days in the laboratory to find out what a new insecticide will do to the environment," Dr. Booth explained. In contrast, DDT was used 20 years before mankind began to realize it was doing more to the environment than killing pests.

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# URE NOTES

The Internal Revenue Service has begun a nationwide program to assist taxpayers who feel that their federal tax problems are not receiving prompt, appropriate action through normal IRS channels.

Tests conducted during 1976 in the Austin, Dallas, Milwaukee and Detroit IRS districts showed that the program helped resolve taxpayer problems and brought recurring problems to management's attention. As a result, the IRS is installing the program nationwide.

The program is not a substitute for normal procedures or the tax appeals process, nor is it a substitute for deciding or resolving technical tax questions, the IRS said. But if taxpayers feel that their problems have not been dealt with properly, they should call or write the Problem Resolution Officer in the District IRS office.

After Dimilin passed the safety tests in the model ecosystems, Dr. Booth began field tests. During his seven years of research with Dimilin, he has conducted numerous studies on the environmental effects of the insecticide and he says it is the safest compound he has ever studied.

Many water animals were tested, including the blue claw and fiddler crab and grass shrimp, with no bad effects. Extensive tests were also conducted on quail, frogs and snail and no negative results were found.

Dimilin was also tested on forests around Le Grande, Ore. to determine its effect on the tussock moth, which is deadly to Douglas fir trees, and on Utah Lake to observe its effects on nesting birds. Again, the results were negative.

Dr. Booth explained that Dimilin has minimal environmental effect because it breaks down very rapidly in soil and water, unlike DDT which was banned because it remains virulent for years and can be passed up the food chain from plant to animal to man and even

from mother to child. He found that half of the Dimilin which was placed in the soil and water was gone in less than two weeks.

Chemically speaking, Dimilin, known also as diflubenzuron, breaks down into difluoro benzoic acid, plus p-chlorophenyl urea, plus p-chlororaniline, none of which are persistent nor are there any known problems with any of them. On the other hand, DDT breaks down in the environment into DDE which causes egg shell thinning in some raptor birds. DDE is also very stable.

Environmentalists have been concerned about the effects Dimilin will have on non-target organisms. At normal use levels, between .1 and 1.0 parts per million, Dimilin results have been favorable.

Dr. Booth says Dimilin is safe on humans. Since he could not test the insecticide on humans, he ran tests on pregnant mice, which are warm-blooded like man, and he found no transfer of Dimilin through the mother to the babies.

Dimilin has not affected the yield of any crops that have been

yielded because the insects were controlled. Crops currently being investigated are cotton, soybeans, corn, cabbage and apples.

Dr. Booth admits that there are some disadvantages to Dimilin. One is that it doesn't act the same on all insects. For example, it is effective on tussock moth but ineffective on spruce bud worm. However, he noted that there is no compound made that is effective on all pests.

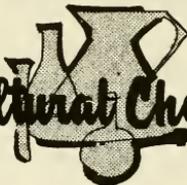
Also, Dimilin is not as persistent as he would like. For example, it is gone in water in a couple of days. Therefore, more sprayings are necessary.

However, Dimilin does appear to have long-lasting effect on insect control because it prevents the deposition of egg masses which are the source of the following year's infestation. Also, it clings to foliage, which provides long-lasting effective control of destructive foliar-eating insects.

This durability of Dimilin on foliage concerns the EPA and is presently the focus of a study by Dr. Booth. He also began another research project early this month with cows. Portions of Dimilin are being fed to cows to see if flies can be controlled through cow droppings.

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# WILDLIFE LOVE YOUR WOODLANDS

Forest resources are capable of producing more than one product. Perhaps one of the most enjoyable is the wildlife that roam the wooded uplands of cranberry lands.

For the landowner, wildlife can be a source of hunting for pleasure as well as a food source. At the same time, landowners can enjoy the sight of abundant and varied wildlife which healthy land can produce. In either case, the fortunate custodian of wild land has a remarkable opportunity to create and maintain wild products of the land which are rewarding in cultural, recreational and economic value.

Out of 100 acres of bog and upland, five acres can be treated in such a way as to create a habitat which will support and attract considerably more wildlife than is now found. In fact, it is easier to manage land for the existing wildlife than to embark on the risky business of stocking strange species which may not adapt to their new environment.

## Food and Cover

All types of wildlife need food and cover. In most places, natural foods are abundant, if land management practice encourages food growth. Many of the shrubs and underbrush which provide cover also provide food.

Forest management practices, such as thinning or cutting, which let in more light to reach the forest floor encourage ground vegetation of value to wildlife, especially in the form of woody shoots or as seedlings or stump sprouts.

A mixed forest type is of more importance to wildlife than anything else. A mixture of hardwoods and evergreens are more productive than a wooded area of solid hardwoods.

If evergreens are lacking, clear some areas of hardwood and plant evergreens of any kind to "fertilize" the land for wildlife production.

If fields border the forest, cut the forests back a rod from the edge of the field to create brushy

borders attractive to wildlife. It will permit more light in the edge of the field, thus making such an opening more productive of secondary agricultural crops at the edges.

## One Problem

Wildlife management presents one problem. Not all good forestry practices go hand in hand with good wildlife management. Some compromise in forest management is necessary to create favorable habitat, as follows.

Create openings in solid stands of forest. Plant hardwoods among conifers, and visa versa. Leave some fallen dead hardwoods about for dens. Maintain any small abandoned orchard. Leave small stands of poplar, grey birch, alders, laurel, which are of little value to forestry. Seed woodland roads with clover or grasses. Plant open corners with native nut or fruit-producing trees or shrubs.

The bottleneck for available food is during the winter. Hardwood sprout growth comprises important winter food of cottontail rabbits, snowshoe hare and deer. It is desirable that such growth be near coniferous cover.

Ruffed grouse eat hardwood buds principally, and seldom suffer food shortages in winter except during prolonged ice storms. Grey squirrels are dependent on such food as acorns, beechnuts or hickory nuts. Woodcock are migratory and not present in winter but use alder swales and forest openings in summer. Their chief food is earthworms. The predators depend on other available small animals.

## Reproductive Capacity of Wildlife

All wildlife species can multiply rapidly. If there is favorable habitat, a crop of animals can be harvested each year without impairing the breeding stock, thus offering recreation to many sportsmen.

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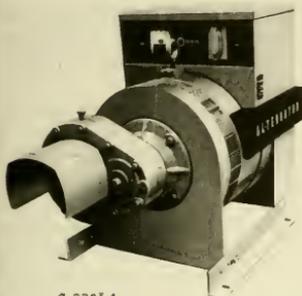
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# New Products In Agriculture

Beeline, a wettable powder food supplement, attracts honey and wild bees and holds bees in the crop area for pollination. It is said to increase bee populations in the crop area from 50 to 100%. It is applied to cranberries by airplane at the rate of 5 lbs. per acre per gallon of water, and can be applied every four days. It has been used with success on West Coast cranberries. Beeline is available at Hopkins Agricultural Chemical Co., Madison, Wisconsin 53701.

\* \* \*



C-332F A

This is Onan's 80,000-watt tractor driven PTO alternator model 80.OUR.

Onan Corp., Minneapolis, Minn., announces its 80,000-watt power takeoff (PTO alternator for emergency uses. The brushless unit features a solid state voltage regulator and heavy duty control elements. It is said to have "over 300,000 watts" of motor starting ability built in.

\* \* \*

The Central Illinois Mfg. Co. introduces the Centurion II fuel filters, useful for diesel storage systems to protect against contaminated fuel and extend the life of equipment filters. The Centurion II filter combines a 4 micron filter cartridge with a coalescent water separator. Fuel is filtered as it's pumped from storage into the fuel tanks of farm equipment.

\* \* \*

The Winco Division of Dyna Technology, Inc. has added two bigger tractor powered generators of 50 kw and 65 kw each. Both feature maxi-watt motor winding, assuring that the 50 kw single phase unit will start a 30 hp motor and the 65 kw three-phase unit will start a 35 hp motor. Winco also manufactures 15, 20 and 30 kw PTO units.

\* \* \*

Hypro, a division of Lear Siegler, introduces a roller-type sprayer pump designated Series 6500. The pump mounts with an adaptor directly to the PTO shaft of a tractor. At 540 rpm, the pump delivers 7.4 gallons per minute at 50 pounds per square inch pressure; at 1,000 rpm, it delivers 15.1 gpm at 50 psi.

Stan Norton's crop forecast, based on weather conditions during bloom, is for 1,025,000 barrels in 1977.



Bernzomatic has introduced a portable, compact cutting/welding torch called the Model OX5000. It is capable of cutting up to 1/4-inch steel plate and 3/4-inch bolts, is handheld and has no hoses to crimp or tangle.

The torch uses separate oxygen and fuel gas (either propane or Mapp gas) cylinders which screw into a stainless steel assembly. Gas flow is controlled by separate knobs on top of the torch. A fully-regulated valve provides complete control of the oxygen flow.

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# Bionomics and Spatial Distribution

## Part III: Chemical Control

by J. O. Jackson and C. F. Koval  
University of Wisconsin  
Madison, Wisconsin

Since an area of cranberry vine dieback attributed to an unusually heavy infestation of the dearthness scale was first located in Wisconsin in 1973, eight more infestations have been located. Remedial measures have been necessary. These infestations developed in spite of chemical control programs for other cranberry pests such as fireworm, fruitworm, tipworm and girdler.

Many scale insects are susceptible to dormant or semidormant materials but the dearthness scale is apparently tolerant. Grower use of stoddard solvent was ineffective as was Superior oil. Superior oil (70 second) was applied at Wisconsin Rapids to 5 x 10 ft plots, each

repeated three times. Dosages of 1, 2, and 6 percent Superior oil were applied to the plots on May 29, 1974. Vine samples from each plot were collected June 5, returned to the laboratory and held under controlled conditions. Crawlers emerged from parent females June 20 and many subsequently formed shells. These observations and those from the field indicate oil application prior to crawler emergence was ineffective.

### Susceptibility

The most susceptible of the scale life stages to insecticide treatment is the mobile crawler stage. Recommended timing of application was set for first observed crawler emergence and peak emergence. In 1974 certain growers felt additional applications would insure control (Table 1). Effective control, probably due more to dosage than number of applications, was ob-

tained at Wisconsin Rapids. At Valley Junction a number of applications were made well below suggested rates, but even with three full-rate applications included, control was not effective. At Millston, where a minimal effort was made, the scale numbers per vine were significantly ( $P = 0.05$ ) less when compared to Valley Junction.<sup>a</sup>

Poor weather conditions precluded effective control programs at Millston and Valley Junction in 1975. However, two new infestations at Biron and City Point, Wisconsin, were effectively controlled by applications of Guthion at onset and at peak crawler emergence.

At Millston, in 1976, insecticides were applied to vines and foliage in large plots (50 x 200 ft.) with a handgun, delivering dilute spray at 150 psi. Each of three plots was treated at first crawler emergence and at peak emergence. One plot was treated with Guthion only at peak emergence. A fourth plot was treated with Guthion through the sprinkler irrigation system. The number of developing scale per circular square foot were counted from random samples (76/plot).

A walk-on treatment with Dursban gave best results, while Orthene and Guthion gave similar results (Table 2). Although Guthion applied through the irrigation system was better than in the untreated plot, it was significantly below other treatments. However, there is some evidence that pest pressure was greater in the irrigation plot. Parent female per square foot was significantly greater (Table 2) in the irrigation plots, and early season parasitization (Jackson and Koval, 1977) was 3.2-fold greater in walk-on plots (op. cit. Table 2, site 2)

<sup>a</sup> Frequency data from the 2 treatment programs were compared using R x 2 test of independence ( $X^2 = 12.43^*$ , d.f. = 5).



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Table 1. Mean number of developing dearness scale on cranberry vine stems and corresponding insecticide treatments, 1974.

Location	Treatment <sup>1/</sup> , A.I./Acre	Application Dates	Mean <sup>2/</sup> Developing Scale	Percent Stems infested	Range for avg. 5 in. stem
Wis. Rapids	Parathion 8E, 1.4 lb.,	June 5, 26, 28	0.01	1	-
	Guthion 2E, 11.2 oz.,	June 21, 24			
	Guthion 2E, 14.9 oz.,	June 18			
Milston	Parathion 8E, 1 lb.,	June 16	5.1 ± 1.4	56	1 - 36
	Carbaryl 5 $\frac{1}{2}$ , Dust	June 26			
Valley Jct.	Parathion 8E, 2.3 oz.,	June 16	9.4 ± 2.1	74	1 - 43
	Parathion 8E, 3.2 oz.,	June 17, 23, 25			
	Parathion 8E, 1 lb.,	June 21, 26, 28			

<sup>1/</sup> Parathion 8E and Guthion 2E were applied through sprinkler irrigation system, except at the 2.3 and 3.2 oz. rates at Valley Junction, when a mist blower was used.

<sup>2/</sup> The developing scale on average 5 in. stem.

than in the irrigation plot (op. cit. Table 2, site 3).

Complete mortality through field application of insecticide is rarely achieved. Presumably, since more crawlers are available in the irrigation plot, a higher proportion will survive insecticide treatment. Differences in developing scale observed in irrigation plot when compared to walk-on plots may be due in part to larger number present at emergence.

Insecticide application at time of male flight (ca. August 23) was proposed to reduce number of fertile female scale overwintering and thereby subsequently reducing the number of crawlers emerging the following June. In 1974 at Valley Junction the grower made five applications, three with Parathion 8E and two with Guthion 2E, from August 25 to 30. The effect of these treatments, is partially reflected in 1975 overwinter mortality, which includes a count of female scale without egg development.

Overwinter mortality for spring, 1974, at Valley Junction was 26.2 percent and 57.5 percent the following spring (Jackson and Koval, 1977). Decline in scale population is indicated if the value for net reproductive rate ( $R_0$ ) is less than 1 ( $r_c = 0$ ). This was not achieved in 1975 ( $R_0 = 12.5$ ). Given the same values for other factors and for  $R_0$  to become less than 1, overwinter

mortality would have to exceed 96.8 percent. If a sex attractant exists in dearness scale as it does for other scale species (Tashiro and Chambers, 1967), the efficiency of finding mates is greatly increased. Despite low numbers of male scale, females will be found and mated. In view of this and the high  $R_0$  needed, male flight suppression by insecticides was not recommended for the 1976 season.

The causes for dearness scale outbreaks are not clear. However, the necessity of insecticide applications each year to control fireworm and fruitworm may, hypothetically, contribute to such outbreaks if improperly timed. Since insecticide use affects both target and non-target organisms (Newsome, 1967), the parasitoid population can inadvertently be suppressed through a control program for a pest species. At a scale infestation near City Point, a late treatment for first-brood fireworm on June 13 corresponded with the time of parasitoid emergence. Since parasitoid emergence (ca. June 9 or 10) precedes crawler emergence (June 15 to 20), a late application for fireworm affects the parasitoid, but not scale crawlers. Of six scale infestations examined, four had applied insecticides for first-brood fireworm in the first or second week of June in years prior to scale outbreak. Fruitworm control treatments in mid-August and the use of Malathion to enhance fruit color

(Continued on Page 15)

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James Nolan has been appointed western sales manager, fresh fruit, Ocean Spray Cranberries, Inc., responsible for the sale of fresh cranberries from Chicago to Los Angeles and parts of Canada. His offices will be located at Ocean Spray's Kenosha, Wis. facility.

**PINK 'N CREAMY  
CRANBANANA WHIRL**  
(Serves 6)

- 2 ripe bananas, cut into 1 inch pieces
- 1 cup orange juice, chilled
- 4 cups cranberry apple drink, chilled
- 1/2 cup heavy cream
- Crushed ice
- 1 cup dark rum (optional)

In a blender, whirl bananas and orange juice until smooth. Pour mixture into a tall pitcher and stir in cranberry apple drink and cream. Chill until ready to serve. Half fill small glasses with crushed ice and fill with cranberry mixture. If using rum, stir rum into drink along with heavy cream.

for those "dog days" in August, here are cool cranberry concoctions for super sipping at home or taking along on a picnic.

Berry Crimson Flip quickly prepared in a blender combines fresh strawberries, cranberry apple drink, sugar, and Tom Collins mixer. A cup of gin or vodka may be added for an extra lift. Serve this color dazzling drink in tall glasses filled with ice cubes, and garnish with strawberries.

Cranberry Pineapple Fizz is a delectable mixture of egg white, cranberry juice cocktail, and pineapple juice. At cocktail time, add a cup of bourbon whiskey to your mix. Serve this fruitful drink by pitcher, and garnish ice-filled glasses with fresh pineapple slices.

Pink 'N Creamy Cranbanana Whirl is easily made in a blender, too. It combines ripe bananas, orange juice, cranberry apple drink, and heavy cream. Add rum for sundown sipping or for a party scene. If you serve in glasses, fill them halfway with crushed ice. If you use a punch bowl, pour your mix over ice cubes.

Each of these drink recipes is measured for servings of six, but the ingredients need only be doubled, or tripled to serve a crowd.

**BERRY CRIMSON FLIP**  
(Serves 6)

- 1 pint strawberries, hulled
- 1/3 cup sugar



- 4 cups cranberry apple drink, chilled
- 2 cups Tom Collins mixer, chilled
- Ice cubes
- Strawberries for garnish
- 1 cup gin or vodka (optional)

In a blender, whirl strawberries, sugar and 1 cup of the cranberry apple drink. Pour into a tall pitcher and stir in remaining juice and Tom Collins mixer. Chill until ready to serve. Place ice cubes into 6 glasses and fill with cranberry mixture. Garnish with strawberries. If using gin, stir gin into drink along with Tom Collins mixer. Garnish glasses with strawberries.

**CRANBERRY PINEAPPLE FIZZ**  
(Serves 6)

- 1 egg white
- 4 cups cranberry juice cocktail, chilled
- 1 can (6 ounces) frozen concentrated pineapple juice, thawed
- 12 ice cubes
- Lemon peel twists
- 1 cup bourbon whiskey (optional)
- Sliced fresh pineapple for garnish

In a blender, whirl egg white, and half of the cranberry juice until foamy. Pour into a tall pitcher. Place remaining cranberry juice and pineapple juice and cubes into blender and whirl until ice cubes are crushed. Pour into pitcher and stir to blend. Pour into 6 glasses at once and serve garnished with lemon peel twists. If using bourbon, stir it into drink along with cranberry juice mixture. Garnish glasses with pineapple.

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coincide with late season parasitoid activity. Consequently, where scale infestations occur, special care in timing of insecticide applications should be considered.

\* \* \* \*

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Jackson, J. O. and C. R. Koval. 1977. Dearnness scale, a vine pest of cranberry. II. Natural control and host range. Cranberries. Newsome, L. D. 1967. Consequences of insecticide use on non-target organisms. Ann. Rev. Entomol. 12: 257-278. Tashiro, H. and D. L. Chambers. 1967. Reproduction in the California red scale, *Aonidiella aurantii*. I. Discovery and extraction of a female sex pheromone. Ann. Entomol. Soc. Amer. 60: 1166-1170.

Table 2. Comparison of insecticide treatment for suppression of dearness scale at Millston, 1976.

Table with 4 columns: Treatment, A.I./Acre, Developing scale per ft. 2, Parent female scale per ft. 2. Rows include Dursban 4E, Orthene 75S, Guthion 2S, Guthion 2S2/, Guthion 2S3/, and UNTREATED.

1/ Numbers followed by same letter are not significantly different (X2, P = 0.01). Each treatment was compared with every other treatment using R x 2 tests of independence.

2/ One application, June 17.

3/ Treatment applied through solid set sprinkler irrigation system. Rainbird® 70B impact sprinkler, 3/16" nozzle.

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(Continued from Page 3)

a check. They were all emptied and studied Jan. 12, 1977.

Rot averaged 7.2 percent, ranging from 6.4 percent in the upper seven-barrel bin to 13.5 percent in the lower 10-barrel bin.

(In the first tests a dozen years ago, rot was reduced at best to 13.5 percent in the ventilated bins and to 18.5 percent in the ventilated field boxes. Berries in unventilated bins averaged 40 percent rot, ranging in some sections as high as 74 percent.)

"The difference," says Norton, "may indicate that insufficient air circulated throughout the bins to remove excess moisture and other products of respiration."

Because of exterior temperature variations, temperature and humidity in the test room were not consistent. High humidity was more the rule than the exception and in one six-week period "could have caused much of the rot that occurred," Norton suggests.

Another effect of humidity is that the increase in the 1976-1977 study decreased the weight loss (to about two percent). In 1965, when relative humidity was maintained at 85%, weight loss in a 10-week period was 6.6 percent.

Professor Norton says that he will continue his study this year, again with the help of private industry. Relative humidity will be maintained at 70 to 80 percent.

*The full text of Professor Norton's most recent work is available as "Paper No. 2134, Mass. Agricultural Experiment Station, University of Massachusetts, Amherst. This research supported (in part) from Experiment Station Project No. 51."*

# OBITUARY

Several deaths among growers occurred in recent months. *Cranberries* regrets the delay in reporting them.

In Pemberton, N.J., W. Arthur Reeves died in early March. He was 83. He was a member of the Ocean Spray cooperative and the son of William Reeves, who developed Bear Swamp, in Burlington County.

Winthrop A. Ahone, 67, of Cape Cod, passed away in late March.

Edward W. Burgess, 79, Plymouth, Mass., passed away in June. He was vice president of a Boston bank and a bog owner for 40 years. He was a member of several civic and fraternal organizations.

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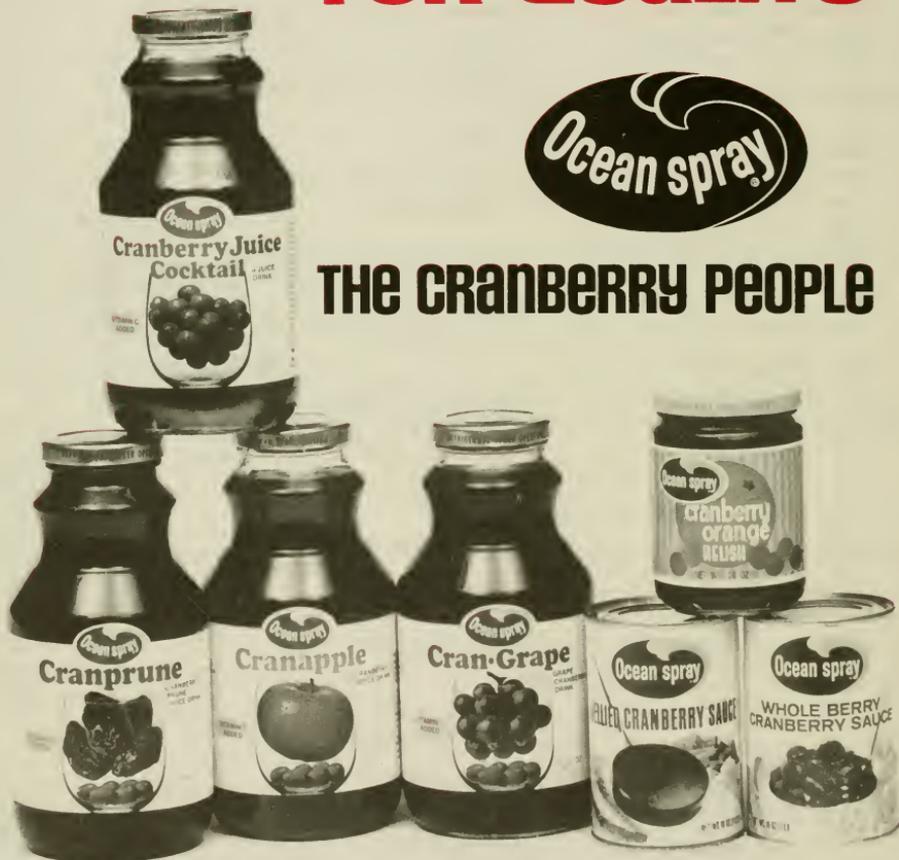
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# '77 U.S. Farm Exports May Reach \$24 Billion

U.S. Farm exports may reach \$24 billion during fiscal 1977, if strong first-half performances hold up, according to the Department of Agriculture. The projected figure is a jump of \$1 billion over 1976 results.

Fruits, nuts, and vegetables, even cranberries, could be among the leading exports, along with cotton, oilseeds and oilseed products, and livestock products.

During the first six months of the fiscal year, export unit values were sharply higher for many of these products.

Soybean and product exports are continuing strong despite the short 1976 U.S. crop. Soybean oil exports for the 1976/77 marketing year are now estimated at 748,000 metric tons, up 68,000 tons from the estimate on May 11, following a reappraisal of vegetable oil import requirements by India.

U.S. grain exports are smaller

this year. Export volume is likely to drop by about a tenth, and the grain export unit value may be 10 to 15 percent lower in fiscal 1977.

Substantial increases are expected in fiscal 1977 in U.S. exports to the Middle East; East and Southeast Asia, including Japan; Western Europe; and Canada.

Exports to the USSR and South Asia are projected well below last year's levels. U.S. agricultural exports to South America are also declining this fiscal year.

Although 6 months of the fiscal year have passed, uncertainty remains about the final level of U.S. agricultural exports. Crop developments during the summer months will influence both price levels and export sales.

High coffee prices are causing a dramatic jump in the value of U.S. agricultural imports during fiscal 1977, which are seen going to

\$13.6 billion, compared with \$10.5 billion the previous year. The farm trade balance—favorable again—is estimated at \$10.4 billion. Cocoa, rubber, and tea prices are also sharply higher this year.

In contrast, imports of competitive products may show little change in fiscal 1977 with sugar prices significantly lower, and smaller import volumes expected for meats and vegetable oils.

Preliminary indications in fiscal 1978 point to some decline in U.S. agricultural trade. Early prospects for 1977 world production are generally favorable; and, if these prospects are realized, demand for U.S. farm products may be lower.

Depending upon the outcome of 1977 crops in the United States and abroad, U.S. agricultural exports during fiscal 1978 could reach either \$27 billion or drop to \$20 billion. Agricultural imports are expected to total about \$12-\$13 billion next year.

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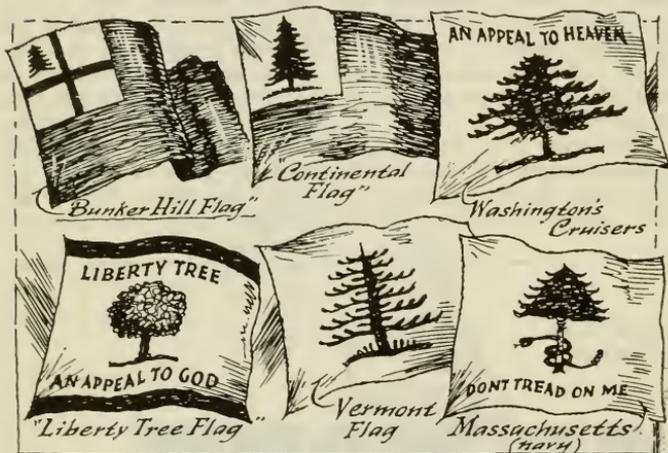
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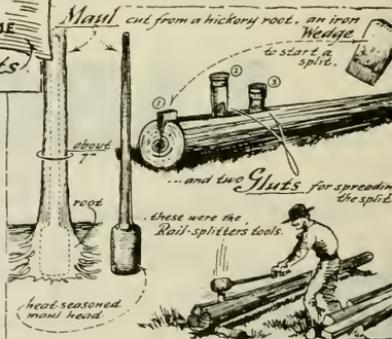


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## Israelis Claim Production of New Substitute ; Ocean Spray Official Questions Testing, Ban

Israeli scientists claim to have produced at commercially feasible levels an artificial no-calorie sweetener that is six times sweeter than saccharin and 2,000 times sweeter than sugar.

The product is neohesperidin dihydrochalcone, a compound derived from naringin, found in grapefruit peels. It's known in short form as Neo-DHC.

The development of Neo-DHC is especially timely in light of a ban on saccharin by the U.S. Food and Drug Administration (FDA).

Professor Yehuda Mazur and Dan Amar, organic chemists at the Weizmann Institute of Science, in Rehovot, Israel, developed the production technology for the Jaf-Ora

### EPA Grants Furan Use On Infected Wash. Bogs

Agricultural officials in Washington state this summer won an exemption from registration requirements for the use of carbofuran in the control of cranberry root weevils.

The exemption, for 1977 only, was for use on bogs dry harvested and never flooded.

The carbofuran, known commercially as Furan, was to be applied twice, and no later than July 31, at the rate of 20 pounds per acre of Furan 10% granules.

To be eligible, growers were to have their bogs certified as infected either by field inspectors from the extension service at Washington State University or from Ocean Spray. They were to issue certificates authorizing growers to purchase Furan.

EPA set a limit of 140 acres of cranberries to be treated in Pacific and Grays Harbor counties.

Company, a citrus fruit processing firm. Israel ranks second to the U.S. as a grower and processor of grapefruit.

Ocean Spray Cranberries, Inc., however, at its Ocean Spray-Indian River citrus processing plant in Vero Beach, Fla., is believed to be capable of exceeding Israeli production. It is not known at this writing if the company is interested in developing Neo-DHC from its grapefruit peels.

John S. Ropes, Jr., director of grower relations at Ocean Spray says the saccharin ban "could" have an effect on sales.

More important, however, would be some consideration of the principles behind the ban, he points out.

The "dose response" principle says that any chemical which causes cancer when fed to rats at any amount should be banned.

Ropes points to the testing that led to the saccharin ban. Rats were fed the daily equivalent of 800

12-oz. cans of saccharin-sweetened soda pop. Under those conditions even vitamin A would be banned, according to Ropes.

He also points out that there is now some question of the validity of using rats as test subjects. Some rats have apparently been proven to be cancer prone.

FDA conclusions have left little room for dose response considerations. It is this failure of the testing procedure which has led to public outcry over the ban of saccharin.

Ropes points out that such a furor could lead to fairer government evaluation of pesticides as well as food additives.

The Israeli officials are waiting FDA approval of the marketing of Neo-DHC in the U.S.

Toxicological testing of Neo-DHC since 1969 has turned up no harmful effects whatsoever, according to one source. Some experts say that Neo-DHC is the best substitute for saccharin immediately available.

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# 1.025 Million Bbls. Mass. Crop Forecast

The Massachusetts crop of cranberries should top a million barrels in 1977, according to one prognosticator.

"We're looking for a harvest of 1,025,000 barrels this year in Massachusetts," says John S. Norton, agricultural engineer at the E. Wareham, Mass., cranberry experiment station. Norton bases his forecast on a study of weather conditions over the past 25 years and the crops for the same years.

The prediction zeroes in on the bloom period of June 15 through July 20, a formula he first used to predict the 1973 crop (See *Cranberries*, August, September 1973; February 1974).

The potential crop was determined by a graph (Fig. 1) based on "penalty points."

(Norton's 1977 graph is new. It includes the effect—increased yields—of water harvest. Earlier graphs did not, since they were based on crops prior to extensive practice of water harvest.)

Sunshine and daytime temperatures and precipitation during the bloom period are boiled down to "penalty points."

"This value, 30 penalty-points, is located along the base line of the graph," Norton explains. 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." In the present case, using 30 penalty-

points, this is 1,030,000 bbls. This is the crop that would be expected if there were no unusual losses to frost, flood, scald.

"There have been no unusual losses reported that should affect the 1977 crop except a modest amount of 5,000 bbls. lost to winter kill. Therefore, only 5,000 bbls. will be deducted from the Potential Crop at this time, making

Losses shown in Table 1 are estimates by other members of the Cranberry station staff. These estimates were arrived at by observations and consultation with growers who experienced or observed the losses. The two figures in the "other" column represent flood and insect losses that completely destroyed the crops on the affected bogs.

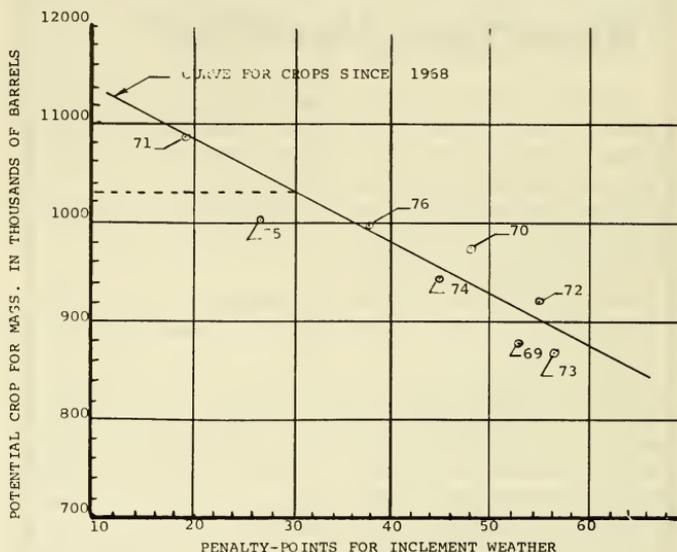


Figure 1. Relationship between weather during bloom period of June 15 through July 20 and the "Potential" cranberry crop for Massachusetts during an 8-year period.

my estimate of the 1977 Massachusetts crop 1,025,000 bbls."

If there are further losses, then the forecast will be in error by the amount of these losses.

"If the estimates of unusual losses are reasonably accurate, then the July estimates of the potential crops were reasonably accurate for three of the four years. The 1975 estimate was grossly in error. I offer no explanation for this," says Norton.

Table 1  
Recapitulation of  
Crop Forecasts,  
1973-1976.  
(Figs. in thousands of bbls.)

Year	Actual Harvest	ESTIMATED LOSSES					Actual Harvest plus Estimated Losses	July Estimate of Potential Crop	Error	
		Winter Losses	Frost Spring and Fall	Scald	Drought	Other			Bbl	%
1973	901	0	0	60	0	15	976	1,000	24	2.6
1974	935	0	11	0	5	0	951	970	21	2.2
1975	784	0	6	100	0	10	900	1,160	260	28.0
1976	935	0	1	50	0	0	986	1,000	14	1.4
1977.		5								

## Addendum

Since this forecast was prepared, evidence of injury not reported earlier has been revealed as a very poor bloom, or a very poor set where the bloom had been good. Some characteristics of this condition, such as a normal set along

Continued on Page 13



## editorial

### ***Opportunity for What!***

*If you're tired of being regulated, then brace yourself. Just listen to what Douglas M. Costle, new administrator of the Environmental Protection Agency said in a recent interview. His political doubletalk is fraught with possibilities.*

*Talking about EPA's future he noted, "There has been growing, not diminishing, concern about the impact of the environment on our daily lives and the fragile nature of the environment which sustains us. There is also growing, not diminishing, concern about the human health problems associated with involuntary exposure to environmental contamination.*

*"We have only begun to solve some of the environmental problems and there are many others that we're only now becoming aware of. So I would expect EPA to be around for quite a while and I think we're about to move into a period which will present an enormous opportunity for the Agency.*

*"First, our knowledge base is expanding very rapidly. We now understand a great deal more than we did. On the one hand, that makes the problems look more complex and difficult to solve than they were when the agency was established six years ago. On the other hand, we have a better knowledge base from which to address those problems.*

*"Second, certain major legislation that we administer is up for renewal this year—the Federal Insecticide, Fungicide, and Rodenticide Act, the Federal Water Pollution Control Act, and the Clean Air Act. So there is an opportunity for midcourse correction.*

*"Finally, we don't want to be in a position of not seeing the forest for the trees. We have gotten deeply enmeshed in the enormously complex details of carrying out our job, but the reason for our coming into being six years ago hasn't changed. We still recognize the limitations on man's ability to alter his environment without incurring intolerable damage."*

*Sounds great! But is that a cry for simplicity, or are we in for something the likes of which no one could ever dream?*

## Frost, Drought Plague

### **Maine Blueberry Crop**

Who says knowledge and experience can overcome luck in farming!

Bad luck in the form of unpredictable weather is virtually wiping out half of the 1977 blueberry crop in eastern U.S.

In Maine, millions of pounds of blueberries are being destroyed by the summer's continued hot, dry weather. Experts now predict the final count to be about 12 million pounds, down from last year's bumper crop of 25 million pounds.

As expected, prices in turn have skyrocketed. Growers are receiving a record \$1.30 a kilogram for berries (60¢ a pound). That's nearly double the previous record high.

In spite of the prices, however the crop's total value will be about the same as 1976, \$8 million, say experts.

According to one of the country's largest producers, J Hollis Wyman, the problem began as elsewhere in the nation, with a severe winter. This was followed by a late spring frost which caused extensive damage.

Berries which survived were apparently healthy and of good size and quality. Worm and blight damage was light, according to a report from the USDA's statistical reporting service for New England.

"But," says blueberry expert Dr. Amir A. Ismail, "if this hot and dry weather continues, the crop will continue to decline."

Grower Wyman says the area between the Penobscot River and the Canadian border has been the hardest hit.

"Blueberry plants in the hill have been doing better while those in the valleys have been suffering, the most from the weather conditions.

The nation's total crop is expected to drop to 90 million pounds, down from 110 million in 1976 (see *Cranberries*, July 1977).

# Some Thoughts on Plant Nutrition

(C. C. Doughty, horticulturist at Western Washington Research and Education Center, Puyallup, Wash., fielded questions asked by growers at the recent Cranberry Field Day held in that state. The questions and his answers on the subject of nutrition are edited here for the readers of Cranberries magazine.)

**What does sulfur do to the vines when you lower the pH?**

Sulfur has its principal effect indirectly on cranberry plants. When the pH is lowered (soil becomes more acid), the availability of certain nutrient elements changes. For example, phosphorus is more readily available to most plants at a pH of 6.0 to 7. (slight acidity). Aluminum, iron, and manganese are more soluble at moderate to high acidity (pH 6.0 to 4.5) than at near neutral (pH 7.0). Cranberries seem to require relatively high levels of iron. A lower pH would aid in providing a higher level of readily available iron as well as zinc, etc. Cranberries require sulfur for growth. However, generally enough is provided from fertilizers such as ammonium sulfate, potassium sulfate or Sul-Po-Mag. When sulfur needs to be added to lower the pH, the principal effect is to increase the soil acidity thus making some nutrient elements more available among other things.

**What is soil sulfur?**

In mineral soils sulfur is principally in form of sulfides, sulfates or other mineral combinations; for example, iron sulfate or sulfide, calcium sulfate, etc. In peat soil it generally is present as complexes with amino acids which are breakdown products in decomposing vegetation.

**What is the pH at which cranberry production is best?**

Cranberries grow best at a pH of 4.5 to 5.5 generally. They will grow at pH lower or higher than this but the yield and growth declines somewhat.

**Is there any known method to slow down vine overgrowth?**

Vine overgrowth is caused by too high a nutrient level in the soil, especially nitrogen. One cause of this is too rapid oxidation and break-down of the peat thus releasing relatively large amounts of nitrogen. One way this can be overcome is by very severe pruning every year, forcing new growth. This will use up the excess nutrients and bring the vines back to normal. It will take several years. Heavy amounts of P and K will also slow down excess growth temporarily.

**Could acidity of soil have anything to do with overgrowth?**

Soil acidity influences vine overgrowth only in making the soil conditions more favorable for growth of the cranberry vines within the range of pH 4.5 to 5.5. Lowering the pH below 4.0 or raising it above 6.5 will slow down growth by creating unfavorable growing conditions.

**How long can you apply nitrogen without getting soft berries?**

Nitrogen can be applied in several split applications throughout the growing season so that no excess nitrogen is present at any one time if urea is used. If sulfur-coated urea is used, the correct amount and kind can be applied at one time as sulfur coated urea nitrogen is released slowly. Restricting the amount of nitrogen available at any one time will reduce soft fruits. Light foliar applications of urea can be applied as late as early September. These treatments should be governed by the need of the vines. If the leaf color and growth is good, no nitrogen is needed.

**When is the best time to apply zinc and iron chelate for yellow tips?**

Zinc and iron chelate can be applied any time the cranberry vines are growing. Soil applications for best response should be applied in the early spring. Foliar applications should be delayed until new growth is present.

**Is it advisable to mix urea with zinc and iron chelate?**

Yes, urea can be mixed with zinc and iron chelates. Only light rates of urea should be applied at any one time especially when it is mixed with other chemicals.

**Is calcium nitrate fertilizer of benefit to cranberries?**

Calcium nitrate can be used as a fertilizer on cranberries. Nitrates in past experiments have produced a slower response in cranberries than urea or ammonium type fertilizers.

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# AGRICULT

The world market potential is 12 to 15 times larger than the U.S. market for most commodities and products, according to one authority.

Peter J. T. Martin, president of the Agricultural Trade Council in Washington, D.C., made the comment recently when he announced the World Marketing and Trade Opportunities conference there next month.

Agricultural officials from 12 major countries importing American farm products will be on hand. Delegates will be able to learn first hand current market potential for their commodities.

\*\*\*

You can voluntarily and legally set permanent limitations on the future use of your land through the device known as a conservation easement. You protect your land's particular attributes and still retain private ownership. The rewards and responsibilities continue, and you retain full control over public access as previously.

The limitations set forth in conservation easements are tailored to suit the unique characteristics of individual properties.

Generally, the covenants in an easement limit the number and location of structures and the types of commercial and industrial activity, and they specify what can be done to the surface of the land and its natural growth. Their versatility, however, allows them to range from the "forever-wild" easement which states that the land will remain as nature leaves it, to the easement that allows limited residential use, farming, and properly managed commercial timber harvesting.

The covenants contained in easements have lasting effect because each conservation easement is granted to an organization or

agency interested in preserving the natural characteristics of the land. The sole responsibility of the recipient of an easement is to assure that the present and subsequent owners of the land obey the regulations on use set forth in the easement.

Why do landowners grant easements? The financial benefits—estate tax, income tax, and possible property tax benefits—can be important in certain instances. However, people grant easements primarily because they wish to protect land which will be important for its natural attributes in the future. Their greatest reward is their sense of having protected something of value.

\*\*\*

Early Blacks and Howes are at last growing on the waterfront at Plymouth, Mass., the easy way.

Mature vines from the Godfrey bogs in So. Carver, Mass., have been transplanted like sod to the site of Ocean Spray's new national cranberry display and museum.

Instant cranberries resulted in a savings of what growers know must be an average of about five years to maturity.

Foreman of the project is Everett Collins, one of those who helped build the original Godfrey bog some 40 years ago.

The vines and soil were sliced into 1x3 foot sections and stacked and trucked like so much sod. About 3/4 of an acre has been built for public display.

The berries may be harvested by wooden hand scoops, for the sake of the viewing public who travel from around the country to "see the sites" at Plymouth, Mass.

Anita Franks, a long-time resident of Plymouth and an activist with civic and historical groups, has been appointed curator/adminis-

trator of the "Cranberry World Visitors Center" at the headquarters for Ocean Spray.

The exhibit is an historical perspective of the cranberry industry and features a community art gallery and home economics demonstration kitchen.

The firm is seeking donations or other arrangements to display history-oriented equipment and records from all growing areas of the U.S. and Canada.

\*\*\*

Dr. Robert Angelotti has been appointed administrator of the new Food Safety and Quality Service (FSQS) of the Department of Agriculture. Among other duties, he is responsible for the standardization and voluntary grading services of fruit, nut and vegetable products.

He has a long history of service in public health and recently served as associate director for compliance in the Bureau of Foods, Food and Drug Administration, Department of Health, Education and Welfare.

\*\*\*

The Environmental Production Agency recently released the findings of a study of certain organochlorine pesticides in the milk of nursing mothers.

The findings are based upon analyses of milk samples taken during 1975 from 1,436 women in 150 hospitals across the country.

The samples were tested for six pesticide compounds: dieldrin, heptachlor, a breakdown product of heptachlor called heptachlor epoxide, chlordane and its breakdown product called oxychlordane, and Mirex.

# URE NOTES

The current report says that detectable levels of dieldrin, oxy-chlordane and heptachlor epoxide were found in the milk of a majority of nursing mothers: dieldrin in approximately 80 percent of all milk samples, heptachlor epoxide in roughly 63 percent, and oxychlordane in 74 percent of all samples. Heptachlor was found in less than two percent of the sampled milk. No chlordane or Mirex was observed in any of the samples.

The average detectable amounts of these pesticides found in the women's milk were extremely small. The mean level for dieldrin in the fatty part of milk was 164 parts per billion (ppb). (A part per billion is roughly comparable to one inch in 16,000 miles.) The mean level for heptachlor epoxide was 91 ppb, and the mean level for oxychlordane was 96 ppb.

Health experts at EPA and among the milk study contractors believe that these low levels pose no immediate health hazard to either mothers or their newborn children. However, the possible long-term consequences of these minute amounts are uncertain.

All of these pesticides have been curbed to one extent or another by EPA primarily because they are suspected to be human cancer agents. Dieldrin, heptachlor, and chlordane have been prohibited for most uses including all food crop uses.

The program's purpose is to provide a nationwide picture of the prevalence and quantities of certain pesticides in human milk. The data now form a baseline against which future fluctuations in these pesticide levels may be measured.

## EPA GRANTS AIR FORCE PERMIT TO BURN SOME HERBIDE ORANGE AT SEA

The Environmental Protection Agency has approved a U.S. Air Force request to burn one shipload, roughly 800,000 gallons, of the controversial weed and brush killer "Herbicide Orange" aboard a special incinerator ship at an isolated site in the Pacific Ocean.

The decision should mark the beginning of the end for the 2.3 million gallons of the herbicide left over from the Vietnam War. This material is now being stored in thousands of steel drums at military bases in Gulfport, Mississippi and Johnston Island, a U.S. possession in the Pacific Ocean.

Much of the herbicide contains small amounts of an unsafe chemical contaminant called dioxin. This is one of the most toxic compounds

known. It has been shown to cause birth defects in laboratory mice and rats and may have the same effect upon people, depending upon their level of exposure. The Air Force discontinued the application of Herbicide Orange in Vietnam in 1970.

EPA approval is needed to burn the herbicide because under the 1972 Marine Protection, Research, and Sanctuaries Act, waste burning at sea is considered to be ocean disposal and so must be examined by EPA for its environmental consequences.

A public hearing on the proposed permit was held by EPA on April 7. An official from Mississippi, a representative of several national environmental groups, A. Force representatives, and representatives of contractors to EPA testified. All of the testimony was favorable to the plan to incinerate the herbicide at sea.

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# Selecting Trees for Harvest

If you have properly managed your wooded uplands for their economic value, it may be time for you to go to market.

Here are some thoughts that may be helpful.

Harvesting of timber crops should always be done with due consideration of other important uses of forests, such as recreation, wildlife and watershed.

In cutting, keep three objectives in mind: to harvest the crop, to replace cut trees with a new crop of seedlings, and to improve and protect the stock left growing in reserve.

The most important decision at harvest is which trees to cut and which not. In fact, selection is the most important consideration, if your uplands are to be left in production. In most cases, it is useful to employ the technical assistance of a professional forester.

There are three methods of selection in general use: selection

cuttings, shelterwood cuttings and clear cutting.

## **Selection Cutting**

Selection cutting is perhaps most common because it allows a grower to harvest his trees as they mature, over a relatively long period of time.

In selection cutting, trees of many ages are present, what is known as an "unevenaged" stand.

Older trees ready for harvest are cut every ten years or so; the younger trees are left to grow for future cuts; and new seedlings are established where the mature trees are removed.

Mature trees are cut either singly intermitantly throughout the stand, if the species is tolerant of shade, or preferably in small patches (group selection) of one to three tree heights in diameter.

## **Advantages**

The unevenaged forest selection provides a continuous periodic yield of products and is aesthet-

ically pleasing. Since only a small part of the forest is ever cut at one time. It is excellent for recreation, wildlife and the management of watershed.

Spruce, white pine and mixtures of hemlock and hardwoods are well suited to selection cuttings if the stands are unevenaged.

In a true selection cutting, poor trees and poor species are also cut or killed and middle-aged trees are thinned.

## **Shelterwood**

Shelterwood cuttings remove the mature trees in two or three steps over a period of five to 15 years.

In each cutting, trees are removed uniformly throughout the stand, like a very heavy thinning.

The opened-up stand provides seed for the new crop of seedlings, which germinate and develop in the shade of the protective overstory or shelterwood. Eventually, the shelterwood is removed when the new stand underneath is well established.

Usually, the best trees and the smaller ones of good quality are left to thicken until the final cut.

Shelterwood cuttings are adapted to evenaged stands of most species except the very shade intolerant. Evenaged stands of white pine and northern red oak are best managed by this technique.

## **Clearcutting**

Clearcutting removes all of the trees in the immediate cutting area in one operation. It is the simplest method, but not always the best.

Clearcutting in strips or blocks no wider than three to four tree heights usually permits adequate restocking of the cut-over land with seed from surrounding trees.

Clearcutting as commonly applied is poor forest practice. Larger clearcuts often fail to regenerate properly. In any case clearcutting creates an abundance of unattractive slash.

Some points on actual cuts will be covered in a future article, the last in a series on Upland Management for cranberry growers.

*(Compiled and edited from sources at the University of Massachusetts.)*

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General Splice Corporation offers Minet® GSC liquid plastic for repair of conveyor belts used in any farm operation. It is designed for good impact strength, abrasion resistance, and flexibility in the repair of the belt carcass and damaged cover stock, according to the maker. It can also be used to cover recessed metal fasteners and steel at wear points. Since it does not require machines, pressure or heat, it can be applied in the field and can be used 20 minutes after application.

Write General Splice Corp., Box 158, Croton-on-Hudson, New York 10520.

\*\*\*

A Dutch firm offers a field sprayer covering sections up to 82-feet wide at a time powered by a pump with a 55-gallon-per-minute output. The system, which can be

## Ag. Notes...

### WASHINGTON

Warmer temperatures than normal in early spring made it possible for cranberry bogs to initiate early and heavy blossoms. Peak bloom was June 20, eight days earlier than 1976. The weather cooperated during bloom period and was ideal for pollinization.

Precipitation for the second quarter of 1977 was 1.90 inches less than the same period of 1976.

Month	1977	1976
April	2.17	5.44
May	5.37	3.38
June	2.03	2.65
	9.57	11.47

Long Beach, 1st 6 mos. . . . . 29.05  
 Grayland, 1st 6 mos. . . . . 26.99

Precipitation for the first six months of 1977 showed 16.93 inches less compared to the same period of 1976.

Predicted berry maturity will be close to September 14, 1977.

truck mounted, has an adjustable mechanical agitator system, a 793-gallon stainless steel tank, a piping system fully resistant to liquid fertilizer, a closed safety cabin housing the central control unit, and a fully balanced spray bar. Spray height is adjustable from 1½ to 6½ feet above ground level.

The sprayer can be ordered through the J. I. Case Co., Racine, Wisconsin. For details, write the Netherlands Consulate General, One Rockefeller Plaza, New York, NY 10020.

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*Bees and Honey*, a four-page monthly newsletter, lists new publications, pertinent new research, and a variety of items for beekeepers. Yearly subscription for 10 issues, September to June, is \$4.00. Half-year subscriptions from January to June are \$2.50. Make checks payable to University of Illinois, and send to Agricultural Newsletter Service, 116 N. Mumford Hall, University of Illinois, Urbana, IL 61801.

*Beekeeping in the Midwest* is a 169-page book of information for getting started in beekeeping, including how to make some of the equipment needed. Helpful tips are also included for the established beekeeper. Cost of Extension Circular 1125 is \$1.50. Order from Agricultural Publications Office, 123 Mumford Hall, University of Illinois, Urbana, IL 61801.

\*\*\*

*What Every Grower Needs to Know About Farm Worker Safety* is a pamphlet that briefly describes and tells how to obtain more information about such topics as employee housing, California/OSHA recordkeeping, safety regulations regarding equipment, first aid, employee training, pesticides, worker transportation, and sources of farm safety information. The pamphlet is available from the Cooperative Extension, USDA, University of California, Division of Agricultural Sciences, Berkeley, CA 94720.

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## Mass. Station

July was slightly on the warm side, averaging 0.8 degrees a day above normal. Maximum temperature was 94 degrees on the 19th and minimum 48 degrees on the 27th. Although July overall was not particularly hot, we did have a heat wave (for us anyway) about mid-month. On the 16th shelter maximum was 89 degrees and then from the 17th to 21st we recorded 91, 92, 94, 93, 92 as the daily maximum. We have never recorded 5 consecutive 90 degree days before, but have made 4 in a row in August, 1953, August 1949 and August 1948. Strangely enough, July 1952 was much hotter on average but could only manage three consecutive 90 degree days, but did it twice in a 10 day period. Warmer than average days were the 5th, 19th and 16th-21st. Cooler

than average days were the 8th, 10th, 22nd, 25th, 27th and 30th.

Rainfall was on the light side, totalling 1.70 inches which is about 1-1/5 inches below normal. There was measureable rain on only 6 days with 0.93 inch on the 25th as the largest storm. We are about 4 inches above normal for the year to date and nearly 7 inches ahead of 1976.

I.E.M

## Washington

July rainfall totaled .88 inches or about .63 inches below average. There was measurable precipitation on 19 days which gave a rather "damp" July for the tourist, but for the cranberry grower, a continuation of the lack of water. The September 1976 through July 1977 precipitation is 43.86 inches, well below the average for that period

which is 83.13 inches. The need to irrigate regularly each week to supply adequate moisture to the growing crop, has caused a heavy drain on the storage pools. Also frost danger on five scattered nights used more of the water so the pond levels are getting low. With a continued lack of precipitation, the water harvest area of Long Beach will be pressing their luck. Grayland area wells are showing some drop, but water is not a harvest need for them. Only time will give the outcome. The March and May precipitation helped to restore the water table at that time, yet there is no ground storage to be tapped at this time. Our Peninsula has adequate water at present to allow the normal use, but with the large influx of vacationers, full facilities will be taxed. Conservation in all use of water is recommended.

July temperatures were about normal, with the maximum temperature 75 degrees F recorded in the 24 hour period previous to 8:00 a.m. July 8 and 31st. Minimum 35 degrees F on the 7th, 18th, 19th, with thunder and lightning storm which caused some spot fires in the overall area, due to the dryness.

August 1st issue of *Cranberry Vine* includes Questions (and answers) from Field Day, June 24, 1977, as well as pertinent information on cranberry growing on the West Coast.

A.Y.S.

## New Jersey

The drought was extended as July became the ninth consecutive month with below normal rainfall. The total precipitation was only 1.50 inches, or 2.95 less than normal. For the first seven months of the year the accumulated deficiency of rainfall is 8.68 inches.

As of the end of July some cranberry reservoirs at Whitesbog



AGWAY

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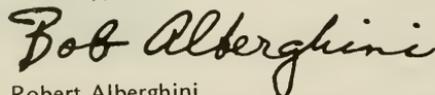
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were completely dry and water at critically low levels throughout the state. There was significant damage to the crop. Vines outrightly burned up in some localized areas. Considerable blossom blasting and sun scalding of newly set berries occurred on bogs where the water supply was short.

Some of the most sweltering temperatures ever experienced occurred here July 13-July 22. Average maximum temperature was 95. During the month there were 12 days in the nineties and two in the hundred degree range. The 100 degree reading on July 19 and 101 degrees on July 21 were new record high temperatures for this date at Pemberton. At Chatsworth closer to the main cranberry region, it was 104 degrees in the weather shelter on July 21.

The changeability of weather in New Jersey is shown in the fact that the record highs of 101 on July 19 and 100 on July 21 were followed by record lows of 46 degrees on the 28th, 48 on the 23rd, 48 on the 27th and 49 on the 25th. These and other cool nights brought the average temperature down to 75 degrees, which is only 0.1 warmer than normal.

P.E.M.



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## FmHA Loans Available To Waterless Farmers

Rural areas that have suffered substantial losses and hardships due to a diminished water supply caused by abnormal drought conditions may be eligible for loans and grants from Farmers Home Administration (FmHA).

Loans and grants are part of a program of special federal assistance to drought-stricken areas announced recently by President Carter. FmHA is a rural credit service of the U.S. Department of Agriculture (USDA).

The special FmHA loans and grants may be made to eligible applicants in federally-designated drought disaster areas when needed to provide an adequate water supply to those communities faced with severe problems as a result of the drought conditions.

Assistance may be provided for the construction, enlargement, extension or improvement of water facilities to improve drought caused problems. This assistance may include, but would not be limited to, deepening existing wells, drilling new wells, developing a new water source or extending water supply lines to other water sources.

Also, loans and grants will be available to those rural communities that have a diminished water supply caused by the drought condition.

Loans covering actual losses are made at an interest rate of five percent and are scheduled for repayment as rapidly as feasible consistent with the applicant's ability to pay. Loans beyond actual losses have various maturities, depending upon the purpose of the loan.

The interest rate for short-term loans for farm operating purposes is eight percent. Long-term loans are being made at an interest rate of five percent.

To be eligible for an emergency loan, an applicant must have suffered losses from the disaster and be unable to get credit from other sources.

Emergency loans can be used to help the farmer restore damaged farm operations and additional loans based upon the emergency designation can be used to reorganize the farm for greater efficiency and better production.

## OBITUARY

**DR. KENNETH G. WECKEL**

Dr. Kenneth G. Weckel, professor of food science at the University of Wisconsin—Madison, died July 9 at his summer home near Oostburg, Wisconsin.

Ken Weckel devoted his life's work to problems of the Wisconsin dairy and food processing industry. He received many accolades and recognition for his work, including the 49er Award of the Food Processors Suppliers at the NCA Convention, New Orleans, this past February.

Ken was currently associate director of University Industry Research with his office at the Wisconsin Alumni Research Foundation (WARF) in Madison. He was scheduled to return to Egypt to finish a project there at the time of his death.

He is survived by his wife, Genevieve.

**1,025 MILLION BARRELS**

*Continued From Page 5*

the ditches, are symptoms typical of oxygen deficiency. However, the classic symptom of oxygen deficiency—leaf drop—was not present in the spring. Because of the large amount of ice-sanding and heavy snow cover on the ice it was expected that oxygen-deficiency injury would have been apparent.

It is now obvious to some growers that oxygen deficiency or some previously unknown condition has caused a serious reduction in their 1977 crop potential. There are now estimates of a crop reduction of nearly 10% due to a poor set.



Each of these dips is easy to make ahead of time, and really too good to save only for company occasions. Give the family a treat, and start a dinner or weekend lunch with these taste treats.

### CREAMY CRANBERRY FRUIT DIP

(Makes about 3 cups)

*Dip:*

- 1 pkg. (8 oz.) cream cheese, softened
- ½ cup whole berry cranberry sauce
- 1 cup (½ pt.) sour cream
- 1/3 cup finely chopped nuts

*Dippers:*

- Pineapple chunks
- Strawberry halves
- Orange sections
- Seedless grapes
- Banana chunks

Mash cream cheese in a bowl until soft and fluffy. Gradually beat in cranberry sauce and sour cream. Fold in nuts. Chill until ready to

serve. Serve with fruits to use as dippers. If desired, peel a large honeydew melon and slice off top and remove seeds. Slice a small piece from bottom of melon so it stands level. Serve dip in melon.

### CRANBERRY YOGURT VEGETABLE DIP

(Makes about 3 cups)

*Dip:*

- 1 pt. (16 oz.) plain yogurt (2 cups)
- ¼ cup chopped scallions
- ½ cup sieved jellied cranberry sauce
- ¼ cup well-drained pickle relish

*Dippers:*

- Thin raw carrot slices
- Green pepper strips
- Whole cherry tomatoes
- Thin raw zucchini or cucumber slices
- Sliced raw mushrooms

In a bowl, mix first four ingredients and chill until ready to serve. Serve with vegetables to use

as dippers. If desired, hollow out a head of green cabbage and use it to hold the dip.

### SPICY CRANBERRY SHRIMP DIP

(Makes about 2½ cups)

- 1 cup cranberry-orange relish
- 2 tbsp. bottled horseradish
- 1 cup catsup
- ½ cup finely chopped sweet pickled cherry peppers
- Large cooked, shelled and deveined shrimp (or scallops, chunks of lobster or crabmeat)

In a bowl, mix all ingredients except shrimp. Chill until ready to serve. Serve surrounded with shrimp to use as dippers. If desired hollow out a large round loaf of Italian or pumpernickel bread leaving a shell ½-inch thick. Place the bowl of dip in the center and hook shrimp over the edge of the bread shell. Garnish with parsley sprigs or carrot tops.

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### Editor's Note

Readers of *Cranberries* are invited to offer suggestions and tips for inclusion on these pages in each issue which are largely devoted to items of interest to women. Items of women in the world—in business, agriculture, politics or at home—are especially invited. Every consideration possible will be given to the use of submitted material.

# Ag Officials Seek to Protect Farmlands

Phillip Alampi, New Jersey's secretary of agriculture, continues to go to bat for the land interests of that state's farmers.

In June, he testified at a hearing in Washington, D.C., on a bill to protect farmland by establishing a national agricultural land policy. He called the loss of farmland "an endangered national resource."

And in Boston, Frederick Winthrop, Jr., commissioner of the Massachusetts department of food and agriculture, wrote to *The Globe* defending the state's proposed Agricultural Preservation Restrictions Bill for "the conservation for all the people of a priceless irreplaceable resource—topsoil," says Alampi.

Alampi said he favored the U.S. bill because it didn't authorize the federal government to regulate the use of private land nor to deprive owners of land of their rights to property or income from the sale of property.

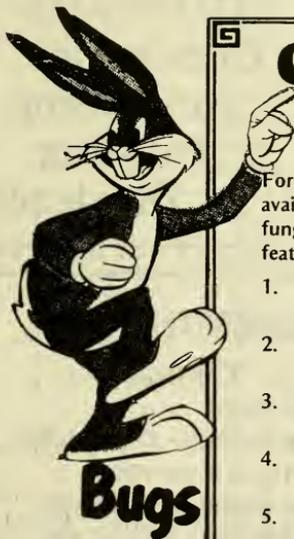
"It does not diminish in any way the rights of property or income from the sale of property."

The bill (H.R. 4569) proposes the establishment of a national policy concerning agricultural land, an Agricultural Land Review Commission and a demonstration program for protecting farmland from being used for nonagricultural purposes.

Winthrop pointed out, "Good farmland is special, is scarce and is

the farmer's factory which annually produces food and fiber for all. Once this factory is 'consumed' by being chopped up, paved over or built upon, production ceases, farm employment and farm dependent jobs are gone. We must then pay citizens of other states to raise and bring us our food, and must find jobs for unemployed farm workers.

"By placing permanent agricultural preservation restrictions on this land we will be insuring that the state has food land in the future and that people who wish to farm will be able to buy farms at prices which farming will support. Without such a program, I believe that only the independently wealthy will be able to afford a farm," he concluded.



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# Mass. Researchers Test EL-171 On Nutsedge, Cutgrass

Researchers at the cranberry experimental station of the University of Mass., Wareham, Mass., are testing an experimental herbicide, code #EL-171, according to a report from Robert M. Devlin, for its effect on nutsedge and cutgrass.

The activity of EL-171 when absorbed by the plant resembles that of Evital. It is absorbed primarily through the roots and translocated to the shoot. EL-171 adversely affects the photosynthetic mechanism in the shoot by causing the plant's chlorophyll to bleach.

Field studies indicate that EL-171 could be a commercially

## Where There's a Will, You'll Get Your Way

Wills are not just for people with a lot of money to bequeath. No matter how few assets you think you have, the American Council of Life Insurance recommends that you have an organized plan to dispose of them in the event of your death.

Such a plan, the Council points out, has two purposes: to dispose of your property to the heirs you select, and to avoid possible difficulties with estate taxes.

If you have accumulated many assets, you may need an elaborate estate plan. But everyone should have at least a will. Without one, your property will be distributed according to state laws, and the distribution may conflict with your desires.

Owning property jointly is not a substitute for a will. Federal estate tax law assumes that jointly held property actually belongs to the owner who dies first and should be included in his or her taxable estate.

useful herbicide for cranberry growers. However, only an aqueous spray of the herbicide has been tested and vine injury somewhat similar to an overdose of Evital has been observed. It is felt that a granular formulation would be safer to use.

"In the laboratory we have studied the mode-of-action of EL-171 and again have found it similar to Evital," says Devlin. Chlorophyll production by wheat and corn treated with the herbicide and grown under high light intensity (1000 ft-c) is markedly reduced. Corn and wheat germinated from seeds treated with 5 ppm EL-171 and grown for six days are almost completely bleached. Under low-light intensity (10 ft-c) the influence of EL-171 on chlorophyll production is greatly reduced and under very low light intensity (2 ft-c) almost completely lost.

"The effect of light on the activity of EL-171 suggests that the inhibition of carotenoid production may represent the mode-of-action of this herbicide. Our studies show that the carotenoid content of wheat or corn drops dramatically when these plants are treated with EL-171," he concludes.

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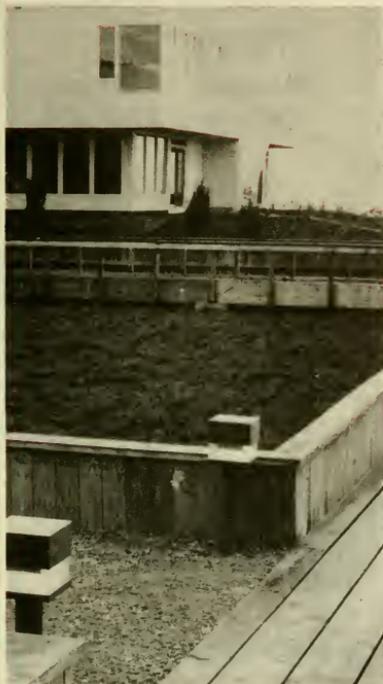
Vol. 43, No. 9

September, 1977

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UNIV. OF MASS.



Boardwalks facilitate visitor views of the finely honed bogs surrounding Ocean Spray's new seaside corporate offices in Plymouth, Mass. Moving Day was in mid-September; grand opening events are planned for early October. See Story, Page 3.

## *'77 National Forecast*

PAGE 1

## *USDA's Crop Reporting Service*

PAGE 7

## *Cape Cod Growers Meet*

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## *Women on the Farm*

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## *Cranberry Festival*

PAGE 13

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# DIRECTORY for cranberry growers



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# USDA Predicts 2.2 Million Barrel Harvest

U.S. agricultural experts now predict a 1977 national harvest of 2.2 million barrels of cranberries, almost a 10 percent drop from the final 1976 figure of 2.377 million barrels.

Forecasters look for a rise in production in Washington and Oregon and a drop-off in production in Eastern growing areas.

Byron S. Peterson, agricultural statistician in charge of the New England Crop and Livestock Reporting Service, issued the nationwide results this month. The statistics are a service of the U.S. Department of Agriculture's crop reporting board (see story, page 7).

Severe winter weather or prolonged drought are the major reasons cited in all areas for changes in crop fortunes.

Massachusetts is expected to regain the lead in total berries grown, with Wisconsin dropping well behind in second place, according to Peterson's staff of experts.

Total crop forecast in Massachusetts is 920,000 barrels, not a new high by any means and roughly 2 percent off the 1976 total. Yet, the forecast is still an increase of 17 percent over the 1975 total.

According to Peterson, growers report that berries are sizing well, following an average-to-heavy bloom and an average fruit set. Massachusetts endured some heavy winter weather and a period in June of high temperatures and little rain.

Peterson's staff predicts a Wisconsin harvest of 790,000 barrels. That, according to Peterson, is 21 percent off the record 1976 total and 6 percent below 1975. Berry set reportedly was good in Wisconsin but that state endured a notoriously dry 1976, a severe winter following, and still a lingering lack of sufficient rain. The harvest is nevertheless one to two weeks ahead of schedule, says the USDA.

New Jersey, the third leading producer, is expected to harvest some 220,000 barrels, a 20 percent drop from 1976. "Berry sizes vary considerably due to a combination of winter injury, spring frost damage, and hot dry July weather," says Peterson.

On the West Coast, predictions are more optimistic.

Washington's crop is predicted at 149,000 barrels, up almost 50 percent over the 1976 harvest of 103,000 barrels. The state recorded a 1975 harvest of 135,000 barrels.

Washington's good fortune is attributed to a mild winter and favorable spring, which produced an early heavy bloom and "excellent" fruit set.

Oregon's crop is not so improved but is forecast at 95,000 barrels, 6 percent above the 1976 crop. An early frost and a summertime drought have plagued growers, in spite of an above average bloom set.

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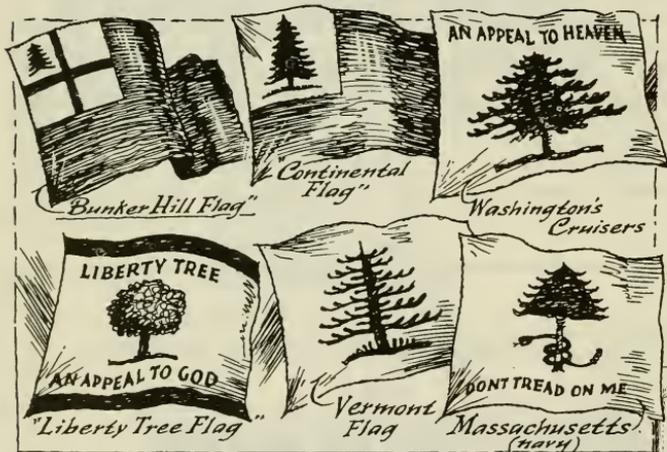
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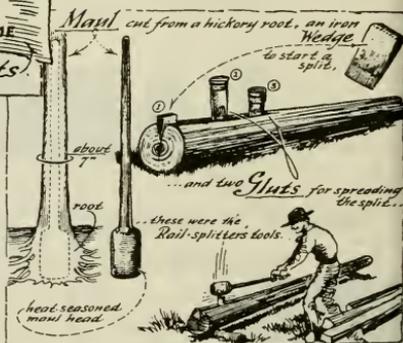


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Approaching Ocean Spray's new headquarters from the ocean side, one clearly sees the fine blending of 'the old clam factory' in Plymouth, Mass., with the architect's modernized version of 'a factory motif' as a showplace for cranberry products.

## Ocean Spray Offices Open in Plymouth As Showplace to Promote Berry Sales

New corporate offices of Ocean Spray Cranberries, Inc., the nation's largest grower cooperative in the cranberry business, have opened in Plymouth, Mass., with delight from some and questions from others.

A work force of 150 persons moved in mid-September from its headquarters building in Hanson, Mass., to a waterfront edifice that's a strange combination of the old and the new.

A major part of the five-acre complex is a stone building that opened in 1912 as a clam processing facility. Ocean Spray acquired the site in late 1976, looking to expand its corporate office space because of the lack of space and suitability of the Hanson site.

The useful section of the stone building has been completely rehabilitated. Existing wooden structures were razed and a new wooden building of 26,000 square feet of office space added. Total space is 42,000 square feet.

Designers have kept with the theme of a "mill building." Laminated wood post and beam construction has been used extensively. Decking is exposed wood while

ceilings are tongue-and-groove wood. Pine, brick, and glass are major construction materials throughout the five-level building.

In an energy-saving move, the interior is illuminated by "task lighting" fixtures which focus light only where it's most needed. The fixtures are reminiscent of a 20th century factory.

When first announced, the plans for new offices were deemed by

some to be lavish and an unwise return on investment for a growers cooperative. But top Ocean Spray executives and directors, many of them likewise growers, persevered and the plans were carried out. The belief is strong that the site will prove to be another major attraction on the historic Plymouth waterfront and an exceptional opportunity to promote the sale and use of cranberry products. A half-million visitors annually make the pilgrimage to the town where the nation's first hometown folks settled.

A major part of the facility is "Cranberry World," a unique museum. The site itself is attractively landscaped and surrounded by three-quarters of an acre of cranberry bog.

The bogs, spanned by wooden foot bridges leading to the office building, were transplanted this summer from Carver, Mass.

Cranberry World traces the berry from pre-cultivation days to contemporary times, in the process offering visiting historians a unique point of view of early America.

A six-foot tall wooden maze depicts on the exterior of the building the composition and cycle of a cranberry bog. Bas-relief sculpture shows the layers of clay, peat and sand of a bog. Carvings of giant berries, insects and animal life,

*(Continued on Page 16)*

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# Senator Brooke Concerned With Natural Resources

If energy concerns continue to grow, what will happen to conservation of the nation's natural resources?

Good question, and one that Massachusetts Republican Senator Edward R. Brooke is trying to answer.

Senator Brooke recently filed S1481, a bill to reorganize the executive branch by establishing a Department of Environment and Natural Resources.

The Cabinet-level office would consolidate the functions of the Environmental Protection Agency, the National Oceanographic and Atmospheric Administration, and certain functions of the Departments of Interior, Agriculture, and the Army.

The bill was filed in response to the creation of a Department of Energy. James Schlesinger was recently named secretary.

Sponsors of the bill expressed concern that energy interests would become so powerful when consolidated under a cabinet post that counter concern for natural resources would be overwhelmed.

Environmental and natural resources interests are widely scattered. And, they are represented by agencies whose status would not be as high or powers as broad as a new Secretary of Energy would be.

Says Senator Brooke, "It is time we look at the broad spectrum of conservation activities in the context of our new national understanding that we have an ecosystem in which our lands, our air, our water and oceans, and all our natural resources, are so closely interconnected both biologically and politically that programs dealing with one can never be handled in isolation from programs dealing with others."

## CRANBERRIES

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MAGAZINE

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# Washington Scientists Answer Grower Questions

(Scientists of research and extension units at Washington State University met with growers in that state recently to answer questions in their areas of expertise. Dr. Carl Shanks, Jr., entomologist, gave the answers to questions regarding insecticides; Azmi Y. Shawa, associate horticulturist, answered questions on herbicides; and Dr. Peter R. Bristow, assistant plant pathologist, answered questions on fungicides.)

## *Insecticides*

**How do I get rid of slugs around the bog?**

There is nothing registered for control of slugs in cranberry bogs. If control of slugs on the land around a bog is desired, a bait containing metaldehyde may be used. The bait should contain no other pesticides. Apply it according to directions on the label and pay close attention to any warnings concerning protection of wildlife or other animals from the bait.

**I tried parathion for the first time this year with a mask and had a smell. Is that normal?**

An official of the US Public Health Service laboratory told me the odor may have been due to impurities in the parathion. He said to make certain the mask and filter cartridges are approved for pesticides. If cartridges are changed after no more than eight hours use, they should give good protection from the insecticides.

**Is it true that weevils tend to cross where you don't have a water barrier?**

The adult black vine weevil cannot swim or fly. Therefore, it cannot cross the ditches around the bogs unless they are dry or bridges of some type are present.

**Is there anything we can do about weevils now?**

If diieldrin is available, it may be applied in the spring before bloom. However, it is my understanding that Ocean Spray Cranberries, Inc. will not accept cranberries from bogs that are treated with diieldrin after spring, 1978.

**Can diieldrin be applied during bloom?**

The answer is "no." It would kill bees and could also result in illegal

residues of diieldrin on the fruit. Diieldrin-treated plant material should never be fed to livestock because of possible contamination of meat or milk.

## *Herbicides*

**Does lower acidity effect horsetail and other weeds?**

Yes, they do not like the lower pH soil conditions.

**What kills silverleaf?**

Apply, in Feb.-Mar., a combination of casoron, simazine, 2,4-D.

**How can I get rid of watercress in ditches?**

Use 2,4-D Aqua-klean or casoron AQ-10 when water in ditches is low.

**When applying casoron in the spring as weed control, what amount of N should be used to bring vines back to vigor?**

Start with 5 lb N/A and gradually increase according to individual bog response.

**What is the best time for application of lime or sulfur for control of lily of the valley?**

Experimental plots were applied in January but any time following harvest would be acceptable, allowing the rain to wash the product into the bog.

**What will eliminate louse grass?**

Evital showed good results when applied after harvest/November. Also, casoron, simazine, 2,4-D mixture at a time when weeds are in early growth stage, Feb.-Mar.

**Can Evital be applied to any advantage right after harvest or wait until spring?**

It is best to wait for spring. CIPC will control grasses growing at that time. Evital controls rice cut grass primarily, some control on other grasses, apply early spring.

**We have purple aster; will evital control?**

No, use split application of casoron, simazine, 2,4-D in 2 or 3 applications. Suggest February, March, April.

**How do you kill cotton top?**

Dalapon 10 lb/A after harvest will control cotton top.

## *Fungicides*

**How do fungicides protect the foliage against spore development?**

Fungicides are poisons and when applied to cranberry foliage they provide a toxic barrier between the fungus (usually a spore) and the plant. When the concentration of the fungicide is high enough, the spore fails to germinate or grow, or if it does germinate, the fungus is unable to infect (penetrate) the plant.

**Does it help to clean pruning machines between sections to minimize fungus spread?**

*Continued on Page 12*

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Owners of prime farmland in the cranberry growing region of Burlington County, New Jersey, have responded in unexpected number to the state's experimental Farm Land Preservation Demonstration project.

Farmers had offered 18,611 acres of land to the state for development easements by the cutoff date of August 1.

Under the plan, farmers retain their land and continued use of it for crops but "sell" their right to develop the land for other purposes.

Original expectations of State agricultural officials were for an offering of some 10,000 acres. The project is experimental but will be expanded throughout the state if proven successful in Burlington County.

"We are surprised and pleased" at the acceptance shown by farmers, said the state's secretary of agriculture, Phillip Alampi.

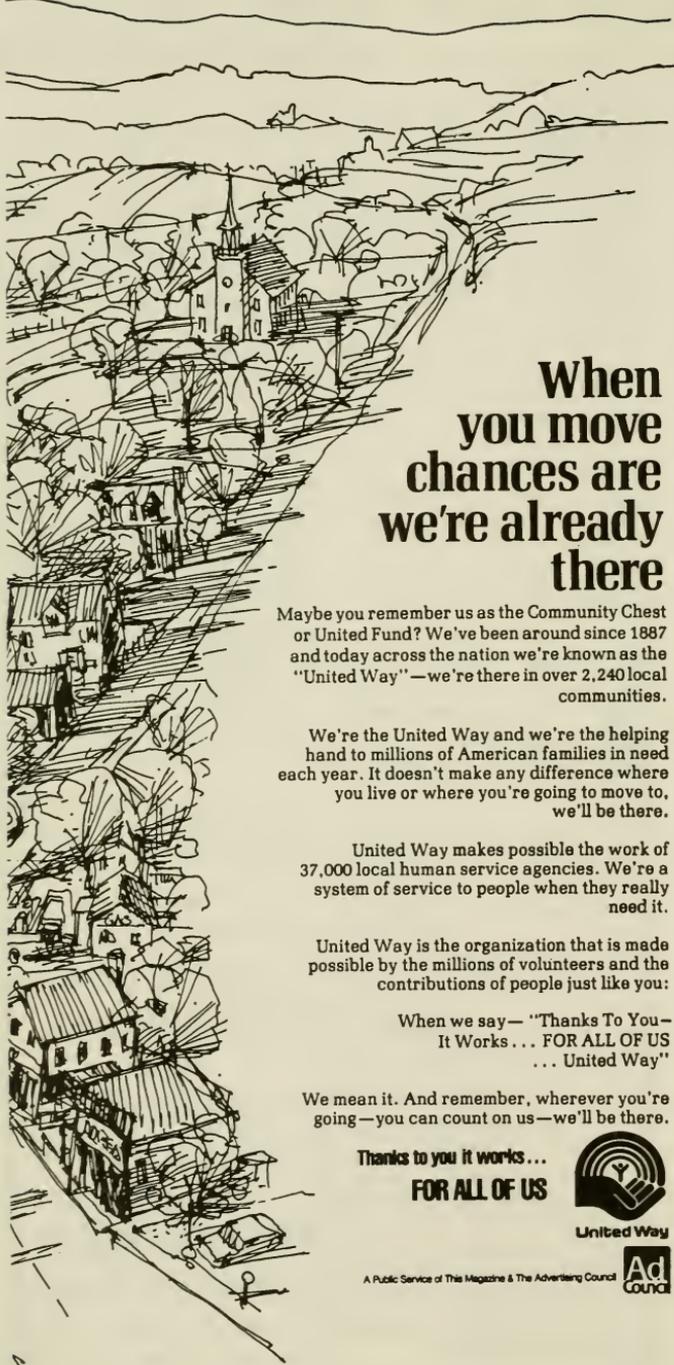
State representatives are working with local experts in appraising the worth of the farmlands involved. Selection by the state of the parcels of land offered for appraisal will be made by October 1, 1977.

Alampi has become somewhat of a champion of the preservation of farmlands. He recently told a conference of farm broadcasters "There is the distinct possibility that we may someday simply run out of prime productive farmland."

He added that with continued population growth, there will be a need to double the world's food production in the next 25 years.

"There is little doubt that our nation must shoulder a major part of that effort if our own citizens are to have adequate food and still permit us to export substantial volumes to less developed nations

"If we produced today's food supply with the efficiency and techniques available 50 years ago we would need seven times as many farmworkers—31 million instead of 3.4 million employed today," Alampi said.



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Thanks to you it works . . .  
**FOR ALL OF US**



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# USDA's Crop Reporting Service Yardstick For Production Planning, and Marketing

Tired of filling out forms for the state and Federal governments? Maybe so, yet one of the most important forms a grower could file is that for the USDA's Crop Reporting Service.

Not all growers are asked to report, but most every grower uses the results. Statistics provided by the USDA, in cooperation with departments of agriculture in each state, have proven to be the most accurate measure of a farmer's success or failure. More importantly, they are usually the yardstick against which farmers of all sorts plan future production and marketing efforts.

Magazine, agricultural college staffs and extension services, the USDA and state agricultural departments, cooperatives, farmer organizations, suppliers, and friends are all sources of advice. But the best course is the answer to the question, "What's the situation?"

That's the purpose of the Crop Reporting Service in each state, a service begun more than 100 years ago.

Farmers are sampled in all 50 states, usually by mail but by personal contact in many instances. The data you supply cannot legally be supplied to any other persons or agencies, such as regulatory agencies, tax offices, or even the courts. It is solely for statistical purposes.

The information thus supplied by farmers has made the reports the most timely and accurate set of statistics in the world, say some.

The uses of agricultural statistics, published on both a regional and national basis, are many.

Cranberry growers want to know what other growers are doing. Is production increasing or decreasing? How does my production per acre compare to others? Is the total supply of berries expanding? What recommendations should be made to the marketing cooperatives? Is it

a good time to expand acreage?

When a large crop is forecast, for instance, government agencies and agribusiness may be able to help dispose of product more profitably. Some farmers may plan to harvest and sell early, contract ahead or use futures.

Economists and other forecasters use crop and livestock reports to project the marketing and price trends that appear in farm magazines, trade journals and farm meetings.

In the words of one statistician, "the essence of farm bargaining power is to be as well informed as the buyers." Crop reports help even things out.

Farm equipment manufacturers and suppliers are also users of crop reports. They want to plan their own production in relation to need. Of course, shippers and processing companies rely on crop reports, too.

Crop reports have been compiled since May, 1863, and cover field crops, fruits and vegetables, livestock, milk and eggs, flowers, nursery products, honey, mushrooms, and even fur animals.

Only the statistical facts are presented. No economic interpretation is issued by the USDA concurrent with the crop reports.

Until recently, surveys were conducted by rural mail carriers who dropped off questionnaires at various farms on their routes. Farmers who responded were sometimes contacted at a later date for verification or further information.

Today, surveys are a bit more selective, although many farmers are multiple producers. The survey lists are constantly refined and are today, of course, more complete and reliable than ever.

Large lists of producers and growers are culled for selection by computers, in most states. In one state, for instance, one out of every

20 dairy farms are surveyed and one out of five potato growers are surveyed.

The sample size is selected to minimize costs while maintaining the reliability which is apparent when numbers are sufficient.

Some commodities are produced by so few farmers that all producers of a certain commodity are contacted in any survey about that item. Additional, special surveys are made by the Crop Reporting Service on production costs, farm machinery prices, numbers of fruit trees, and maple syrup production.

Each June, field interviewers visit sample land areas throughout the nation. The sampling involves aerial photos, land use, planted crops, and livestock counts. Farmers in the sample areas are matched against farmers on the Service's survey lists to verify completeness of the lists.

Techniques to estimate yields have changed, somewhat. Underground crops, of course, are more difficult to estimate.

According to one source, onion and potato crops are estimated by samples dug from fixed-size plots in sample fields and weighed, sized

*Continued on Page 10*

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# Cape Cod Cranberry Growers

On Tuesday, August 30, 1977 at the Cranberry Experiment Station in Wareham, Mass., the Cape Cod Cranberry Growers Association held their 90th annual meeting.

The meeting was an all day affair beginning with displays of various machinery and supplies by local businesses.

After groups toured the adjacent state bog and 100 plus guests sat down to a barbecued chicken dinner with cranberry sauce, President Kenneth Beaton called the



Keynote speaker Thomas H. Jukes

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annual meeting to order. Skies were cloudy and thunder could be heard throughout the afternoon, but rain held off until the meeting had ended.

Among the speakers heard during the afternoon were Rep. Tom Lynch, Kenneth Beaton, Dave Mann, Philip Good and Dr. Chester Cross. Rep. Thomas Lynch, chairman of the subcommittee on land use control gave mention to his support of Senate Bill #888 which deals with development rights of farmers. Kenneth Beaton spoke of the many committees and services the CCCGA has developed and used this year. Dave Mann brought growers up to date on the accomplishments of the legislative committee. The committee is still working to have the assessment values lowered. They are also working on a new act and expect the decision for this to be announced in October.

Philip Good stated that the Farm Bureau Federation has been working on the farmers' land right, a pesticide bill, and water rights. Mr. Good spoke in detail on all of these.

Dr. Cross commented about a pesticide bill. The state has to enact a pesticide plan acceptable to the E.P.A. He hopes for a plan where Massachusetts can register pesticide material for minor crop use.

Also giving speeches early in the program were U. Mass. Dean Ross Whaley and State Representative Charles Decas.

One of the lighter moments of the day was the presentation of a cranberry scoop to "The Old Salt," Rev. M. Barker, by Prof. William Tomlinson. The scoop was in appreciation for his weather observing and frost warning services to the

association.

The guest speaker of the afternoon was Thomas H. Jukes. M. Jukes is from the Space Science Laboratory of the University of California at Berkley. He spoke of the cancer causing substances in foods.

Nominations for officers for the year 1977-78 was read by Robert St. Jacques. The slate was unanimously accepted as read and is as follows: President, David B. Mann; 1st Vice President, John C. Decas; 2nd Vice President, Clark A. Griffith; Secretary/Treasurer, Irvin E. Demoranville; Directors, George J. Andruk, William M. Atwood, Kenneth Beaton, Arthur M. Handy, Robert B. Hiller, Paul R. Morse, Alfred L. Pappi, Robert H. S. Jacques, Willard A. Rhodes; Ex-officio Director, Dr. Chester E. Cross; Honorary Directors, Ruth I. Beaton, Joseph L. Kelly; Nominating Committee, Paul R. Morse, Clark A. Griffith, Willard Rhodes.

John Ropes of Ocean Springs stated the marketing prospect. This year he expects an 8 percent



Prof. William Tomlinson presents scoop to Rev. Barker

*Story and Photos by  
Joseph LaGambina and  
Deborah J. Cobb*

# Annual Meeting



Some of the 100 plus growers attending

Informal discussions among the growers

increase in the sale of fresh fruit. They are looking for a 13 percent gain in the sale of cranberry juice cocktail, but sales of cranberry sauce are down. He predicted per-barrel returns to be more favorable.

George Andruk, representing the United Cranberry Growers Association, says juice products have doubled over last year. They will have no fresh fruit or processed sauce this year.

John Decas of Decas Brothers has prospects for 100,000 barrels this year and next. He says that "we won't have enough supply to meet the demand." There will be more fresh fruit next year over this year.



Some of the equipment on display

The crop forecast for this year was presented by the U.S. Department of Agriculture statistician, Byron Peterson. The forecast is for 10% less than last year. Last year the industry harvested 2,400,000 barrels and this year the prediction is for 2,174,000 barrels. Details can be found elsewhere in the magazine.

President Beaton concluded the meeting by accepting a motion to adjourn, and just in time—for as the growers were talking with the speakers the thunder grew louder and the predictions made earlier in the day came through graciously. Hopefully, the expectations of the day's speakers will come through just as graciously.



New president Dave Mann and retiring president Ken Beaton

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# Women Increasingly Involved in Farm Decision

Do you grow the berries while your wife makes the pies, and never the twain shall meet?

If so, your farm and home life-style is one gradually diminishing from the rural American scene.

Some 82 percent of respondents to a recent survey say that farm women are far more involved in the business side of farm operations today than their mothers had been. What's more, 68 percent feel that such a major and active role is a must, if the farm is to be successful.

At least, those are the conclusions drawn from a survey of 2,000 farm women published recently in *Farm Forum*, the magazine of International Harvester.

Although a woman's place is still primarily the kitchen or the nursery, increasingly her role has become one of side by side management.

However, according to some conclusions drawn from the survey,

farm women are not very much involved in women's lib and the final decision still rests with the man of the house.

Here's how the survey went.

In answer to the question, "In your own household, who is responsible for the major decisions on management practices and purchases directly related to farm or ranch operations," the man was ultimately responsible 49 percent of the time when decisions are shared; when not shared, the man was responsible 31 percent; when shared equally, 18 percent. Women had sole responsibility for decisions in one percent of the households surveyed.

Where the farm wife was asked directly of her responsibility, 50 percent replied that they shared equally with their husbands in home and farm management decisions. At least 44 percent of the women said most or all of their

responsibilities were concerned with the management or operation of the farm.

On the specific question of women's liberation, the answers varied. Only 7 percent were strongly in favor of it; 23 percent were "somewhat" in favor; 23 percent were strongly opposed; 18 percent "mildly" opposed; and 28 percent didn't care either way.

The survey also asked respondents about their involvement in telling the farmer's story to non-farmers and working for legislation to benefit farmers.

Some 52 percent of the respondents said they should be actively involved, and 31 percent felt that the woman of the house should be no more nor less involved in political type activities. A mere 1 percent thought that women should not be involved in these activities at all.

The trend, said 71 percent of the women in a concluding question, is for farm women to become more actively involved in community activities and organizations.

## USDA's CROP REPORTING

*Continued from Page 7*

and projected to an average size yield per acre for all fields.

How important is a grower's cooperation, and the service provided in turn to growers?

Glenn W. Suter, with the New York Crop Reporting Service, wrote recently, "Without producer participation, the estimating program would not work!

"In the absence of crop and livestock reports, farmers and dealers would face much greater uncertainty about supplies and other factors affecting prices. Risks for both would mount. And remember, the greater the risk the greater the margins required by traders to cover their costs. The lower the risk to buyers, the higher the price the farmer is likely to get."

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# REGIONAL NEWS NOTES

## Mass. Station

Dr. Robert Devlin attended the annual meeting of the Regulator Working Group in Hot Springs, Arkansas from Aug. 8-12. Bob presented a paper at one of the sessions.

The 90th Annual Meeting of the Cape Cod Cranberry Growers Association was held at the Cranberry Station on Aug. 30 with about 200 in attendance. The weather cooperated with rain holding off until one-half hour after the meeting ended.

August averaged 1.8 degrees a day above normal. Maximum temperature was 89 degrees on both the 6th and 11th and minimum was 47 degrees on the 26th. Warmer than normal periods occurred from the 6-9th and 11-12th. Cooler than average days were the 24-26th and 31st.

Rainfall totalled 6.46 inches which is slightly more than two inches above normal. This made it the wettest August since 1958 and the seventh wettest in our records. There were 14 days with precipitation and 2.32 inches on the 22nd was the largest storm. We are more than 6-1/2 inches above normal for the year to date and nearly 7-1/2 inches ahead of 1976. One final note, there were a total of nine days with thunderstorms which is the most for any month that we could check for at least the past 30 years.

The frost warning answering service at the Station, East Wareham, will be in operation with the same telephone number as in the past; namely, 295-2696.

The official crop estimate released by the New England Crop Reporting Service on Aug. 30 indicates Massachusetts with a prospective crop of 920,000 barrels, only slightly less than last year. Water supplies are excellent and berry size appears large, but color

seems a little slow in developing as compared with the last two years. Quality may be a problem on bogs that were not fungicide treated. For the other areas, New Jersey at 220,000 barrels is down about 15 percent, Oregon at 95,000 barrels is up slightly, Washington at 149,000 barrels will be close to its record and Wisconsin at 790,000 barrels will be sharply down from its record 1976 crop. The national crop is estimated at 2,174,000, off about 10 percent from the 1976 record.

I.E.D.

## New Jersey

After eight consecutive months of below normal precipitation, relief from drought conditions arrived in August. At Pemberton there were 13 rainy days with a total of 8.45 inches, which is 3.59 inches

more than normal. At Chatsworth, closer to the main cranberry growing area, the total for the month was 5.06, but an additional 2.66 inches during the first five days of September has alleviated an acute water shortage there.

For the first eight months of the year the accumulated rainfall at Pemberton is 29.87 inches, or 5.09 below normal.

The pattern of very warm days and cool nights established in July was continued through most of August. Although there were 10 days in which the temperature soared into the nineties, the average temperature of 74.0 degrees F was only 0.6 degrees F above normal. On several nights cranberry bog temperatures were in the high thirties.

The recent rains have been very helpful in restoring water supplies on most properties. The shortage is not now serious enough to delay



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Cranberry Growers:

I would like to acquaint you with my new business—that of AGWAY Representative.

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the beginning of water harvest, which will begin around September 10 to 15, depending on coloration of berries. The crop is expected to be 15 to 20% below last year's record 270,000 barrels. Spring frosts and hot dry weather were the chief limiting factors.

P.E.M.

## Washington

The Annual Meeting of the Cranberry Marketing Committee was held Aug. 23 at the Tolovana Inn, Tolovana Park, Oregon. This was the first committee meeting held on the West Coast. The location of the meeting was chosen to provide a site mid-way between the Washington and Oregon growing areas. About 35 attended the meeting, including the Marketing Committee members.

John S. Ropes, Jr., Director-Grower Relations, Ocean Spray Cranberries, Inc., Hanson, MA met with the growers of Grayland and North Beach on Wednesday, Aug. 24 in the Grayland area, and with the Long Beach growers on Thursday evening, the 25th, at the Coastal Unit.

Approximately 80 growers in the Grayland-North Beach area are participating in the Fresh Fruit Quality Survey being conducted in cooperation with Ocean Spray Cranberries, Inc., Markham Plant and WSU Research, Coastal Washington Unit. The purpose of the survey is to study the fresh fruit breakdown problems, if chemical, mechanical, handling or combinations of all three.

August provided a generally warm month with maximum temperature 80 degrees on the 11th. Minimum was 45 degrees on the 31st, with seven days cooler than average. Precipitation totalled 4.83 inches which is more than 2-1/2 inches above normal but slightly less than 1976. There was measurable precipitation on 13 days with the bulk of the rain coming between the 23rd and 30th. 4.71 inches. The largest storm measured

1.45 inches on the 25th and 1.82 inches on the 30th. This precipitation was the first good amount since May, and helped to supply the needed moisture for bogs as well as the entire northwest area.

A.Y.S.

## Nova Scotia

On Monday, Sept. 19, I visited the cranberry bog of Chase and Bezanson and found they had started to harvest berries. They had also started cleaning berries in their new packing shed and things were running well for the first day.

I returned on Sept. 14 from a three-day visit to Newfoundland. While in that province I had a chance to look at the partridge berry industry. For those of you who are unfamiliar with it, the partridge berry is a red berry which makes a highly colored sauce similar to the cranberry. In Newfoundland they harvest about 10,000 kg for themselves and export another 40,000 kg mainly to Europe where it is known as the lingenberry. Last year these fruit sold for \$3.50 to \$4.00 a gallon or roughly 75 to 80 cents per pound. While in New-

foundland I was shown around the province by Paul Hendrickson, Provincial Small Fruit Specialist, and we travelled mostly by helicopter. Fortunately, the weather was ideal and I arrived home with many samples.

In the August 18 newsletter prepared by the Horticultural Branch of the British Columbia Department of Agriculture, I note that they are expecting a good crop of cranberries and they are a week or more ahead of schedule.

I.V.H.

## WASHINGTON SCIENTISTS ANSWER GROWER QUESTIONS

*Continued From Page 5*

Cleaning the machines certainly wouldn't worsen the situation but it would be of limited value. It would reduce the transfer of infected leaves and stems, but it wouldn't stop the spread of microscopic spores adhering to the machines. Most of the fungi causing diseases of cranberry have spore stages spread by the wind.

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# Cranberry Festival is filled with activity

Massachusetts' native fruit was honored during the First Annual Cranberry Festival September 24 to October 1, in Plymouth County. The eight day fete took on the atmosphere of a giant county fair and was designed as an activity for the entire family.

Sponsored by the Plymouth Area Chamber of Commerce, the fall festival was an enlargement of the annual two day event previously sponsored by Edaville Railroad.

Events for Saturday, September 24 included a bicycle road race from Plymouth to Edaville, square dancing, a country/western show, featuring Nashville recording artists Sleepy La Beef, Dick Curless, and Tina Welch.

Visitors to Edaville in South Carver had the chance to see scout crafts and projects, the cranberry harvest, militia groups, and Walt Disney characters. They were able to participate in cranberry games, pie eating contest, and have their taste buds tempted at the display of baked goods from the baking contest (using cranberries, of course).

Saturday night, the country/western show moved to Memorial Hall in Plymouth. The crowning of the Cranberry Queen and her court took place at the concert.

Sunday activities included performances by Boston radio personality Larry Glick at both Edaville and Plymouth.

Other weekend programs included a flea market and auction at St. Peter's Parish and the Pilgrim's Progress.

The remainder of the week, the festivities centered in Plymouth, with cranberry tours, street musicians, and a sidewalk artist. A giant square dance and the Cranberry Fair, including an art display concluded the First Annual Cranberry Festival on October 1.

Saturday, October 1 marks the Grand Opening of the Cranberry World Visitors Center in Plymouth



at the new Ocean Spray Cranberries, Inc. headquarters. The exhibit officially opens to the public at noon with a brief ceremony to be attended by Governor Michael Dukakis and state and town officials together with representatives of the cranberry industry. The exhibit area is devoted to the history of the cranberry industry. There will be entertainment at the Center by the New Black Eagle Jazz Band from noon to 1:45 p.m. and from 3:15 to 5 p.m.

Of additional interest on Oct. 1 is a Cranberry Fair to be held from 2-6 p.m. in the Jenny Pond area of Plymouth. Featured at the fair will be an old-fashioned Country Ball held under a tent with Rocky Rockwell calling the square dances and the entire family invited to participate. Also featured at the fair

at Jenny Pond will be an Arts and Crafts Show and Sale sponsored by the Plymouth Guild, Inc., a Penny Carnival including a penny candy sale sponsored by the Plymouth Community Recreation Center and a number of demonstrations by the Plymouth County Extension Service.

Winding up the day's activities at Jenny Pond, Oct. 1 will be a Boiler Bake from 4:30-6:30 p.m. put on by the Chamber of Commerce. The organizers explain the Boiler Bake is an alternative to the clambake. It is a steamed dinner in a paper bag and includes a generous serving of fish, potato, onion, hot dog and pork sausage. Cranberry juice and cranberry bread will also be available.

Also of note on the weekend of Oct. 1 is an Arts and Crafts Show and Yard Sale sponsored by St. Peter's Church and held at St. Peter's Parish Hall in Plymouth. The show runs from 10 a.m.-7 p.m. Oct. 1 and from 9 a.m.-4 p.m. on Oct. 2.

All in all cranberry harvest time is shaping up as a busy time in the Plymouth area.

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How to keep a dairy goat happy, healthy and producing can be found in *Dairy Goats*, a new handbook by Diana Gregory. The book simplifies feeding, housing, breeding, basic techniques of milking and milk handling, butter and cheese making, and how to cook with goat's milk. The booklet also lists breed registry associations, publications and dairy goat associations. Copies are available from Arco Publishing Company, Inc., 219 Park Ave. South, New York, N.Y. 10003, \$3.95 in paperback.

\* \* \* \*

Econ-O-Mate is an energy converter about the size of a piece of hand luggage which its maker, Sun-Econ

West, Inc., claims can save up to 100% of hot water operating cost. The system hooks to an air conditioning or refrigeration compressor and utilizes heat normally wasted to effectively heat hot water. Studies have shown that Econ-O-Mate energy savings in some commercial installations such as dairy and meat packing plants are great enough to pay for the unit within 18 months of installation. Two units are available: one for four HP and one for five to ten HP units. Units are custom designed for larger cooling systems. Write to the company, P.O. Box 5508, Sherman Oaks, CA 91413, for further information.

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How to get along with plywood is explained in a booklet from the American Plywood Association "The Plywood How-to Book." The booklet explains the difference between interior and exterior plywood, what grade-trade mark mean, and how to buy and specify plywood for every project, how to cut and sand plywood, how to make construction joints, and which fasteners are best. Send \$1 to American Plywood Association, Dept. AA, 1119 A Street, Tacoma, WA 98401.

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**FRUITFUL SALAD WITH  
ATHENIAN RED DRESSING**

(Serves 6)

**Fruit Salad:**

- 2 navel oranges, peeled and cut into thin slices
- 2 cups diced unpeeled apples
- 2 cups stemmed seedless grapes
- 2 cups diced peeled honeydew melon
- 1-1/2 cups drained canned kadota figs

**Bite-size salad greens**

1/4 cup toasted sesame seeds

**Dressing:**

- 1 cup salad oil
- Grated rind of 1 orange
- 1/2 cup orange juice
- 2 tablespoons finely chopped crystallized ginger
- 1/2 cup cranberry juice cocktail
- 1/3 cup jellied cranberry sauce
- Salt

Arrange fruits in clusters on a platter lined with salad greens. Sprinkle sesame seeds over fruit. Combine all dressing ingredients. Beat until smooth and thick. Serve

**CALCUTTA CURRY WITH  
CRANBERRY ORANGE CHUTNEY**  
(Serves 6)

**Indian Curry:**

- 1/4 cup butter or margarine
- 1 onion, chopped
- 1 apple, peeled, cored and chopped
- 1/2 cup all-purpose flour
- 1 to 2 tablespoons curry powder
- 1 can (10-3/4 ounces) condensed chicken broth, undiluted
- 1 cup cranberry juice cocktail
- 1 pint (2 cups) half-and-half
- 1 pound shrimp, cooked, shelled and deveined
- 2 cups diced cooked chicken or turkey
- Salt and pepper
- Hot saffron rice from a mix
- Cranberry Chutney:
- 1 cup cranberry-orange relish
- 1/2 cup prepared mincemeat

(Continued on Page 16)

Here are delectably different cranberry recipes with a foreign flair you could have enjoyed abroad.

From Greece, "Fruitful Salad with Athenian Red Dressing" can serve as a refreshing luncheon, or as an accompaniment to a poultry or beef dinner.

From India comes a recipe gem, "Calcutta Curry with Cranberry Orange Chutney."

From the glorious cuisine of France comes a superb dessert, "Cranberry Gateau Parisien." The use of a prepared cake mix eases the preparation of this elegant recipe.



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(Continued from Page 3)

including a large snapping turtle, emphasize the positive ecological effects of cranberry cultivation.

Inside, an enlargement of a famous painting of the 1880's, "Cranberry Harvest in Nantucket," by Eastman Johnson, will be the first display to catch museum-goers' eyes. The original of the painting, in San Diego's Timken Galleries, was located by museum consultant Richard Rabinowitz, a Harvard Ph.D., in the History of American Civilization, who collaborated with designer Fred Moore on the displays and researched their content.

The museum will also contain a diorama, some six-feet in diameter, depicting the topographic features of a 20th century cranberry "plantation," a grower's house, and a representation of a bog and harvesting implements. A taped interview with one of the many Cape Verdeans who migrated to this country, found employment as cranberry pickers, and later became growers will be shown on a TV monitor.

"The Cranberry and Its People" exhibit features a series of portraits of men and women who contributed to the growth of the cranberry industry. The cranberry people include a Cape Cod lobsterman, an Ojibway Indian woman, a picker, and a grower.

Other exhibits spotlight the different scoops and related tools used in harvesting over the years, the immigrants who contributed to cranberry history, a slide show on contemporary methods of civilization, harvesting and processing, and the many Indian tribes who played key roles in the cranberry saga.

Rabinowitz says that a major theme of the museum is that no matter how carefully cranberries are cultivated they retain a quality of wildness. "They are symbolic of the American spirit of independence," the historian points out.

Visitors to "Cranberry World" also will be given a souvenir poster graphically covering the museum

story and offering cranberry recipes.

Harold Thorkilsen, Ocean Spray's president, said the company was delighted "to have the opportunity to locate the museum—which tells the story of an authentic and important part of America's early history—in Plymouth where this nation began. 'Cranberry World' complements the many other recollections in this city of the American heritage. We are pleased to have the opportunity of working with Plymouth and its residents on adding to Americans' knowledge of the nation's beginnings and development," he said.

### COOK'S CORNER

(Continued from Page 15)

2 tablespoons chopped crystallized ginger

1/4 cup Italian salad dressing

In a large saucepan, melt butter and cook onion and apple until soft, stirring occasionally, about 5 minutes. Stir in flour and curry powder. Gradually stir in chicken broth, cranberry juice and half-and-half. Cook stirring constantly over low heat until sauce bubbles and thickens. Stir in shrimp and chicken. Season to taste with salt and pepper. Simmer again until bubbly. Serve hot spooned over saffron rice. Serve with Cranberry Chutney. To prepare chutney, combine all chutney ingredients and stir until well blended.

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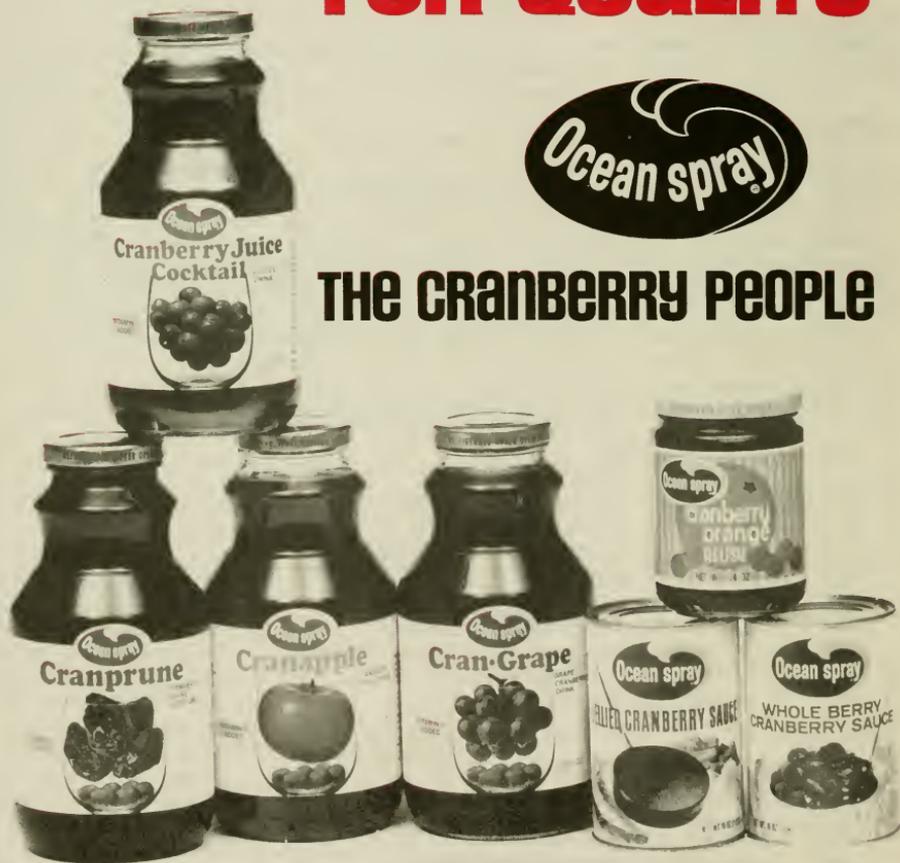
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Vol. 43, No. 10

October, 1977

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Massachusetts Governor Michael Dukakis joins 1977 "Cranberry Festival Queen" Bonnie Willard in turning old-fashioned barrel-header for sealing tops of cranberry barrels—one of the many colorful artifacts on exhibit at the new "Cranberry World" Museum in Plymouth, Mass.

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# Oregon Grower Finds Water on Rancher's Land

In spite of what you might have read or believed otherwise, there is "lots of water" in Coos County, Oregon.

At least that's what rancher H. R. (Pat) Amos claims. And cranberry grower, Jim Olson, who's been leading the search for water in the area, is going along with the belief.

In accordance with government regulations—to apply for drought loans (see related story below)—Olson and other growers have formed a water pooling agreement.

It all started because Amos discovered "lots of water" on his property while excavating several weeks ago for an access road. After the road was graded, he soon realized he'd impounded a considerable amount of water from a nearby swamp.

Knowing of the plight of growers on some 90 nearby acres of bog in the Prosper area of Bandon, Ore.,

he pursued far enough along in his excavations to interest Olson and other neighbors.

According to Olson, there may be enough water there "to benefit and perhaps save the crops of growers in the Prosper area."

"What started out as a private venture has developed into an area-wide water project that has the blessing of the Coos County Agricultural Conservation and Stabilization Service and the State Water Resources Board, and also serve as a game refuge for hundreds of wild ducks," Olson noted.

Amos said that "a lot of this water development will hinge on whether or not I am able to obtain some of the drought funds to help with channel construction in order to provide water for the cranberry growers. It will take quite a bit of additional construction to make this possible," he said. "But there's a lot of water there," he added.

Amos said there is already 70 acre feet of water there now, with the potential for about 150 acre feet. "This would not only provide all the water that those growers would need, but also could be used to fill tankers in the case of a fire emergency."

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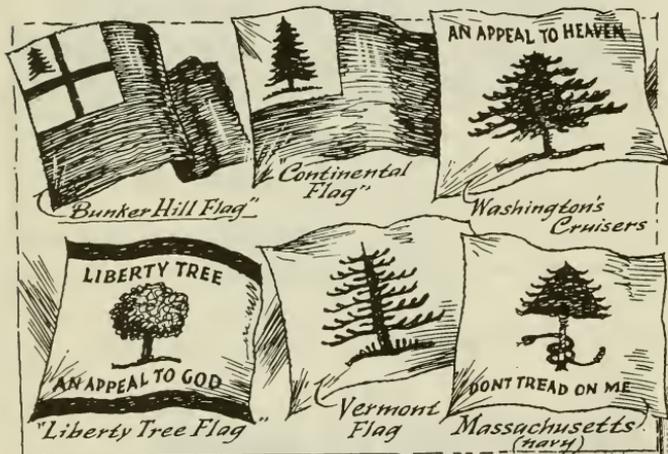
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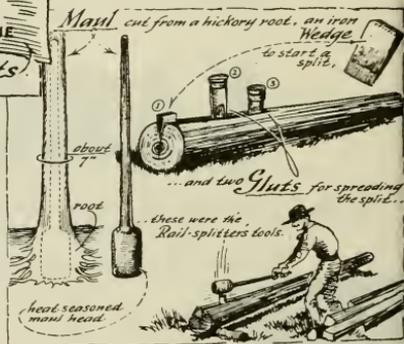


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# Rains Dampen Harvest

## Of Fresh Cranberries

Householders who shop for fresh cranberries this time of year to make their own cranberry sauce better buy when they can, because there probably won't be much available for the holiday seasons.

The unusually rainy weather has affected about 20 percent of the crop used for market. They are berries that are so-called "dry-picked."

The berries are sold by supermarkets and other produce centers, usually in plastic bags, for householders who prefer making their own cranberry sauce, cranberry breads, cakes and other cranberry products, such as relish.

Professor Irving DeMoranville of the UMass Cranberry Experiment Station in Wareham, Mass., said the wet weather has prevented many growers from harvesting the berries dry.

The alternative is to flood bogs and harvest the berries wet. A wet-harvested berry is never sold for the fresh produce market. Instead, the berries are used for the commercial manufacture of sauces, relishes, juice and other cranberry products.

Although the rain has not generally limited the estimated harvest of some 920,000 barrels of berries grown locally, the harvest of berries on dry bogs has been severely limited. In some cases, the growers have decided not to pick dry, but have flooded their bogs for a wet harvest to save their crop from rotting.

The harvest, usually begun on Sept. 10, was five days late this year because of weather. It came on Sept. 15. A total of 13 of the last 20 days of September were rainy, and a total of 11 out of the last 18 days of October also have been rainy.

Demoranville said many bog owners could not pick when it stopped raining because the bogs were still wet or damp.

If berries are to be dry picked, the vines and fruit must be absolutely dry or the harvesting machine will tear the vines, bruise the berries and limit the harvest.

Demoranville said not all bogs can be wet harvested. Bogs that are not level or bogs where there is not enough water for flooding must be picked dry. Growers who own such bogs have been severely hampered by the weather, he said.

He said the rain will cause the quality of dry-picked berries to suffer. The berries probably won't keep as long as berries picked in other years, he said.

The berries that do reach market will be in short supply, he said, and the market may be exhausted before the Christmas holidays.

### MARKET REPORT

The first cranberry market report for fresh fruit was released on September 26 from the U.S.D.A. Agricultural Marketing Service under the direction of John O'Neil in Boston, Mass. This will be the 24th 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.

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# Washington Scientists Answer Grower Questions

(Scientists of research and extension units at Washington State University met with growers in that state recently to answer questions in their areas of expertise. Dr. Carl Shanks, Jr., entomologist, gave the answers to questions regarding insecticides; Azmi Y. Shawa, associate horticulturist, answered questions on herbicides; and Dr. Peter R. Bristow, assistant plant pathologist, answered questions on fungicides.)

**What is the effect of rosebloom on cranberry production, and how do we get rid of it?**

A heavy infestation reduces the vitality of the infected shoots and in so doing lowers yield. The abnormal growth (the rose bloom) has little or no chlorophyll, and must draw on the energy produced in the rest of the shoot for its growth. Bordeaux mixture has been recommended for rose bloom control, but from my observations, it appears ineffective. Ferbam and Dithane, which are also registered for this use, may provide some control when applied to the vines before the appearance of the disease. Timing is important. Reports indicate that early-spring application just after bud break is best. Current research is evaluating new fungicides and the application timing for control of this disease.

**Is wettable sulfur used as a fungicide; how much per acre?**

It can be, but newer fungicides such as Zineb, Dithane M-45, and Ferbam are more effective in controlling disease. If sulfur is used, the rate is 6 lb/100 gallons of water. Sulfur should not be applied when the temperature goes above 80° F. Repeated use of sulfur may lower the pH of the bog below a desirable level.

**What is the status of die-back and is there any solution for this old problem?**

Die-back does remain a problem in some bogs, and unfortunately a solution has not been found. Present cranberry disease research is being directed at other problems.

**If dormant sprays (lime sulfur) kill fungus in fallen leaves, how come we have to follow up with several applications?**

Dormant applications of lime sulfur do kill the overwintering fungus, but it is impossible to kill all of it. We hope to reduce the amount of fungus present so that follow up sprays will be more effective. When we speak of 'controlling a disease,' we mean keeping it at a level that can be lived with; it is virtually impossible to completely eradicate disease.

**How long do fungicides protect?**

Many factors such as formulation, use of spreader-stickers, etc., influence the length of time a fungicide provides protection. Weather generally has the greatest influence, however. A good rule of thumb is 2-4 weeks. This assumes that a uniform application was made and that the chemical dried on the vines prior to sprinkling or rain.

**Is it necessary to spray fungicide every 15 days after fruit set to prevent twig blight infestation?**

No, that would be too short an interval. If twig blight (*Loppodermium*) is a problem, sprays applied monthly—beginning at fruit set and continuing through September—should protect the new growth from infection.

**Does the fungus *Loppodermium* spread by water, harvesting and equipment?**

The main method of spread of this disease is by the wind blown spores

of the fungus. I don't think that some infected leaves are carried about on equipment or in flooded bogs, but this means of dispersal would be of minor importance.

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## editorial

### *On Compulsory Union Membership . . .*

What role shall government play in assisting the nation's unions toward that stated objective of compulsory membership? That question, and that question alone, is at the heart of the major fight building over the proposed Carter Administration "reforms" of the National Labor Relations Act.

When the rhetoric is stripped away, when the arguments on both sides are weighed, the primary purpose of the proposed "reforms" is to assist Big Labor in organizing workers and in promoting compulsory union membership at a time when Big Labor finds itself representing an ever-declining proportion of the nation's work force.

In considering the proposed reforms, the United States Congress must wonder, aloud, why it is that unions have found their percentage of representation of the work force in the nation slipping significantly in recent years, and how that might affect the pressure of organized labor for enactment of the proposed changes in existing law.

It certainly must be difficult for anyone to believe that abuses by business and industry have been the major reason for the decline in union membership as a percentage of the work force. Through a system of compulsory dues, unions certainly have no shortage of funds for organizing efforts. One need only look to the excess funds unions always seem to have available to assist in financing the election campaigns of candidates whose views they share.

It must be, therefore, that fewer and fewer workers care to be represented by unions, to be members of collective bargaining units, to pay compulsory union dues to finance other organizing efforts and the campaigns of candidates for elective office when they, personally, might be actively supporting the Big Labor's candidate's opponent.

In fairness, the present National Labor Relations Act does not always work perfectly. There have been some abuses by business and industry. But there is another side to that coin: First, no law ever works perfectly, and, second, unions, in their zealotry to organize workers and bargain high contracts for the employees they represent, also have been guilty of excesses—and even intolerable violence.

No case can be constructed convincingly to support so-called "reform" legislation to give Big Labor an added edge in organizing workers. The present law has worked and worked well since its enactment in 1935. It is a balanced law, a law that strives to give an

*(Continued on Page 16)*

Faced with disaster because of shortage of water, growers in Wenatchee Heights, Wash. successfully completed a dramatic project of piping water to fruit trees from the Columbia River—almost 2000 feet below. Efforts of growers Tommy Mathison, Stemilt Hill Irrigation District, Everett Ricker, Wenatchee Heights Irrigation District, Martin Roys, Wenatchee Wenoka Growers Assn., and others brought enough moisture to keep trees alive and have a marketable crop.

\* \* \* \*

No significant, widespread effect on western fruit crops is apparent from drought and severe reduction of surface irrigation water supplies. As most observers predicted, growers found ways of coping, with only limited state or federal aid. Washington was forecast at nearly 55 million bushels, giving them three large apple crops in a row—unexpected in view of the water shortage scare.

\* \* \* \*

Fruit growers are standing up for their rights. Vermont apple growers took the federal Department of Labor to court recently over terms of the job orders growers are required to file. DOL says growers should pay transportation costs of out-of-state workers in advance. In Vermont, where growers said this is unreasonable and workers should instead be reimbursed when they arrive for work, a federal district judge ruled in growers' favor. Virginia apple growers have also taken DOL to court on these worker transportation payments.



# USDA SETS MARKETING ORDER HEARING FOR NOVEMBER 1

A public hearing to consider a proposed amendment that would update producer allotments and make other changes in the federal cranberry marketing order and agreement program, will be held beginning Nov. 1 in five sessions across the country, the U.S. Department of Agriculture (USDA) reported.

The program regulates the handling of cranberries grown in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington and Long Island in New York.

The hearing will start Nov. 1 in New Bedford, Mass., at the Holiday Inn, 500 Hathaway Road. It will continue Nov. 3 in Cherry Hill, N. J., at the Cherry Hill Inn, Rt. 38 and Haddonfield Road; Nov. 8 in Wisconsin Rapids, Wis., at the McMillan Memorial Library; Nov. 11 in Bandon, Ore., at the Aero Club, Bandon State Airport; and Nov. 14 in Long Beach, Wash., at the Long Beach Grange Hall. All sessions will start at 9 a.m. local time.

Ronald Cioffi, fruit and vegetable official with USDA's Agricultural Marketing Service (AMS), said the hearing was requested by the Cranberry Marketing Committee. The committee, which administers the program, submitted proposals that if adopted, would:

—Provide for updating allotment bases for producers now affected by the program and to provide for entry of new producers. The producer allotments provide the means for tailoring yearly cranberry marketings to market requirements.

—Provide authority for a public member to serve on the committee. At the same time, the number of members required to form a

quorum or to pass a decision would be increased from five to six.

—Allow cranberries in excess of a grower's allotment to be diverted into noncompetitive outlets such as research or charitable organizations that have been approved by USDA.

—Change provisions relating to disposition of funds collected by the committee that exceed the amount needed for purchasing unrestricted cranberries to replace restricted berries released into marketing channels. Under the proposal a handler has 90 days within which to accept an offer of payment or credit of his share of unexpended funds.

Decas Cranberry Company, Inc., Wareham, Mass., submitted proposals that would:

—Provide for a period review and recomputation of a grower's base quantity using the average of the grower's two best sales years during the most recent six-year period.

—Change the date from May 1 to Sept. 1, by which annual allotments are calculated and issued to growers.

At the hearing, anyone may present evidence for or against the proposals or suggest modifications to them.

A copy of the hearing notice containing the amendment proposals will be mailed to all known growers and handlers of cranberries. Copies are also available from the Fruit and Vegetable Division, AMS, USDA, Washington, DC 20250.

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# CRANBERRY HARVEST



Cranberry harvesting in WASHINGTON began October 3 when Joe Schneider of the Ocean Spray processing plant reported that three growers were delivering berries for washing and packing. He also said the water supply for harvesting looks good, but the crop will be less than expected due to the small size of the berries.

NEW JERSEY's crop is expected to be down from 33 to 40 percent of the 1976 record of 270,000 barrels. Some growers are reporting only about half of last year's production. Water has been short in the state and those water harvesting have had to carefully manage this precious commodity.

In MASSACHUSETTS harvesting was scheduled to begin September 12 to 15 but rain throughout the month has slowed the picking considerably. Still, color is excellent, berry size is good and quality fine. As of the first week of October, 65-70 percent of the Early Blacks were harvested.

The WISCONSIN crop is 7-10 days ahead of normal despite cold, damp weather. Coloring has been good to



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date but the crop is estimated to be about 20 percent below last year. This year the state has suffered from windstorms and severe weather with a few cranberry marshes having sustained tree damage.

In the Bandon, OREGON area a continuing drought accompanied by drying winds and extreme heat has all but eliminated prospects for a bumper crop. None the less, berry quality and color are reported to be excellent. Cranberries are being accepted at Bandon's new fresh fruit receiving plant.

BRITISH COLUMBIA is reported to be very dry, with bogs being sprinkled each week with about one inch of water. Crop estimates are optimistic and picking began early in September. In NOVA SCOTIA picking began about September 19.

Total production is now forecast at 2,160,000 barrels, 10 percent less than last year's large crop and a slight decline from the August 15 estimate. Reductions from a year ago are expected in Massachusetts, New Jersey and Wisconsin.



Water picking at the William Haines bogs in Chatsworth, New Jersey.

—Times-Advertiser (N.J.) Photo

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While trying to locate a family at one of the lakes near where I live, I stopped to make inquiry of a couple working in their yard. It was not a stately house, but one could see that much loving care had gone into the making of this little home.

As I surveyed the landscape . . . the green lawn and beautiful, well-planned flower beds . . . and the freshly-painted house, I noted a sign fastened to a tree. It read, "We're satisfied." Commenting on the sign, this friendly man in his early seventies said, "Yes, we're satisfied with where we live, but we are never quite satisfied with what we are. We begin and end each day with God."

It is not so much *where* we live, but *how* we live that counts toward a sense of contentment. As a nation, we are the best-housed, best-fed, most-entertained and best-dressed of any people on earth. Yet it seems that we are the least satisfied. True satisfaction comes not from material possessions alone.

Paul the apostle, writing to the church of Philippi, said, "I have learned, in whatsoever state I am, therewith to be content." (Philippians 4:11). He had learned to be satisfied, to not worry or be overly concerned with his lot, but to work, worship and trust God for the present and the future.

One of the reasons Paul was able to do this was that he never lost hope. When hope is gone, we quit trying. It was Coleridge, the British poet, who wrote, "He is the best physician who is the most ingenious inspirer of hope." Do we inspire hope, or do we encourage despair?

The story is told of a shopkeeper whose building was almost destroyed in the great Chicago fire of 1871. A few days after the fire, someone noted the following sign on the charred door of the store: "All is lost but wife, family and faith. Open for business tomorrow." This is the kind of faith that lives for today and has hope for tomorrow.

Paul, also, learned that contented living comes from living life primarily to give, not just to get. He kept love alive. He, like Jesus, had compassion for others. It is not enough to be *against* hate, we must be *for* love. When we, with compassion, give our best for others, the best will come back to us.

Probably the best encouragement toward contented living is to remember who we are. As David Livingstone, Scottish explorer and missionary in Africa, was leaving his home as a young man, his father's parting words were, "David, never forget whose son you are. Live with confidence in God."

Wasn't this why Paul was able to say with faith, "I can do all things through Christ which strengtheneth me" (Philippians 4:13)? We too may do the same and know true contented living.

—American Agriculturist

## OBITUARY

### TOIVO ERICKSON

Toivo Erickson, 66, of Church street, South Carver, Mass., husband of Ruth (Publicover) Erickson, died in the Brockton Veterans Administration Hospital on Oct. 14 after a long illness.

Born in Middleboro, son of Antone and Anna (Paananen) Erickson, he had resided in South Carver since 1946. He was a former Middleboro selectman, serving in 1939. Mr. Erickson was a cranberry grower with bogs in Carver and Middleboro, and was a member of the Ocean Spray Farm Bureau and Agway. During World War II he served in the U.S. Army.

In addition to his wife, Ruth, he leaves a daughter, Mrs. Charles (Glenya) Moakley of South Carver; a grandson, Kevin Moakley; a sister, Miss Elma Erickson of Carver; two brothers, Sulo of Middleboro and Eino Erickson of Carver; also several nieces and nephews.

A memorial service was conducted Oct. 16 in the South Carver Methodist Church.

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# REGIONAL NEWS NOTES

## Mass. Station New Jersey

### Weather

September was slightly on the cool side, averaging 0.8 degrees a day below normal. Maximum temperature was 85 degrees on the 2nd and minimum 42 degrees on both the 12th and 30th. The only warmer than average days were the 2nd, 3rd and 6th. Cooler than normal periods were 15-16th, 20-25th and 29-30th.

Rainfall totalled 5.69 inches which is 1-7/8 inches above normal. There was precipitation on 13 days with 1.95 inches on the 20-21st as the greatest storm. There was rain on 12 of the last 20 days of the month. We are 8-1/2 inches above normal for the first nine months of 1977 and 11-1/5 inches ahead of 1976 for the same period; in fact we have had more rain now than the entire year of 1976.

### Harvest

General harvest was scheduled to start on September 12 to 15 but it rained on parts of 9 consecutive days starting on the 13th, then skipped a day and rained for four more days. Needless to say, very little dry harvesting done. Color was very slow to develop but is now excellent and berry size is generally good. Quality has been very good especially when one considers all the moisture around. Early Blacks are perhaps 65-70 percent harvested by the 7th of October which is as late as can be remembered. First frost warning on October 4, but it was a dud. Many growers appear to be at or slightly below estimate, some well below and a very few above. Appears that the crop will be at or below the original August prediction.

I.E.D.

After the extremely hot and dry conditions of the summer months, September was enjoyably mild. The average temperature at Pemberton was 68.4 degrees F, or 1.2 degrees above normal, but there were enough cool nights to bring about good coloration of cranberries.

At Chatsworth where the summer drought was most severe, rain on 12 days totaled 5.80 inches, and this has helped to restore water in reservoirs to above critical levels. At Pemberton the precipitation amounted to only 2.58, but the 8.40 inches in August had alleviated the acute dryness there. There is still a shortage of water and it must be carefully managed to complete the water harvesting. Fortunately, no flooding has been necessary for frost protection. The one frost on cranberry bogs, 28 degrees F on

September 12, was not threatening enough to require the use of water.

It is now evident that the August crop estimate of 220,000 bbls. for New Jersey will be much too high. Almost all growers are displeased with their yields with some reporting only about half of last year's volume. The decrease from the 1976 record of 270,000 bbls. is expected to be from 33 to 40 percent. One tip on the poor crop which was readily apparent from the first days of harvest was the unusually excellent color of the berries. This is generally a sign of a "top" or "shallow" crop. An especially high abundance of blossoms failed to develop into a good crop during the extremely hot and dry flowering period. Bogs which had the winter flood removed in April produced considerably better than those drawn on the traditional May 10th date.

P.E.M.



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Sincerely,

*Bob Alberghini*

Robert Alberghini  
AGWAY SERVICE, INC.

The author attended the American Society for Horticultural Science meetings in Salt Lake City, Utah, October 9-15 and presented a paper "Effect of Lime on Yield and Keeping Quality of 'McFarlin' Cranberries."

Grayland and North Beach growers are into full harvest. Long Beach area started Oct. 3, with three growers, Chabot, Erling Brateng, and Wisner getting underway. Cranguya Farms waited until the 10th with all other growers starting Oct. 6. The Ocean Spray Receiving Plant was in full operation at Long Beach by Oct. 5.

September was slightly on the wet side with rainfall totalling 5.59 inches which is 1.85 inches above normal. There was measurable rain on 15 days with 1.04 inches on the 29th as the largest storm. Thunder storms occurred on the 28th and 29th. We are about 11 inches below normal for the year to date and 27 inches behind 1976.

Maximum temperature was 83 degrees on the 13th and minimum 38 degrees on the 22nd and 26th with bog minimum temperatures 36 degrees on the 22nd and 37 degrees on the 26th. September was overall cool.

A.Y.S.

## EMPLOYER'S QUARTERLY FEDERAL TAX RETURN DEADLINE APPROACHING

Employers must report and pay Social Security and withheld Federal income taxes for the third quarter of 1977 by October 31, 1977.

Persons who have deposited the entire quarterly tax liability on time in a Federal Reserve Bank or authorized commercial bank, have until November 10, 1977 to file Form 941, "Employer's Quarterly Federal Tax Return," IRS District Director Herbert B. Mosher said.

Employers should use the pre-addressed Forms 941 mailed to them by the IRS, or obtain copies of the form from the nearest IRS office.

# Ocean Spray Appoints Group Vice President

Ocean Spray Cranberries, Inc., has announced the appointment of Alvin E. Wanthal to the newly established position of Group Vice President, Chief Financial Officer.

Mr. Wanthal comes to Ocean Spray from Touche, Ross & Co., where he was in charge of Manage-

ment Services Operations in the southeast for seven years as a partner in the firm's Atlanta office. Previously he had been with Touche, Ross & Co. in their Detroit, San Francisco, and executive offices.

He will now have overall responsibility for Ocean Spray's Finance Group, including Management Information Systems, Corporate Planning & Business Development, and Accounting & Finance.

Mr. Wanthal is a native of Gary, Indiana, and holds a B.S. in Mechanical Engineering from Purdue University and a Master of Science in Industrial Management from the Krannert School of Industrial Administration, also at Purdue.

He is a Certified Public Accountant, a Registered Professional Industrial Engineer, and a Certified Management Consultant.

He will be reporting directly to Ocean Spray President Harold Thorkilsen, who made the announcement from the company's new corporate headquarters location in Plymouth, Massachusetts.



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# Farmers Bogged Down In Battle Over Marshes

Can modern farming know-how exorcise the demon that always has destroyed farmers who tried to operate in the immense marshes that begin six miles south of City Point, Wisconsin?

Roland and Bill Huebner who run Petenwell Potato Farms, Inc., think they can succeed where others have failed.

Area cranberry growers, several federal and state agencies and conservationists think they will fail and destroy the delicate wetlands that sprawl over thousands of acres along the Wood-Jackson County line.

The Huebners have proved successful in a major farm operation on converted wetlands in Juneau County 20 miles southeast of here. They farm 3,000 acres, raising potatoes, peas, beans, corn, cucumbers and cabbage by intensive use of machines, chemicals and irrigation.

They either own or have options on about 5,000 acres in this area, and hope to develop the same kind of farm.

The Huebners started to develop the farm during the summer but were stopped Sept. 2 by an order from the Army Corps of Engineers, issued because they allegedly were depositing spoil—waste dirt—on a wetland.

Opposition to their plans began when Al Amundsen, who runs a cranberry farm near Babcock, began to worry about what would happen to his operation if the Huebners succeeded in what they were doing.

The area involved is one of the flattest in the state. It's the sandy bottom of glacial Lake Wisconsin, which was twice as large as today's Lake Superior about 15,000 years ago.

The surface layer is peat, in places as much as 15 feet thick,

often floating atop the groundwater.

The old lake bottom is so flat that in some places there is only a five foot difference in elevation between points more than eight miles apart.

The only breaks in the flat terrain are provided by what were islands, the rocky pinnacles that resisted the glacier's leveling action before the lake was formed.

The level land is covered with a mixture of sedge—grasslike reeds—and, in a few areas, small trees and shrubs that can grow in wet soil.

## Old Plans

Wetlands such as the Jackson-Wood County marshes always have attracted muck farmers.

A major attempt was made about the turn of the century to drain the marshes and develop a muck farming complex.

Huge steam dredges prowled the marshes, digging several hundred miles of ditches to lower groundwater levels enough to allow farming. Land companies were formed to sell the acreage and farm families, many of them new arrivals from Europe, moved in.

The project failed. Frost, which can occur in any month in central Wisconsin, ruined crop after crop. The acid peat soil needed huge applications of lime to maintain its productivity after the first couple of years.

The cost of draining, in addition to high land taxes, was more than the value of the crops.

During the 1920s, cranberry growers moved in. They renovated some of the old ditches, placing control gates in strategic spots to keep water upstream of their producing marshes.

With only about 5% of the land in a cranberry farm actually used for cranberry growing, most of the rest was converted into shallow

reservoirs, often only a couple feet deep.

Amundsen's cranberry farm is typical. He has more than 1,500 acres in all, only 50 in cranberry production. The 1,450 acres not in production store water, which is allowed to flow into the producing bogs when dry weather must be combatted or frost threatens.

Last year was a bad one for cranberry growers, the second in a row with too little rain to keep water in the reservoirs to irrigate the meager crop or protect it from frost. Three growers sold land to the Huebners.

## Work Begins

Dredges moved onto the Huebner land in late August and began deepening the ditches. The Huebners say they want to dry the surface soil but keep water in the ditches, from which they can pump for irrigation.

Amundsen is convinced that the deeper ditches would drain water not only from the Huebner land, but from his upstream reservoirs as well.

He went to the State Department of Natural Resources, but learned the state has little control over wetland drainage. He did learn that, under federal law, the corps has limited control over what happens to wetlands.

## Conflicting Claims

The order against the Huebners was issued after corps investigators looked into the situation.

The Huebners claim they need no permit for what they want to do and are merely continuing maintenance of the ditches originally dug for cranberry growing.

Amundsen claims they not only cleaned debris out of the ditches but dug them deeper, threatening his water supply.

*Continued on Page 16*

# New Products In Agriculture

CRYTEEL MFG CO.

## ANNOUNCES NEW BROCHURE

Hot off the press is the new 6-page Crysteel Truck Body Brochure which illustrates and describes the following features:

"Load-Formed" bodies with the "built-in bulge" and non-bridging construction;

Seamless FRP floor for faster unloading;

"Hat Section" self-cleaning crossmembers;

Full-width rear bumper and rigid and stronger construction.

There are many end gate options—plus Tip-tops to increase utility and pay load. Sizes range from 12 ft. to 27 ft. (297 to 890 bu.).

Additional information and prices will be furnished by writing Crysteel Manufacturing Inc., Highway 60 East, Lake Crystal, Minnesota 56055 or phoning (507) 726-2728.

\* \* \* \*

## NEW PROCESS HOPPER

A new process hopper made of strong, durable high-density trans-

lucent polyethylene is now available from United Utensils Co., Inc., Port Washington, New York. Called the MULE, the reusable, stackable container which serves as both a storage/transport vessel as well as a dispensing hopper for liquids and solids in interplant and intraplant processing, measures 44 in. square x 66 in. high complete with heavy-duty metal stand, self-closing butterfly dispensing gate and a large, top-loading snap-on manway cover.

Whether stacked 3-high in a plant for storage or 2-high in a truck for shipment, the MULE offers many significant economic and service benefits. It accepts a forklift from any of four sides for excellent mobility. The 8 in. butterfly valve (patent applied for) used during dispensing is made of high-density linear polyethylene with a stainless steel sanitary handle for years of service life. Sidewalls and bottom (with 60° cone shape) of the MULE are sanitary with gentle, radius corners for ease in cleaning and unimpeded solids flow. Levels of contents are also visible through the translucent sides. The metal stand, of stainless or carbon steel, is available in a variety of finishes for added corrosion resistance and strength.

For additional information, including price and delivery of the MULE, please contact Robert Malkin, United Utensils Co., Inc., Yennicoek Ave., Port Washington, NY 11050. Phone (516) 883-7300.

\* \* \* \*

## TAILGATE

Double-hung latches and hydraulic power linkage combine to provide an all-purpose tailgate for farm truck bodies. The Multi-Purpose Gate, designed and built by Erwin "Bud" Streeter of Franklin County, Massachusetts, can be adapted to fit anything from a big tandem axle to a 12-foot dump body. It can serve as a tractor loading ramp, lies flat for a body extension, and swings up out of the way for dumping. The gate can even be cocked open at the bottom to reduce wind drag when running empty at highway speed.

\* \* \* \*

## HEAVY DUTY PALLET TRUCK

Design improvements are incorporated in a new specification covering its 6000 lb heavy duty walkie pallet truck, according to the Allis-Chalmers Corp. Industrial Truck division.

Details covered range from dimensions to hydraulic system and drive unit. The contactor-resistor type control provides three speeds: forward and reverse, lift height is 6 in. without an increase to overall truck height.

Copies of "LWF 60 Heavy-Duty Walkie Pallet Truck, 6000 lb. Capacity, 12 volt," MH-829, can be obtained from the Industrial Truck Division, 21800 S. Cicero Ave. Matteson, Ill. 60443.

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### BERRY TREATS FOR A GOBLIN' GOOD HALLOWEEN

Once again witchery is in the air and it's time for Halloween—a night of merriment to be enjoyed by children and grown-ups too. This year make it a special occasion for everyone. Have your children invite their friends home after their rounds of trick 'n treating, and cast a very enchanting spell with dandy treats.

A "Giant Cranberry Cheese Pumpkin" is bound to go over big. Create it with cheddar cheese, cream cheese, Worcestershire sauce, mustard, and cranberry-orange relish. After mixing, the ingredients are molded easily by hand into a ball, and then the sides are pressed into ridges resembling a pumpkin. Add a cinnamon stick as a stem, and a couple of small leaves from your garden, or a house plant, for a pleasing decorative touch.

No party would be complete without a cake, and "Berry Broomstick Cake" would sweep even the scariest witch off her feet with glee. The cake itself is made with an easy cake mix, eggs, milk, and cranberry-orange relish. Once baked, it is cut into a broom shape, and then decorated with a cranberry apple frosting, strings of red licorice and fresh cranberries. The final broomstick effect can be created by adding an actual broom handle, a round stick or a dowel.

To round out your party pleasures, "Cranberry Goblin' Good Brew" is a tantalizing punch mixing cranberry apple drink, pineapple juice, orange juice, and ginger ale. Serve it in a punch bowl—or consider carving out an actual pumpkin and using it as your bowl.

#### GIANT CRANBERRY CHEESE PUMPKIN

(Serves 10 to 12)

- |  |                                 |
|--|---------------------------------|
| 1-1/2 pounds sharp cheddar cheese, finely grated             | 1/2 cup cranberry-orange relish |
| 2 packages (8 ounces each) cream cheese, at room temperature | Cinnamon stick                  |
| 2 tablespoons Worcestershire sauce                           | Fresh leaves (optional)         |
| 1 teaspoon dry mustard                                       | Crackers                        |

In a large bowl, mix cheese, cream cheese, Worcestershire, mustard and relish. When well blended, shape with the hands into a ball. Place on serving platter and with a spatula, depress the center of the ball and ridge the sides to resemble a pumpkin. Press cinnamon stick into the center of the ball to resemble a stem; add leaves, if desired. Chill until ready to serve with crackers and a spreader.

#### BERRY BROOMSTICK CAKE

(Makes 1 - 9x13 inch cake)

- |  |   |
|--|---|
| 2 packages (17 ounces each) poundcake mix              | 1 cup cranberry apple drink, heated to boiling            |
| 4 eggs   | Red licorice strings                                      |
| 1-1/2 cups milk  | Fresh cranberries   |
| 2/3 cup cranberry-orange relish                        | Broom handle, round stick or a dowel about 14 inches long |
| 2 packages (7.2 ounces each) fluffy white frosting mix |   |

In a bowl, combine poundcake mix with eggs and milk. Beat until thick and smooth. Fold in relish. Pour into a greased and floured 13x9x2 inch baking pan. Bake in a preheated slow oven (325° F.) for 1 hour or until cake is firm to the touch in the center. Cool cake 10 minutes; remove from pan and cool, on rack. With a sharp knife cut 2 long triangles from each long side of the cake to resemble a broom. Serve cake pieces cut into small cubes another day. In a bowl, combine frosting mix and boiling cranberry apple drink. Beat until mixture holds stiff peaks. Spread frosting on the sides and top of the cake and make ridges in the frosting to resemble broom straws. In ridges place pieces of licorice strings for straws and press a row of fresh cranberries into frosting at the spot where the broom would be tied. Carefully lift with 2 wide spatulas to serving dish. Insert broom handle or dowel into the top of the broom.

#### CRANBERRY GOBLIN' GOOD BREW

(Serves 10)

- |                                       |                                 |
|---------------------------------------|---------------------------------|
| 4 cups cranberry apple drink, chilled | 2 cups ginger ale, chilled      |
| 2 cups pineapple juice, chilled       | Ice cubes, halved orange slices |
| 2 cups orange juice, chilled          |                                 |

In a large punch bowl, combine cranberry apple drink, pineapple and orange juices. Slowly stir in ginger ale. Add ice cubes and orange slices. Stir until very cold. Serve at once.

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## FARMERS BOGGED DOWN

*Continued from Page 13*

The US Fish and Wildlife Service was called into the fray by the corps. The area drains into several creeks, which, in turn, drain into a series of flowages in the Necedah National Wildlife Refuge and the Central Wisconsin Conservation Area.

Louis George, the service's biologist at Green Bay, believes the Huebner plans would result in changing the creeks from streams with a relatively even flow to a flooding-dry regime. At times, he said, the wildlife refuges would be flooded; most of the year, they would be without water.

### Dredging Effect

George called on the environmental Protection Agency office in Chicago. Agency hydrologists say the increased flood flows would carry silt and sand from the dried out marshlands, resulting in an increase in suspended solids downstream in the Wisconsin River.

Preliminary studies of what could happen as a result of the dredging will be completed late this month by the federal agencies. The Huebners believe the studies will confirm their views.

Meanwhile, one of the more unusual environmental confrontations in recent years is moving toward a climax. Environmentalists generally distrust the corps, but are on its side in this dispute.

They distrust cranberry growers, too, believing too many chemicals are used too often. But in this dispute, they're on Amundsen's side.

Area sportsmen also often are antagonistic toward cranberry growers, who usually forbid trespassing on their land. But, they too, will back Amundsen.

The dispute is one that observers have been predicting for years.

### Most Fail

The failures include the project in this area and one in Horicon marsh. Many farmers abandoned their land, which since has come

mostly into public ownership.

Major successes have been recorded in the Wisconsin valley between Portage and Stevens Point, with the Golden Sands area south of Stevens Point becoming, over the last couple of decades, a rival to California's Central Valley as a potato and canning crop producer.

Last month, one effect of the draining already was visible. A flock of a dozen Canada geese circled over the dredges, looking vainly for a place to land.

*Courtesy Milwaukee Sentinel*

## EDITORIAL

*Continued from Page 6*

unfair advantage to neither business and industry nor to organized labor. It is a law that recognizes the inherent freedom of choice of American workers described by the late Samuel Gompers, the founder of the American Federation of Workers, when he said: "I want to say to you, men and women of the American labor movement, do not reject the cornerstone upon which labor's structure has been build—but base your all upon voluntary principles and illuminate your every problem by consecrated devotion to that highest of all purposes—human well-being in the fullest, widest, deepest sense."

*—Courtesy New Haven Register*

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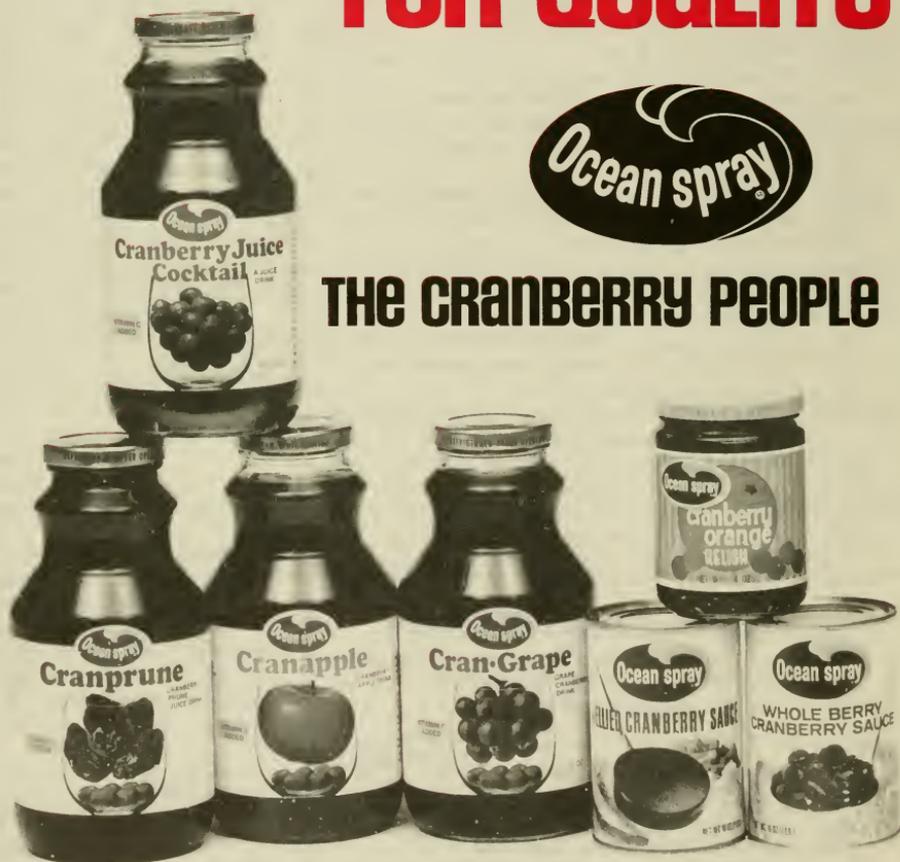
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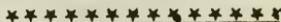
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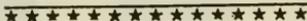
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"Cranberry World" is New England's newest—and perhaps most unique—museum and exhibition devoted exclusively to the history, lore, and development of the cranberry, one of the North American continent's few authentic native fruits. It covers the period from pre-cultivation days to contemporary times—tracing the fruit's evolution from a staple of the North American Indian diet, wherever grown, to the sophisticated planting and processing methods of today.

The museum is located in one of the most colorful and historic communities in the nation, Plymouth, Mass., the oldest settlement in New England where the Pilgrims first landed in 1620. The town of Plymouth, filled with museums, historic sites, and tourist attractions, lies 37 miles southeast of Boston. Host to an estimated one million visitors annually, its year-round permanent population is 26,500.

"Cranberry World" is situated right on the Plymouth waterfront (Water Street) overlooking Plymouth Bay approximately 1/4 mile from Plymouth Rock and Mayflower II—to which it will eventually be linked by a proposed shorefront pedestrian walkway.

It is sponsored as an educational enterprise by Ocean Spray Cranberries, Inc., a national cooperative of over 800 independent growers in six states: Massachusetts, New Jersey, Wisconsin, Oregon, Washington and Florida. Florida growers are part of Ocean Spray's newly established citrus operation. Sales of the cooperative totalled \$130,000,000 in 1977. Ocean Spray has processing plants in Middleborough, Mass., Kenosha, Wisconsin; Markham, Washington; and Bordentown, New Jersey, as well as a citrus concentrating facility in Vero Beach, Florida. In addition to the fresh berry, Ocean Spray markets a wide range of cranberry products including sauces, relishes, drinks, and, most recently, grapefruit juice.

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# Getting More Fuel for the Buck!

## Oil Burner Efficiency Possible

In several studies of residential heating equipment (warm air furnaces and boilers) sponsored by government and industry, it has been found that homeowners can save money and reduce pollution by having their oil burners serviced annually.

The following questions and answers provide useful information to homeowners who heat with oil:

**How much money can I save by having my oil burning equipment serviced annually?**

The amount a homeowner can save will vary depending on the geographical location, present condition of the heating equipment, the price of fuel, and other factors. For example, a homeowner burning 1,300 gallons of oil per year in a very inefficient heating system could save \$130 in fuel costs at a price of 40 cents per gallon with proper servicing. This is a 25 percent savings in the total fuel bill as the efficiency of the oil burner is increased from 60 to 80 percent.

**How much pollution reduction will result from proper maintenance of oil burning equipment?**

In a recent study it was found that by identifying and replacing nontuneable units, carbon monoxide (CO) was reduced by more than 65 percent, gaseous hydrocarbons (HC) were reduced by 87 percent, and filterable particulates were reduced by 17 percent. By tuning the remaining burners in addition to replacing nontuneable units the total reductions were as follows: smoke was reduced 59 percent, carbon monoxide was reduced by more than 81 percent, hydrocarbons were reduced by 90 percent, and filterable particulates were reduced by 24 percent.

**Why should I have my oil burning equipment serviced annually?**

Many people don't call for service until the heating equipment fails. Unless this occurs during normal working hours, the homeowner will usually have to pay for the service at higher hourly rates. By having annual maintenance during the summer months, unexpected equipment failures are less likely to occur. Also, burner performance can deteriorate over a period of time. Nozzles and oil filters should be replaced annually to assure proper burner performance.

**Can I service the oil burning equipment myself?**

It is recommended that a qualified oil burner service technician perform the work. When nozzles are changed, the excess air level normally needs to be adjusted. To do this properly special instruments are used to measure the following: carbon dioxide (CO<sub>2</sub>), flue gas temperature in the stack, smoke number, stack draft. Most homeowners do not have access to the equipment needed to make these measurements and do not know how to use the equipment properly.

Also, the service technician has a better understanding of how to diagnose problems that may be encountered and should be familiar with any safety codes or standards that apply to the heating equipment. The furnace owner should inspect air filters monthly during the heating season and change them as necessary. This should be done at least twice during the heating season, and more often in some cases. Dirty filters reduce furnace efficiency.

**Should I have my furnace vacuumed periodically?**

Yes. Soot serves as an insulator and significantly reduces the amount of heat transferred to the house. Therefore, when needed, vacuuming can save the homeowner in fuel costs. Depending on the smoke level, a furnace may need vacuuming yearly or as infrequently as once every five years. Ask the service technician for a furnace inspection to determine whether vacuuming is needed. If the burner is properly maintained, the furnace should not require vacuuming very often.

*Continued on Page 16*

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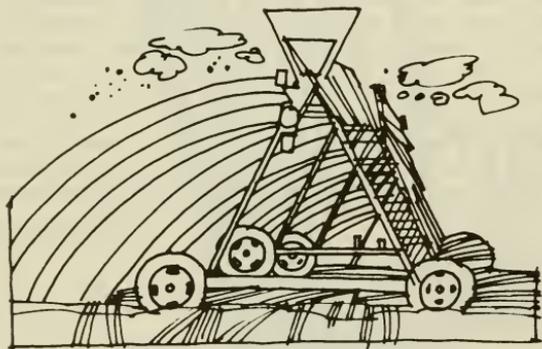
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## editorial

### RPAR — WHAT DOES IT MEAN?

You'll be hearing more about RPAR in the months ahead. It's one of those bureaucratic acronyms which are so confusing. It stands for Rebuttable Presumption against Registration and it deals with pesticides. It sounds substantial and important but on closer examination you will find it as loaded against pesticides as a Colt 38 automatic.

RPAR was written into the Federal Insecticide and Fungicide Law ostensibly to provide a means for a fair and impartial review of pesticides. In actuality, this was unnecessary because there are other provisions in the law providing for review. What RPAR does is to provide *anyone* the opportunity to raise a question about the use of a particular pesticide, even that little old lady in tennis shoes, and this question *must* be answered to the satisfaction of the Environmental Protection Agency.

RPAR has become a witch hunt, therefore, with charges being leveled against pesticide products for which there is no proof. But the rebuttal must have plenty of good hard proof that the situation does not exist. In effect, the pesticide is guilty until proven innocent!

The result is mountains of paper work as state agencies, U.S. Department of Agriculture, and pesticide companies compile huge dossiers on a pesticide's efficacy and safety. EPA has listed 18 different pesticides for RPAR review, with 42 others on pre-RPAR review. As FARM CHEMICALS magazine recently stated, "These are not products that nobody has heard of for the last 10 years, or pesticides infrequently used in production agriculture. *They are the backbone of modern pest control*—some of our most widely (and safely) used (products) . . ." The witch hunt is on and agriculture must defend itself. Behind the scenes, working to eliminate pesticides by the RPAR process, are powerful forces organized as lobbyists for

*Continued on Page 14*

Dear Editor:

I'm writing you this letter as an agent of appeals for correspondence. I'm currently incarcerated at London Correctional Institution in London, Ohio. At present, I have no one on the outside to reach out to, so I'm reaching to you in hopes of acquiring your help. I would strongly appreciate it if you would take my ad into your deepest consideration. I have no funds in which to reimburse you for your kindness, yet as my gratitude overwhelms me, I'd like to thank you in advance.

Here you have one who experiences the essence of loneliness. I've been condemned by society which led me to my incarceration. Loneliness in a place like this is very much like that of a silent drama, one which seemingly builds itself without end. The experience of such has to be lived and felt to be truly understood yet now I reach out in desperate effort to emerge from this internal prison of lost despair. I am reaching out from beyond the depths of this loneliness in search of a common bond, one of understanding, friendship and correspondence. I seek no pity, but rather a friend, for I believe that whenever two strangers can share a smile, a tear or a thought together, they have bridged a gap and aren't strangers any longer.

I am very versatile with many interests and past experiences. From a friend in need of a friend. Yours,

Aaron W. Johnson  
145-297  
Box #69  
London, Ohio 43140

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Thanksgiving**

# News from Mass. Farm Bureau

Farmers' problems with land revaluation are popping up in various cities and towns across the state. Recently MFBF Executive Secretary Phil Good met with a group of 50 farmers from the Westfield area, discussing farmland valuation and the Farmland Assessment Act.

\* \* \* \*

Assessors in many towns are having some difficulty with the Farmland Assessment Act, mostly because of lack of information. Your Farm Bureau is working with the state Tax Department to help develop more information on farmland assessment for the benefit of local assessors.

\* \* \* \*

MFBF annual meeting, hosted by Hampshire County Farm Bureau at the Colonial Hilton Inn at Northampton Nov. 15-16 is shaping up nicely. Several forums on important subjects have been scheduled. Hampshire County has also arranged for the annual banquet and dance to be held at the Quonset Restaurant on Route 9 in Hadley, Tuesday evening Nov. 15th, with dancing to Eddie Forman's orchestra.

## CHANGES PROPOSED IN MARKETING ORDER

At a recent hearing on proposed amendments to the Cranberry Marketing Order, Atty. Paul Jonjak of Sturgeon Bay, representing four family bogs in the Hayward, Wisconsin area charged that the Ocean Spray Co-op, using member agreements could subvert the marketing order because it controls 80% of the national crop.

The U.S. Department of Agriculture hearing was conducted by

Minimum wage legislation is now being considered by a Senate-House Conference committee in Washington, D.C. Farm Bureau was successful in obtaining removal of the indexing feature in the bill, but was unable to get a youth differential amendment.

\* \* \* \*

It looks like we will end up with an annual step-up in the minimum wage beginning next January, probably for the next four years. The exact amount of the increase will be worked out in the Conference Committee.

\* \* \* \*

No change in state minimum wage is expected for this year. MFBF Executive Secretary Philip Good is keeping close watch on the Massachusetts Legislature for any indications of change. We'll keep you informed through your newsletter.

\* \* \* \*

Also on Beacon Hill, the Pesticide bill was the subject of a conference recently, sponsored by the House leadership. Your Farm Bureau is still trying to move this bill along.

Judge John G. Liebert of Washington, D.C. The 40 growers present were the largest number at the three hearings.

Proposed changes in the marketing order, which controls the supply of berries, include adding a citizen member to the seven-member elected committee administering the order provisions, new methods of updating base allotments for growers and provisions for obtaining an allotment to begin cranberry growing.

Since the order was voted in a

referendum by the nation's 926 cranberry growers in 1962, the committee has ordered destruction of cranberries three times because of excess production. The last time was in 1970.

To avoid unfavorable publicity, the committee decided to announce a percentage of the allotment that may be harvested.

Grown are 2.2 million barrels of cranberries, but the base allocation is for production of 2.6 million barrels.

Producers with low per-acre allocations would like some of that excess used to increase their bases.

"Ocean Spray can subvert the marketing order," Jonjak said.

*Continued on Page 14*

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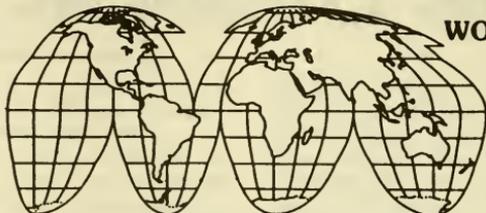
The influence of two experimental compounds—CGA-15281 and R-27969—on color production by cranberries was observed at the State Bog, East Wareham, Mass. Application of CGA-15281 ten days before harvest at a concentration of 2000 ppm and at a spray volume equivalent to 1.87 kl/ha increased color production by 150 percent. Color development in cranberries was also enhanced in storage by CGA-15281. This was especially true for those berries treated with the lowest concentration (500 ppm) of CGA-15281. No difference in color development could be detected in cranberries treated with R-27969. Neither CGA-15281 or R-27969 caused any differences in yield or cranberry size.

Treatment of cranberries with malathion or Ethrel shortly before harvest enhances color production. However, malathion is an insecticide and does not have Federal Clearance for use as a treatment to increase color in cranberries. Ethrel is cleared for this type of use but at the maximum amount allowable (one pound/A) the increase in color is often too small to be commercially acceptable.

The data presented in the study show that CGA-15281, applied shortly before harvest, will considerably increase color in cranberries. Moreover, CGA-15281-treated berries color more rapidly in storage than do untreated berries. It is therefore possible, depending on cost and Federal clearance, that the use of CGA-15281 could prove to be a commercially feasible way of improving color in cranberries.

If you are interested in further information, contact Massachusetts Cranberry Experiment Station, East Wareham, MA 02538.

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# Open Season on Carcinogens

by Thomas H. Jukes

Billions of dollars have been spent in the United States in recent years on cancer research. Most of this has been directed towards treatment of the disease after it has occurred, or attempts to find a virus that causes cancer, or efforts to understand the biological mechanism of cancer at the molecular level, or efforts to produce a vaccine or antibody for treating cancer. In 1977, the emphasis has shifted abruptly. This will be the year in which attempts will be made to remove carcinogens from the environment. The worst of these, and the one that is most definitely known, is tobacco, particularly cigarette smoking. This causes cancer by itself and also aggravates other forms of the disease. I see very little prospect that people will give up cigarettes. Advertising of cigarettes continues at full blast. Recently, I received a direct mailing from the Chairman

of the Board, R. J. Reynolds Tobacco Company, asking me to try two packages of a new cigarette. He said he was proud of this technological achievement, and that he thought that I, as a leader in my community, would want to know about it.

There is much apprehension about environmental chemicals as causes of cancer, and this has been increased by the discovery that vinyl chloride is carcinogenic. Shocking tragedies have taken place in industrial cancer, for example, 29 employees of Rohm and Haas, by the company's count, died of respiratory cancer after exposure to dichloromethyl ether. Another report places this number at 54. Certain ingredients of our diet are suspect. Wynder has drawn attention to "a general association between fat consumption and the rate of breast cancer." Cairns has pointed out that the incidence of

cancer of the large intestine among women in 23 countries is closely related to per capita meat consumption in those countries. The component of meat most suspected is its fat.

In a subsequent investigation, Silinskas and Okey (J. Natl. Cancer Inst., 55:653, 1975) pretreated female Sprague-Dawley rats, 36 days old, with 100 parts per million of DDT in the diet for two weeks. The rats were then given, by stomach tube, 21 consecutive daily doses of 0.714 milligrams of DMBA. DDT-treated rats had a significantly lower incidence of mammary tumors, a prolonged tumor latency period, and fewer tumors per rat than the control group. The occurrence of leukemia was 11 out of 20 control rats and 2 out of 29 DDT-treated rats. The authors suggested that DDT may stimulate liver metabolism and excretion of DMBA so that less carcinogen is available for the production of cancer.

Jones (manuscript in preparation) noted that chlordane at a low rate of dosage decreased the number of cases of cancer in experimental mice as compared with controls. Higher levels of chlordane produced an increase in the number of cases of cancer. It is possible that the anti-cancer effect of low levels of chlordane may have the same explanation as the corresponding results obtained with DDT. It is also of interest that occupational exposure of chemical workers with dieldrin has shown no signs of producing an increase in the occurrence of cancer.

*Thomas H. Jukes of the Space Science Laboratory of the University of California at Berkeley, delivered a talk at the 1977 Annual Meeting of the Cape Cod Cranberry Growers Association on the subject of cancer causing substances in food. This month's article is a review of the topic.*



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The EPA stated with respect to DDT that "there are no adequate negative experimental study in other mammalian species." This is not the case. Ottoboni has made extensive investigations with dogs and rats. In one investigation, lasting through three generations of dogs, involving more than 500 animals, Ottoboni found no pathology.

Prevention of cancer by DDT in experimental animals have been described in several scientific publications. Laws tested the effects of DDT at a high dosage rate, 5.5 milligrams per kilo per day, on mice that had been implanted with a transmissible tumor induced by methylcholanth (Arch. Environ. Health, 23:181, 1971). The animals that received DDT lived an average of 83 days; the animals without DDT all developed tumors and lived an average of 46 days. Twenty-two of the 60 animals receiving DDT did not develop tumors, and the remainder developed tumors that grew slowly. Laws was led to do this experiment because of his previous finding that workers exposed to high occupational levels of DDT did not develop cancer as shown by the medical histories and records of 1,300 man-years of their exposure, daily, to high levels of DDT. The fact that these workers remain free from cancer is in striking contrast to experiences with arsenic, vinyl chloride, asbestos, and dimethyl ether.

McLean and McLean (1967) found that the acute toxicity of aflatoxin in protein-deficient rats was reversed by dosing with DDT, and Ferrando and co-workers reported that the toxicity of aflatoxin B<sub>1</sub> for ducklings was significantly reduced by 150 ppm of DDT in the diet. Aflatoxin is a highly potent carcinogen for experimental animals, and a substantial amount of the 1975 corn crop in Iowa is contaminated with it.

Okey, Life Sciences, 11:833, 1972 found that: Pretreatment of female Sprague-Dawley rats with p,p'-DDT significantly reduces their subsequent liability to mammary

tumor induction by dimethylbenzanthracene (DMBA). Tumorigenesis is inhibited by doses as low as 10 parts per million DDT in the diet; inhibition appears to be due to DDT's ability to stimulate hepatic metabolism of DMBA, thus reducing the dose of carcinogen reaching mammary tissue.

The USDA announced on October 20, 1975, that it would "move against sodium nitrate" in cured meats. Nitrites react with secondary amines to form nitrosamines. This reaction has been reported to occur during the frying of bacon. The amounts in fried bacon are in the parts per billion range, but certain nitrosamines cause cancer at very low levels when fed to experimental animals. As far as I know, most environmental carcinogens are not subject to governmental control. Two exceptions are pesticides, which can be banned by EPA, and food additives, which are subject to the Delaney Clause of the Food Additive Amendment (OSHA). Any suspicion that substances in these two classes are environmental carcinogens, has been and will continue to be, the signal for wide-

sprayed demands that they be banned immediately. These demands are often complied with by the Federal Government, which may even initiate such bans. We have seen this, starting with the weed killer, aminotriazole, and followed by the artificial sweetening agent, cyclamate, then by bans on DDT, aldrin, dieldrin, chlordane, heptachlor, red color No. 2, and threats against bacon. No attempt is made to evaluate the extent of the carcinogenic hazards. The law says you may smoke all you want and blow cigarette smoke in my face, but forbids the use of DDT to kill insects. Scientists who produce tumors in experimental cancer-prone mice become famous overnight. We may expect a continued attack on chemicals that are used in the production of our food supply, which is the safest and best in the world and in human history.

I have the greatest hope that the study of environmental carcinogenesis, if correctly pursued and followed by appropriate action on the part of society, can substantially reduce the incidence of cancer. To quote Dr. Wynder again, "investi-

(Continued on Page 16)

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## Sermonettes

by the

Rev. Don Jennings

### WATCHING

William Sanson, English writer, was asked what his favorite hobby was. He replied, "Watching." We might think this an odd hobby, but it is recreation as well as inspiration to many.

A large part of the history of education, science, medicine and religion has been accomplished by watching. Think how much we miss in the world about us because we are not alert.

Helen Keller, who was blind and deaf, tells in her remarkable essay, "Three Days to See," what she would like to see if only three days of sight were given her. She concludes by saying, "I who am blind can give one hint to those who see. Use your eyes as if tomorrow you would be stricken blind. Make the most of every sense; glory in all the facets of pleasure and beauty which the world reveals to you through the several means of contact which nature provides."

The Bible speaks of those who have eyes to see and see not, and ears to hear and hear not. How grateful are we for the sense of sight and hearing!

Watching is an interesting hobby. It is, likewise, necessary to the future well-being of all who would get the most out of life.

Recently, a friend of mine said that one of the highlights of the happy memories of his boyhood days was the time spent with his father in the woods. He said that his father was always alert to nature about him. He would call the attention of my friend to the things that would have been missed, had it not been for his father's watchful eye.

Be a watcher. Watch for the beauty of God's goodness all about you. The Psalm writer has said, "The heavens declare the joy of God; and the firmament sheweth his handiwork (Psalm 19:1).

As Apollo 8 streaked through space, more than 200,000 miles from earth, millions of people heard one of the astronauts read from the Book of Genesis, "In the beginning God created the heavens and the earth" (Genesis 1:1).

These men, circling the moon, were watchers. As they watched,

they recognized the greatness of the Creator.

Be a watcher. Watch for the good in people instead of the bad. Watch for the opportunity to help people in need. Watch that we might increase in wisdom and knowledge.

We cannot afford to close our eyes to the opportunity to increase our stature intellectually or spiritually.

One of the last words of advice Jesus gave his disciples was that they "Watch and pray lest they enter into temptation." This we too would do well to remember, that we might better learn how to choose or refuse, thus helping to make life worth the living.

*courtesy of American Agriculturist*

### WASHINGTON HARVEST COMPLETED NOV. 3

Officials at the Ocean Spray, Inc., receiving station in Washington said on November 3 that cranberry harvesting on the peninsula has been completed.

Thirty growers on the peninsula started harvesting Oct. 3 and will have brought in 34,000 one-hundred pound barrels of cranberries which works out to 3,400,000 pounds of the fruit.

This estimated total is above last year's harvest of 30,500 barrels, yet to many cranberry farmers it has not been what one would call a good year. The size of the berries is down giving less volume.

Smaller berries decreases the actual poundage since bigger berries mean more volume and more barrels.

Total market value to growers, estimated from \$15 a barrel, comes to about \$510,000. Because the nationwide crop of cranberries is down, local growers might have received a bit of an increase in price for their berries when compared to last year. The average crop for the peninsula is estimated at around 38,000 to 40,000 barrels, so in the long run, this year's crop is a bit shy, according to many growers.

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# REGIONAL NEWS NOTES

## New Jersey

Weather in October was mild and ideal for the cranberry harvest. Almost every day temperatures were in the sixties and seventies with only two in the fifties. Clear, cool nights favored good coloration of berries but no damaging frosts occurred. The extremes in temperature in the weather shelter was 77°F on the 2nd and 28 on the 31st. The average temperature for the month was 54.2°F which is 2.2° below normal.

Rainfall was greater than normal but the accumulated deficiency since the first of the year was not made up. The total precipitation on 11 rainy days was 4.13 inches or 1.05 above normal. Through the first 10 months of the year only 31.48 inches of rain has fallen, or 5.30 less than normal for this period. A few small cranberry growers had to resort to the use of Crisafulli pumps to complete the harvest. The New Jersey cranberry crop continued to "shrink" as harvest progressed. Despite the October 14th estimate of 220,000 barrels by the Crop Reporting Service, total volume is expected to be well short of 200,000. Searing hot dry weather during the blossoming season caused excessive blasting of flowers. The extended severe drought period through June and July caused actual desiccation of vines in many areas with significant further reduction in the crop.

P.E.M.

## Nova Scotia

Most of the cranberries in Nova Scotia have been harvested and many were sold for the Thanksgiving Day trade. Our Thanksgiving was Oct. 10. It is expected that most of the berries for the Christ-

mas trade will come from Massachusetts.

The 50-year average rainfall for the month of September was 87.6 mm and we got 190.3 mm in September 1977. Since then it has rained heavily nearly every day so harvesting of many crops is only about half completed.

I.V.H.

## Mass. Station

### Weather

October was cold and wet, particularly the latter. The temperature averaged 1.2 degrees a day below normal. Maximum temperature was 74 degrees on the 27th and minimum 28 degrees on the 24th. The only warmer than average days were the 1st, 2nd, and 27th. Cold periods were the 3rd, 7-8th, 13-15th, 17th, 19-20th and 29-31st.

Rainfall totalled 7.32 inches or nearly four inches above normal. This is a record October rainfall for us, exceeding the old record of 7.04 inches in 1948. There was measurable precipitation on 17 days with 1.83 inches on the 17-18th as the largest storm. We are 12-1/3 inches above normal for the 10 month period and nearly 12 inches ahead of 1976 for the same period.

### Harvest and Frost

The Massachusetts cranberry harvest was only 85-90 percent complete by the end of October, with a fair number of growers still picking. The season got off to a later start than the last two years because of poor development and general harvesting did not begin until about September 15. When harvest began, so did the rains. We had rain on 27 of 48 days from September 15 through the end of October, including 15 of the first 20 days in October, which must be some sort of record.

The rain was not completely negative because it enhanced our water supplies and kept frost nights to a minimum. The first warning was not issued until October 4 and there were a total of 11 warnings for the fall. This compares with 22 in 1976, 11 in 1975, 34 in 1974 and 11 in 1973. Once again the author is grateful to many individuals for their cooperation in making the frost warning service successful. As always, at the top of the list is Prof. William Tomlinson for his reliability and good judgment in the calculation and formulation of the frost reports. We are also greatly indebted to the forecasters of the National Weather Service, our cooperative observers, telephone distributors, local radio stations and the Cape Cod Cranberry Growers Association.

I.E.D.

## Wisconsin

Weather for the latter part of October featured typical autumn weather with dense early morning fog. Mid-day clearing allowed high temperatures in the 60's and a few 70's. Overnight lows were in the 30's and 40's except for some 20's in the north. Average temperatures for the week were 7 degrees above normal. Rainfall was light, averaging less than a half inch in all areas.

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## FAMILY BUSINESS REPORTS

Family Business Reports F66 and F67 are a two-part analysis of the privately-owned business, entitled "Does Your Business Have a Long-Term Future?"

As the reports point out, the future for America's 12-odd million businesses is anything but rose—their chance for surviving the present owner's life time is only about 1 in 5. For the overwhelming majority the owner will discover that he has no successor—nobody to run the business after he retires—and will sell out or just dump the business; or his heirs will have to sell it to settle estate taxes; or the heir will try to run it but wind up either selling out or going broke. The reason for this dim outlook is that the business eventually must undergo the severe trial of crossing the generation gap. And this gap is quite real.

The owner and his heir—or his selected nonrelative successor—are a generation apart in both years and outlook. They have different parents, education, work experiences, philosophies, attitude toward work and business, aspirations—and future outlooks. The owner is his own man; the successor (at best) is an employee. The difference is very significant.

Family Business Reports F66 and F67 present 68 analytical questions and comments which are of very real value to any business owner (or his successor) to help visualize the relationships between the owner, the business, and the heir. It is these three relationships—and whether they are deliberately developed with a specific goal in mind or just left to grow of their own accord—which will determine the future of the business, and perhaps the family as well.

Well worth reading and free to any business owner or his heir for a self-addressed stamped envelope. Write to The Independent Business Institute, Box 159, Akron, Ohio 44309.

## MASS. CRANBERRY PRODUCTION BOGGED DOWN

For the second season in a row, Massachusetts has finished as a runner-up in the cranberry sweepstakes behind the state of Wisconsin—marking only the third time in 300 years that the Bay State has not led the nation in cranberry production.

Professor Irving Demoranville of the University of Massachusetts Cranberry Experimental Station in Wareham explained the reason probably is the string of wet weather, the rainiest October for 50 years, that came during the harvest season.

Demoranville said there are two harvesting methods. "The wet method which had to be employed by bog operators is used to gather those berries which will be used for canning operation, never sold as fresh berries," he said.

"Because of the wet method which had to be employed for harvest, few whole fresh berries

were shipped to supermarkets. Most bogs can accept the flooding technique, but others lost part of the harvest because of the bad weather," Demoranville said.

"I hate to say it," John Ropes of Ocean Spray Cranberries, Inc., of Plymouth said, "but Wisconsin growers have been planting a new variety of cranberries which yields a larger crop per bog.

Massachusetts harvested 840,000 barrels compared to this year's crop of 870,000 for Wisconsin.

Growers also cited higher costs for fertilizer and tight money as other reasons for the smaller crop.

"Also, because of the high real estate taxes some bogs have been converted to house lots," Ropes said.

The higher Wisconsin crop is hard to take, too, growers say, because Massachusetts plants 10,900 acres compared to 7,000 for Wisconsin. This year's harvest was closer than in 1976 when Wisconsin harvested 86,000 more barrels than the Bay State.

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# OBITUARY

Norman Vinal Holmes, 66, son of Mrs. Blanche Holmes of Kingston, Mass. and the late Jesse A. Holmes of Carver, died Oct. 13 in the New Westminster Hospital in British Columbia, Canada.

Holmes was born in Carver and graduated from Plymouth High School and Burdett College. Mr. and Mrs. Holmes and their three children left Carver in 1955 to promote cranberry culture in Canada, and successfully developed the project from 10 acres to 200 acres. He was retired and enjoyed returning to Carver and to their cottage in Bayside, Maine, every summer.

He was a former member of the Carver Baptist Church, past master of the Plymouth Shriner's Lodge, a member of the Shriner's Lodge in British Columbia, director of a Shriner's hospital in Portland, Ore., director of Ocean Spray, Inc., a member of the Olivet Baptist Church in Canada and a U.S. Army veteran. He was also former director of the Co-operative Bank in Middleboro, Mass., and also the Middleboro Trust Bank.

Survivors include his wife, Mrs. Constance (Tobin) Holmes, formerly of Bridgewater; his mother, Blanche Holmes of Kingston; two

sons, Curtis and Jesse Holmes of British Columbia; two daughters, Mrs. James (Betsy) Spencer of British Columbia and Mrs. Sarah "Sally" Wilson of Duxbury; a brother, Donald Holmes of Moultonboro, N. H.; a sister, Mrs. Laura (Harold) Donner of Middleboro; also many nieces and nephews and 12 grandchildren.

A memorial service was held in the Olivet Baptist Church in British Columbia.

## THEO THOMAS, SR. ELIZABETH L. THOMAS

Theo Thomas, Sr., 72, and his wife, Elizabeth (Lovejoy) Thomas, 71, of 4 North Main St., North Carver, Mass., died within two days of one another.

Mr. Thomas, ill for some time, died on Oct. 27 at St. Luke's hospital in Middleboro, where he had been a patient for two days. His wife, Elizabeth, died on Oct. 29 at the same hospital after suffering a shock in her car two days before while en route to visit her husband.

A retired real estate broker, dairy cattle farmer, and cranberry bog owner, Mr. Thomas was born in Carver on April 5, 1905, the son of the late Clarence and Cora M. (King) Thomas. He attended the local schools.

A retired school teacher, Mrs. Thomas taught elementary school in Plympton and Wareham.

Mr. and Mrs. Thomas leave a son, Theo Thomas, Jr., of North Carver and four grandchildren. Mrs. Thomas also leaves a brother, Charles Lovejoy of Oak Ridge, Tenn.

A funeral service for Mr. Thomas was conducted Oct. 29 and for Mrs. Thomas Nov. 1 at a Middleboro funeral home. The Rev. Robert H. Merritt of the United Protestant Church of Carver officiated at both services. Burials were in the family lot in Lakenham Cemetery, North Carver.

## ENDRESEN NEW SENIOR VICE PRESIDENT - MANUFACTURING

Endre Endresen, Jr., has been appointed to the newly established position of Senior Vice President-Manufacturing for Ocean Spray Cranberries, Inc.

In this new post, Mr. Endresen will have overall responsibility for the company's Operations, Research & Development, Grower Relations, and Citrus Manufacturing Division.

He has been with Ocean Spray since 1969 and most recently served as Senior Vice President-Corporate Planning & Business Development. He has also held several senior managerial positions in the Operations Division during his tenure with the firm.

Prior to joining Ocean Spray, Mr. Endresen held key positions with the Campbell Soup Co., the Pacific Cracker Co., and the Wm. Underwood Co.

He received a B.S. in Food Technology from the University of Massachusetts and a Master's Degree in Industrial Management from the Massachusetts Institute of Technology.

Mr. Endresen makes his home with his family in Duxbury, Mass.



Endre Endresen, Jr.

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# New Products

MARKETING ORDER

Continued from Page 6

## HYDROSTATIC TRANSMISSION

As with so many useful devices applied to modern lawn and garden equipment, the hydrostatic transmission often is not given a chance to do its best job.

In brief, a hydrostatic transmission on a garden tractor provides the exact match of vehicle ground speed to conditions or operational requirements without changing the engine speed. In addition, ground speed can be changed instantly and effortlessly with the engine running at a constant speed.

A tractor equipped with hydrostatic drive has either a hand or foot control, with the hand control being the most popular. There is a neutral position with a positive detent to permit the operator to "feel" the neutral position. Forward travel speed begins when the control is moved forward and the farther the control is moved forward the faster the tractor goes. Reverse the procedure and the tractor moves backward. Most designs permit the reverse speed to be about half of the forward.

Some tractors such as the Simplicity 7016 have a foot clutch override pedal to permit panic stops and to declutch the hydrostatic drive for easier cold weather starting.

A tractor equipped with a hydrostatic drive can save its operators effort, fuel and time. To understand how this can be done, let's compare its operation with gear type transmissions. Many garden tractor operations, such as mowing or front end loading, require frequent changes from forward to reverse. This shifting can be done instantly and effortlessly with hydrostatic drive.

There are some operations such as trenching which are almost impossible to perform unless the tractor is equipped with a hydrostatic transmission. With a hydrostatic the operator simply selects a very slow creeping ground speed while maintaining full engine RPM. A manual shift transmission on the other hand would require frequent declutching, making a simple operation into a major one which might result in clutch failure.

For further information contact Simplicity Manufacturing Co., Port Washington, WI 53074.



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"Ocean Spray is in a position to take delivery or refuse delivery under the marketing order."

His position was that Ocean Spray should be banned from tying up production through member contracts, and members should be allowed to move their base allotment wherever profitable.

There was no opposition to adding a consumer, but changing the voting on the committee to require six votes for passage drew opposition.

## EDITORIAL

Continued from Page 5

nature and conservation. Twelve of the largest of these such as the Sierra Club, National Audubon Society, and Environmental Defense Fund, have combined budgets of over \$48 million. These organizations have given full warning they intend to get action against pesticides by the RPAR route.

USDA is charged with the responsibility for replying to the RPAR charges. But USDA is getting very poor cooperation from the states and much of the information necessary is just not being generated. And to make things worse Erret Deck who was handling the program and is a true friend of agriculture is being removed from his position and it is likely that an environmentalist will take his place.

The situation within the U.S. Department of Agriculture is cause for some concern. President Carter's appointments to top USDA positions have environmentalist backgrounds and have publicly stated they hope to reduce pesticide use by considerable amounts. It is no exaggeration to say that USDA is being infiltrated by those who would like to slow down progress in present day agricultural technology.

—American Vegetable Grower

Thanksgiving is a heritage holiday, and one wonderfully filled with nostalgia and tradition. It's a day of reunion, when family and friends gather together and rejoice in the incredible bounty of our land, and the autumnal splendor nature bestows upon it.

Of the many traditions linked to this occasion, surely most memorable are the foods we prepare for our celebration. One of these is America's very own ruby hued, tangy cranberry—a very versatile fruit which can be much more than a saucy accompaniment to a Thanksgiving feast.

For those who want to add something new to their traditional holiday menu, here are a variety of cranberry recipes sure to become favorites.

"Cranberry Turkey Pie" is a splendid entree either for a festivity on a smaller scale, or as a means to use up those leftovers after a grand Thanksgiving dinner. In a deep casserole are combined such good ingredients as mushrooms, carrots, peas, beans, chicken broth, diced turkey, and fresh cranberries. When the filling is ready, the casserole is topped with a flakey pie crust, which is decorated with a simple cut-out form of a turkey.

If you choose to create but one cranberry dish for your feast, then surely consider "Molded Cranberry Trifle" for dessert. This marvelous delectation combines in a simple ring mold, lady fingers, fresh cranberries, cranberry juice cocktail, sugar, fruit cocktail, heavy cream and gelatin.

**CRANBERRY CELERY RELISH**

(Makes about 5 cups)

- 1 jar (14 ounces) cranberry-orange relish
- 2 cups minced celery
- 1 cup finely grated raw carrots
- 1/2 cup chopped pecans
- 1/2 cup favorite Italian salad dressing

Combine all ingredients in a bowl and stir until well blended. Chill covered until ready to serve.

**MOLDED CRANBERRY TRIFLE**

(Makes 1 - 2-quart mold)

- 2 envelopes unflavored gelatin
- 2 cups fresh cranberries, rinsed and drained
- 2 cups cranberry juice cocktail
- 1/2 cup sugar
- 1 can (1 pound, 14 ounces) fruit cocktail, drained
- 1 cup (1/2 pint) heavy cream, whipped
- 2 packages (3 ounces) lady fingers, split
- Spiced cranberries

In a saucepan, combine gelatin, cranberries and cranberry juice. Stir until mixture boils. Stir in sugar until dissolved. Cool and then chill until syrupy. Fold in fruit cocktail and whipped cream. Line the bottom of a 2-quart mold with split lady fingers. Spread with a layer of cranberry mixture. Continue layering ending with cranberry mixture. Chill until firm. To unmold, dip mold into lukewarm water for a few seconds, tap to loosen and then invert onto serving platter. Surround with Spiced Cranberries. Chill until ready to serve.

**SPICED CRANBERRIES**

(Makes 2 cups)

- 2 cups fresh cranberries
- 1/2 cup sugar
- 1/4 cup water
- 1 cinnamon stick
- 5 whole cloves
- 1/2 teaspoon ground mace

Wash and drain cranberries. In a saucepan combine sugar, water and spices. Bring to a boil and simmer 5 minutes. Add cranberries and simmer 5 minutes. Cool cranberries in syrup; then chill.

**CRANBERRY TURKEY PIE**

(Makes 6 servings)

- 1/4 cup butter or margarine
- 1/2 pound mushrooms, sliced
- 1-1/2 cups sliced celery
- 1/2 cup all-purpose flour
- 2 cups (1 pint) half-and-half
- 1 cup chicken broth (canned or from bouillon cube)
- Salt and pepper
- 4 cups diced cooked turkey
- 1 package (10 ounces) frozen mixed vegetables, thawed
- 1-1/2 cups fresh cranberries, rinsed and drained
- 4 cups packaged buttermilk biscuit mix
- 1 cup water
- 1 teaspoon poultry seasoning
- 1 egg, well beaten



In a large skillet or Dutch oven, melt butter and cook mushrooms with celery for 5 minutes, stirring occasionally. Gradually stir in flour, then combine half-and-half and chicken broth. Cook, stirring constantly, over low heat, until sauce thickens and bubbles. Season to taste with salt and pepper. Stir in turkey, vegetables and cranberries. Pour mixture into a 2-quart casserole. In a bowl, combine biscuit mix, water and poultry seasoning. Stir until well blended. Knead dough mixture a few times and form into a smooth ball on a floured surface. Cut off a piece the size of a peach. Roll out remaining dough into a piece large enough to cover casserole and having a 1-inch overhang. Crimp overhang firmly to casserole and brush dough with beaten egg. Roll out reserved dough and cut into a turkey shape. Place in center of casserole. Brush with beaten egg again. Bake in a pre-heated hot oven (400° F) for 25 to 30 minutes or until richly browned and mixture is hot and bubbly.

**CRANBERRY STUFFED YAMS**

(Serves 6)

- 6 large yams
- 1/4 cup butter or margarine
- 1 cup fresh cranberries, rinsed and drained
- 1/4 cup sugar
- Grated rind of 1 orange
- 1 cup (1/2 pint) heavy cream
- Salt

Bake yams in a 350° F. oven for 1 to 1-1/2 hours or until tender. Cut yams lengthwise in half. Scoop out pulp leaving 1/2 inch thick shell and place pulp into a bowl. Mash pulp until fluffy. Reserve shells. In a saucepan, melt butter and add cranberries and sugar. Cook, over low heat, stirring occasionally, until cranberries are tender. Add cranberry mixture, orange rind and heavy cream to mashed yams and beat well until light and fluffy. Pile yam mixture back into reserved shells. Bake shells at 350° F. for 20 to 25 minutes or until lightly browned and heated through.

Continued from Page 3

**How much combustion efficiency should I expect?**

An efficiency of 80 percent or above is excellent. This means 80 percent of the heat received from the oil goes into the house, while only 20 percent is lost to the atmosphere, 75 to 79 percent is good, 70 to 74 percent is fair, and below 70 percent is poor. If the efficiency is below 70 percent, the burner should be readjusted. If an efficiency of 70 percent or better cannot be achieved or if adjustment increases the smoke number significantly, the burner should be replaced. The savings in fuel cost will offset the cost of the burner over a period of time.

**If my service technician does not measure CO<sub>2</sub>, smoke number, stack temperature, and draft, what should I do?**

Request the company to send another technician who can and will make the measurements. If the company cannot provide proper service, it is recommended that you find a company that can. These measurements are essential for proper burner servicing.

from *Environmental News*  
U.S.E.P.A.

**OPEN SEASON**

Continued from Page 9

gators experienced with cancer epidemiology are suggesting that from 50% to 90% of all human cancers are causatively related to environmental factors. . . . It is our current estimate that some 50% of all female cancers in the western world and about 1/3 of all male cancer are related to nutritional factors. Except for isolated cases, food additives and specific carcinogens possibly contained in some foods, contribute the least effect in the relationship of nutrition and cancer." Dr. Wynder also says that "we should not relate to man the conclusions drawn from animal experimentation in which such components as cyclamates, saccharin, diethylstilbestrol or DDT

here administered - are unrealistic high concentrations." The reason that such substances are the target for bans is because it is legally possible to ban them, and not because of their relative importance in environmental cancer.

One of the favorite targets of environmental activists is the insecticide, DDT. The evidence for DDT being a threat to wildlife is flimsy, except in localized incidents such as killing robins that were in elm trees when they were being sprayed. The adverse effects attributed to environmental DDT now appear to be overshadowed by the presence of PCBs and, possibly, mercury in some cases. The EPA, and its ally, the Environmental Defense Fund (EDF) has consequently been forced to claim that DDT is a cancer hazard to human beings. In August 1975, the EPA issued a news release stating that DDT was banned because of "unreasonable adverse effects on man." No such effects exist.

The following statement was made by the World Health Organization (WHO) in April 1971:

The safety record of DDT for man is truly remarkable. . . . Dosages of DDT hundreds of times greater than those encountered in the general public have been tolerated by volunteers for more than a year and by workers for as long as DDT factories have existed, i.e.g. for about one-fourth of the human

lifespan. Over 150 persons with heavy, prolonged occupational exposure to DDT have been exhaustively studied medically, without any related findings except those that could be predicted, namely increased storage and excretion of DDT and its metabolites and a mild stimulation of the microsomal enzymes of the liver . . . .

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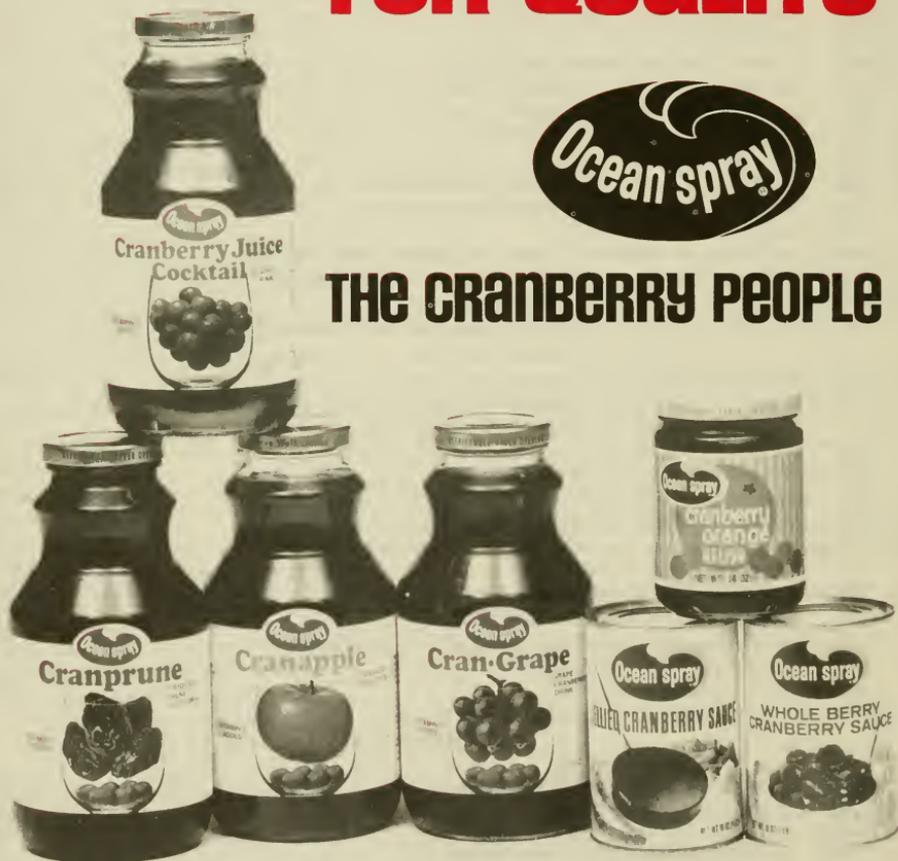
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## SEASONS GREETINGS

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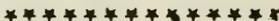
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Winemaker Pat McCoy of Nehalem, Ore., believes there's a market for a well-made cranberry wine. But under current federal law he would have to label it "substandard" no matter how good it is.

At McCoy's request, Oregon Congressman Les AuCoin has introduced a bill in Congress to eliminate the problem faced by McCoy, and any others who want to make wine from high-acid fruits.

It's legal now to make wine from cranberries and sell it. But because water and sugar have to be added to bring down the acid level and enhance the flavor, these wines must be labeled "substandard."

In a statement to the House of Representatives, AuCoin said, "Obviously, the marketability of any wine labeled 'substandard' will be difficult, if not impossible."

AuCoin also pointed out that three other high-acid fruits, loganberries, currants and gooseberries, already are exempted from the statute. In his statement, he said there's no logical reason why all high-acid fruits shouldn't be exempted.

"The marketplace—the consumers—can certainly decide whether any particular wine is suitable," AuCoin said. "It doesn't make sense for government to require labeling a cranberry wine 'substandard' when the same requirement doesn't apply to loganberry."

AuCoin told the House, "This legislation could mean a new industry in wines made from high-acid fruit. In Oregon alone, there are 20 to 30 producers of cranberries. According to the Oregon Department of Agriculture, some 900 acres of cranberries are harvested annually in Oregon, with each acre yielding an average of 100 barrels.

"Winemaking is a new and growing industry in Oregon. A change in the existing law is needed if the industry is to realize its full potential," he said.

Wines made from grapes would not be affected by the legisla-

# WETLANDS DISPUTE MAY SET DNR RULE PRECEDENT

A possible precedent determining the jurisdiction of the Wisconsin Department of Natural Resources over marshes, groundwater and other wetlands may be set because of an agreement reached here.

The DNR reached an accord with Roland and William Huebner, who said they would stop dredging 7,000 acres they own or control in eastern Jackson County until a ruling could be made. The Huebners said they were dredging to improve their muck farm. (See *Cranberries*, Oct. 1977).

Maurice Van Susteren, DNR hearing examiner in the case, said that the arguments would be "breaking new ground and perhaps extending DNR authority to the breaking point."

Van Susteren adjourned the hearing for up to 30 days. The Huebners agreed in the meantime not to do any work affecting the

waters and to limit their farming to plowing or clearing only 80 to 100 acres.

They already have stopped dredging under an order from the US Army Corps. of Engineers.

The Huebners, who operate Pettenwell Potato Farms, are charged with removing materials from Beaver and Hay Creeks in the Town of Bear Bluff without a permit. They contend that they were informed that they did not need a permit.

However, Albert Amundson claimed that the dredging threatened the water levels on his 50 acre cranberry bog and the adjoining 1,450 acres he uses as a water reservoir for that operation.

The Huebners contended that the wetlands in the area, which has many cranberry bogs, were not public waters but were created by

*Continued on Page 16*



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# USE OF FERTILIZER TO MAINTAIN A BALANCED NUTRITION FOR CROPS

A. R. Halvorson

Extension Soil Scientist  
Washington State University

In addition to water and air, plants need 13 mineral elements for normal growth and high production levels. The total absence of any one nutrient element will result in the death of plants growing on that soil. Rarely is soil totally devoid of any one or several nutrient elements. It is quite common, however, that most soils will contain less than adequate supplies of one or more of mineral nutrients. The resultant decline in yield is related to the degree of shortage.

The best guide available for determining which nutrient may be in short supply, and to what degree it is short, is soil testing. This assumes that the soil test has been calibrated for the area and the

crops in question. The term calibration can be illustrated in the following way, by setting up a hypothetical situation that simulates actual field experiments. In calibrating a soil test for phosphorus, a series of field plots are set out. Each plot location will have a series of rates of fertilizer, 0, 30, 60, 90, 120 and 150 lbs. of  $P_2O_5$  per acre. Crop yields will be measured at harvest time. Let us assume that the plot receiving  $P_2O_5$  at the rate of 120 lbs. per acre gave the maximum yield. In other words, this soil was not capable of supplying the phosphorus needs of the crop and was obviously quite low in available phosphorus. Let us

assume a phosphorus soil test on soil from this area showed 1 part per million phosphorus (this equals about 2 lbs. of phosphorus per acre 6 inch depth of soil). Let's assume another plot on another farm showed that phosphorus fertilizer gave no increase in yield—or only so slight that the yield increase was insignificant. Let us assume a test for phosphorus on this plot site showed 8 parts per million (16 lbs. phosphorus per acre 6 inch depth of soil). Other plot sites on various farm fields in the area could be expected to show phosphorus responses ranging between the high response and the no response, and likewise, the soil test level for phosphorus could be expected to

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show test values between 0 and 8 parts per million. Some soils will, of course, have test values above 8, but all of those would be higher than needed so they won't enter into the response category and thus in a sense don't enter into our calibration procedure.

From the series of field experiments in the area, a calibration table for phosphorus soil tests for that area and for the crop in question might then look like the following:

**Soil Test Level for Phosphorus  
(parts per million)**

0 - 3  
3 - 6  
6 - 10  
above 10

**Lbs. P<sub>2</sub>O<sub>5</sub> to Add Per Acre For  
Each Soil Test Level**

120  
90  
60  
0

Note that while the crop in the plots showed no response to phosphorus when the soil test level was at 8.0, the calibration table is made up such that phosphorus fertilizer would be suggested at a soil test level up to 10 parts per million of phosphorus. This is always done to provide a safety factor. There may be stress conditions occasionally where that extra nutrient may pay off.

Calibration data of this nature is obtained by field experiments for the major crops for each of the major soil areas in the State. Without this type of field calibration of a soil test, the use of soil tests for determining fertilizer needs may not be much better than a guess.

It is not possible to test for all nutrients under all crop and soil conditions. Nitrogen and sulfur are the two nutrients for which soil tests are generally not satisfactory. Another article at a later date will explain why nitrogen and sulfur tests are generally not helpful—and it will explain under what special conditions they may be helpful.

A third article will deal with the matter of using soil testing to keep a proper balance of nutrients in the soil. An excess of one nutrient can, for example, create a deficiency of another nutrient.

A fourth article would deal with some of the special tests that are performed to diagnose special soil problems.

## Protection Keeps Pace With Income

American families have been boosting their life insurance protection to keep pace with the increase in their income.

In 1935, during the great depression, families in the United States had an average of \$1,400 of disposable personal income and \$2,400 of life insurance, according to statistics of the American Council of Life Insurance.

Forty-one years later, in 1976, the average amount of disposable personal income per family had increased by nearly 11 times to some \$15,200, the Council said. Life insurance coverage had increased by more than 12 times, to an estimated \$29,800 per family.

## BANDON, ORE. CROP SMALLER THAN PROJECTED

The harvest of the Bandon area cranberry crop came to a close the middle of November, and proved to be smaller by more than 10,000 barrels than the 90,000 barrels which had been projected earlier.

As of the 16th, only a little more than 78,000 barrels had been brought into the Ocean Spray Cranberry plant, down 12,000 barrels from estimates and more than 7,000 barrels from last year's 85,760-barrel crop.

"Most of the growers said they had a good bloom and good set this year, but the berries just didn't size like they should have," said Ocean Spray's plant manager Pam McGinty. "There were millions of tiny berries on some of the bogs. However, the crops of quite a few of the growers were up over last year, while others were way down. No one can quite figure it out.

"One factor could have been that some of the growers may not have given the berries enough water, fearing that they wouldn't have enough in case of a severe frost... or to protect the berries against scalding if it got too hot this summer. But we don't know if that was a factor or not," she added.

The largest crop ever harvested locally was 101,212 in 1972.

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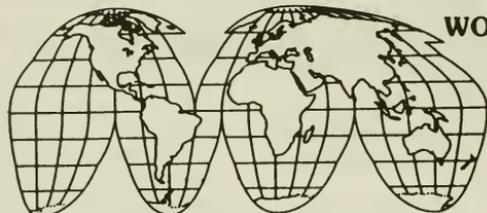
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### A MATTER OF MODESTY by Robert W. Henderson

To show a jumble opinion of one's value, abilities or achievements is to be modest. Most of the scientists with whom I have worked at Oregon State University during the last four decades have frustrated me with their devotion to modesty.

These able and well-trained scientists in the various research departments and branch experiment stations have made numerous scientific discoveries that have benefited every Oregon citizen through more efficient methods of production, storage, marketing and utilization; through conservation, development and utilization of our natural resources; and by outlining procedures for improving the health not only of plants and animals but also the health and well being of men, women and children.

The frustration comes from knowing that the potential of these dedicated and competent OSU scientists and technicians to contribute to the solution of Oregon's economic problems and to provide better living to Oregon citizens is not being fully utilized.

Successful educators recognize that the teacher has not taught until someone has learned. The modesty of scientists and research administrators suggests that they have failed to recognize that scientific discoveries become more valuable as they are used by the public.

Even with the recent innovations in communication, the task of keeping all segments of our citizenry informed regarding the problem solving potential of the Land Grant University experiment stations is overwhelming.

Our legislators and public officials are frantically searching for solutions to the state's economic problems. Most of them have only a vague appreciation of the unique abilities of experiment station scientists that could be tapped to create new taxable wealth through the magic of research.

It is time for the scientists to shed their traditional cloaks of modesty and fully and unashamedly reveal their potential to provide solutions to problems that must be solved before Oregon's economy and the well being of its citizens can improve.

*Editor's note: Dr. Robert Henderson retired from Oregon State University last summer. It was our pleasure to provide him with a form for um for his reflections after his many years of service to OSU and the Oregon Agricultural Experiment*

For the last couple of years, the weather has been following a new pattern, that is, warming up gradually during July-August and then cooling off sharply in September. Bloom and fruit set has been exceptionally good. Berry size was enlarging progressively with climbing temperature until mid-August when the temperature took a dive an average of 7 degrees during the last part of the month. September followed suit with 3 degrees cooler temperature than August and 3 degrees cooler than September 1976. This early cooling slowed fruit growth and development, producing medium to small berries.

Total precipitation for July, August, and September was favorable and exceeded the same period for 1976 by one inch.

	1977		Mean High
	Precip.		Temp.
July	.88		64.1
Aug.	4.83		66.5
Sept.	5.59		63.5
		11.30	
Nine months total 39.84			

	1976		Mean High
	Precip.		Temp.
July	3.30		62.8
Aug.	4.87		65.1
Sept.	2.14		66.7
		10.31	
Nine months total 56.30			



# News from Mass. Farm Bureau

Overflow crowd filled the meeting room at this year's MFBF Annual Meeting to hear U.S. Rep. Margaret Heckler, Lt. Gov. Thomas O'Neill, and Commr. Fred Winthrop. All three speakers touched on the changing attitudes among government officials toward the value of agriculture.

\* \* \* \*

"Things are looking up," said Commissioner Fred Winthrop, indicating that government at all levels is waking up to the real problems faced by today's farmers.

\* \* \* \*

Congresswoman Margaret Heckler, who sits on the Agriculture Committee in the Congress, said, "I think it's a mistake to think the consumer and the farmer are at odds. In fact, they need each other."

\* \* \* \*

Lt. Governor O'Neill told the audience that Massachusetts agriculture, with its 200 million dollars of new wealth added to the economy each year, was "nothing to be sneezed at."

\* \* \* \*

New Federal Minimum Wage Law will also increase the number of small businesses exempted from paying the minimum wage. At present, businesses with less than \$250,000 in gross annual sales are exempt. That exemption will rise to \$275,000 on July 1, 1978; to \$325,000 by July 1, 1980, and to \$362,000 by December 31, 1982. Although the youth differential to establish a lower minimum wage for teenage workers was defeated, the new law does allow an employer to

hire up to six full-time students for part time jobs at 85 percent of the minimum wage... provided they do not displace adult workers.

\* \* \* \*

The Pesticide Bill is on its way to Gov. Dukakis' desk. Should be signed by the end of this week.

\* \* \* \*

Starting January 1, 1978, certain agricultural employers will be covered for the first time under the Unemployment Compensation Law. The main points are:

*Who is Covered?* Those agricultural employers who employed 10 or more workers during any of 20 weeks during 1977—or—who paid out \$20,000 or more in wages during any one quarter of 1977.

*What Must be Paid?* Both the Massachusetts and the Federal Unemployment tax must be paid on the first \$6,000 in wages paid to each employee, including seasonal workers. (But not laborers brought in under contract.) *Taxes Paid When?* Massachusetts unemployment taxes will be paid quarterly, Federal taxes annually, semi-annually, or otherwise. It depends on your own situation. You will be informed by the government. *Taxes Paid at What Rate?* Depends on your own situation. That's why those forms were sent to you. They want to see what your salary experience was during 1977 to determine what your taxes will be for 1978. *Who is Exempt?* In a sole proprietorship, the proprietor, spouse, blood brothers and sisters, children, grandchildren, father and mother of proprietor (not in-laws) are exempt. *Also Exempt* are both partners in a partnership, but no one else. HOWEVER, if the partners are husband and wife, then their children and grandchildren are

*Continued on Page 14*

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# VIBRATIONS

by MEL GAGNON

Remember . . . "You've Come A Long Way, Baby?" It was a catchy little jingle which became familiar to a lot of TV viewers . . . until the networks were told to cool it. Cigarette commercials became taboo. However, the melody lingers on in the minds of many.

According to its line, the woman of yesteryear was looked upon disdainfully if she dared to smoke a cigarette. In this era of freedom and equality, society couldn't care less if she smoked a cigar, or even a corn cob pipe.

Those of us who are directly, or indirectly, involved with cranberries agree wholeheartedly, that this same line could be applied to the commercial progress of our little red berry, but with some reservations. First, the cranberry is food. Secondly, who ever heard of anyone smoking cranberries?

Our cherished little berry does not need jingles to herald its rise to the top. Because of its versatility, it is on a higher plane than all other known berries. The only thing that a jingle might project is what we have known for a long time . . . the cranberry is now King. Hail!

It is not the intention of this writer to chronicle the history of cranberries. That should be left to the historians in the industry. The purpose of this writing is to casually articulate the progress made by the processing companies who continue to put new products on the market, spin-offs of the cranberry, thereby making cranberry sauce . . . one of many.

It has long been the custom to serve cranberry sauce with turkey for the holiday season, but when January rolls around, the turkey is forgotten, except in name only. What do I mean? Well, recently it has come to my attention that when one wishes to malign the character of another, the name "turkey" is used. Example: "I can't stand that guy, he's a Turkey!" An

automobile not functioning properly is referred to as a "Turkey" instead of a "Lemon." The poor turkey has become the fall guy for what?

Meanwhile, cranberries are still involved in a romance with the

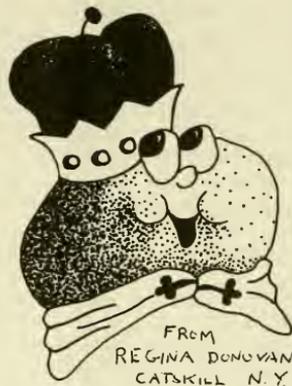
have been abruptly told to stop talking like a dumb kid. My father would growl with, "Shut your mouth and eat your dinner!"

How about cranberry juice, Cran-Apple or cranberry relish? Wow! I would have lost my dessert for saying outlandish things while my parents were trying to enjoy their meal.

Then the next bomb I would drop would be the mention of cocktails in the future consisting of cranberry juice and Seagram Seven, or same juice with Vodka . . . "The Firecracker" and "Cape Codder." This would have got me into reform school for profaning the cranberry sauce on the table.

Getting back to the present, the flight of the cranberry has brought the world so many new products, or new ways to use this ever-loving berry, that the homemaker is becoming ever more radiant in the eyes of her spouse. She has learned that the way to keep a man's heart warm is to give his palate a soft, satisfying caress with a glass of cranberry juice for breakfast.

Say, I wonder . . . would the world have been a better place to live if Eve had offered a Cran-Apple to Adam?



homemaker as pie-filling, or is being baked in what comes out of the oven as cranberry bread.

Let's go back in time to the year 1920 when cranberries were purchased mostly by the quart. On Thanksgiving and Christmas, they were cooked, strained and cooled to form cranberry sauce. The so called "Now" generation is very apt to ask why the old folks went to so much effort, when all one has to do is just open a can and "Presto" . . . we have cranberry sauce in less time than it takes to spell it.

If I could have looked into a crystal ball when I was a boy, I might have seen cranberry bread in the future. I can hardly visualize myself sitting at the dinner table trying to tell my mother that some day, somewhere, somebody is going to invent cranberry bread. I would

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# NEW TAX RULES from IRS

Do you hate to make decisions? Or you make them but only at the last minute? Due to some significant changes in the tax law, you may not want to wait until the last week of December to do your 1977 tax planning.

For example, one important change in the law that will affect many taxpayers is the increased time property must be held in order to qualify for long term capital gain or loss treatment. In prior years, you had to hold an asset for more than six months to qualify for the long-term capital gain or loss treatment, but for 1977, the holding period has increased to nine months.

This means, for instance, that if you purchased some stock or perhaps land on January 4, 1977, you must have owned that property until at least October 5, 1977, in order to be eligible for long term capital gains treatment. If you disposed of the property before October 5th, the entire gain from

the sale would be reportable.

Also for 1977 tax returns, the amount of a capital loss that may be claimed on your tax return as an offset against taxable income, has been increased from \$1,000 to \$2,000.

Suppose you purchased some stock in March, 1977, for \$6,000 and sold it in December, 1977, for \$2,000. Your total loss was \$4,000. In prior years, you would have been allowed to offset your taxable income by only \$1,000 of the loss, but for 1977 you may use \$2,000 of the loss to offset your income. As in the past, any excess loss may be carried over to the next year.

Other changes in the tax law that may affect millions of Americans concern Individual Retirement Arrangements, commonly referred to as IRAs. Generally these are personal retirement savings plans that may be set up by working persons under age 70-1/2 who do not participate in any other pension or annuity plans. The advantages of

an IRA is that contributions are not taxed until you receive distributions from the plan, normally after you retire when you may be in a much lower tax bracket.

This year, for the first time, workers who have established an IRA may also set up such a plan for their non-working spouse. This means that you can save an extra amount of money for retirement years.

The deduction you are allowed for your combined contributions to both plans is 15 percent of the working spouse's income, to a top limit of \$1,750. However, you may not take a larger deduction for one spouse's IRA than for the other.

So therefore, if you contribute more to your plan, for example, than to your spouse's plan, your deduction is limited to twice the amount contributed to your spouse's plan. Here's how that works: You received compensation of \$20,000 in 1977 and contributed \$875 to your IRA and \$800 to an IRA for your unemployed spouse. Even though your total contribution was \$1,675, you are allowed a deduction on your return of only \$1,600, twice the smaller amount contributed to a plan.

Another change concerning IRAs involves the period in which you may make contributions to an IRA and still deduct those contributions on your 1977 tax return.

If you make your contribution within 45 days from the end of the year (by February 14, 1978), you may still deduct it on your 1977 return. This new provision allows you to figure your income for the year, and then make your contribution based on that figure.

For more information on capital gains and losses or Individual Retirement Arrangements, contact the IRS for a free copy of Publication 544, "Sales and Other Dispositions of Assets," or Publication 590, "Tax Information on Individual Retirement Savings Programs."



Muriel Stefani  
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## Sermonettes

by the

Rev. Don Jennings

### WALLS . . . OR BRIDGES?

"Many are lonely because they have built walls instead of bridges." These words, taken from a church bulletin board some time back, have been ringing in my ears like the warning bell at a railroad crossing. Man often builds a wall around himself to protect him from undesirable circumstances. By so doing, he misses opportunities of doing something for others and thus receiving a blessing in return.

Walls are a warning to those around us that we prefer to be left alone. Bridges remind others that we are available if needed. It was said of a well-known and effective religious leader that one of his notable attributes was his simple availability.

This could very well have been said of Jesus. He was never too busy but what he was available to the down and out, as well as the up and out. He did not build a wall around himself. He built bridges. Although he was the King of Kings, he did not come to sit on a throne, but to mingle with those who needed him. "Come unto me," he said, "all ye that labor and are heavy laden, and I will give you rest!" (Matthew 11:28).

We build various kinds of walls to protect ourselves, and to a certain extent they are necessary. But some of the walls we build around us are signs of concern only for ourselves. Bridges are symbols of concern for others.

#### Remembered

Some years ago I had the funeral of an aged and beloved physician. What I said, no doubt, was soon forgotten. What he did was long remembered. They said of him, as has been said of many faithful family physicians. "The

night was never too dark and stormy but what he made his way to the bedside of the sick. He did not ask if they had the money to pay him. He not only gave counsel and medicine, he gave himself." This benevolent physician built no walls, but bridges. He made himself available and was long remembered for what he was.

There was Dorcas. Who was Dorcas, also called Tabitha? The Bible tells us that she was a charitable woman of Joppa who gave much of her time to the making of garments for the needy. At the very height of her service of love, she died. They sent for the apostle Peter. He came and prayed for her and she was restored to life again. To her many friends in Joppa, she was indispensable, not alone for what she did, but what she was.

The ministry of Dorcas was one of love and service. She was not lonely, for she built bridges instead of walls. "A woman full of good works and almsdeeds" (Acts 9:36) is the way Dorcas's Christian service at Joppa was described. There are many Dorcas Societies today.

The richest personalities are not those who have accumulated and built walls around themselves and their possessions. Rather, the most satisfying life is the one who has built bridges of concern for others. This was the Master's way. By His presence in our lives it can be our way too.

### PROPOSED WISCONSIN BILL MAY REQUIRE FARM EQUIPMENT OPERATORS TO BE LICENSED

Late in September, Assembly Bill 1020, Farm Vehicle License, was introduced. It will require a person operating a farm tractor or implement of husbandry on a highway to have an operator's license or hold a certificate for successfully completing a traffic safety course for operators of farm vehicles, (course to be developed, at least three hours in length, available throughout the state, available to all ages, fee \$6.00, effective January 1, 1979. No hearing date announced).

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# RALPH M. BARKER

*weatherman... and more!*

At the 1977 Annual Meeting of the Cape Cod (Mass.) Cranberry Growers Association, one of the highlights featured the presentation of a cranberry scoop to "The Old Salt," Rev. Ralph M. Barker. The presentation, by Prof. William Tomlinson of the East Wareham, Massachusetts Cranberry Experiment Station, was in appreciation of the many years of service to cranberry growers for Rev. Barker's weather observing and frost warning work. This invaluable contribution began in 1931 under the direction of Dr. H. J. Franklin, the first director of the East Wareham facility. Growers over the years depended on these accurate and reliable forecasts.

Rev. Barker has had a colorful and varied life and has described his activities as a series of "three careers." As a minister of the gospel he served the First Baptist Church

of Mansfield, Mass. from 1926 to 1930. The years of 1930 to 1946 saw Rev. Barker ministering to the needs of the parishioners of the Community Church of East Gloucester, Mass. In 1931 he supervised a reorganization of the Church. The nearby town of Rockport was his home while pastoring the First Universalist Church there from 1950 until 1974.

Weather has provided a second career for Ralph Barker, who established Co-op weather stations in Mansfield in February 1927, Gloucester in March of 1930 and in Rockport in November 1945. In 1960 Rev. Barker set up the Cape Ann Telephone weather answering service. He has predicted local snowstorms, rainstorms and heat waves with a 90 per cent accuracy rate, putting aside vacation plans year after year in order to make his daily readings. His telephone an-



swering service fields more than 50,000 calls per month or 600,000 per year.

The average man would have found these activities sufficient fulfillment for a 50 year span of public service. However, Barker looked to the securities brokerage profession to fill in gaps in his schedule. From 1944 to 1960 he was associated with the firm of Mann & Co. in Rockport, serving as president from 1960-1973. In that year and to the present time the Barker company became a division of F. L. Putnam & Co., Inc., Boston, and Barker has been actively involved in its operation.

If you think the story ends here you have not reckoned with this versatile man. Most of us can claim a hobby of one sort or another - Ralph Barker's extra curricula interests include astronomy, archeology, history, photography and tilling his garden.

Best wishes to "The Old Salt" from grateful cranberry growers.

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# REGIONAL NEWS NOTES

## Wisconsin

On October 17, 18, 19 as a follow-up of suggestions made at the summer meeting, a tour of the cranberry industry for Department of Natural Resources staff was conducted by Byron Crowns, Attorney, and Leo Sorenson, Chairman, Water and Wetlands Committee. Those in attendance were Sorenson, Crowns, Klingbeil, and John Potter, Council for the Committee. From DNR: Jim Kurtz, Attorney and Director, Bureau of Legal Services, Madison; Pete Flaherty, Attorney, Madison; T. L. Wirth, Chief, Water Resources, Research Section, Madison; R. H. Smith, Area Supervisor, Wisconsin Rapids; Ed Brick, Chief, Water Regulatory Section, Madison; R. W. Roden, Environmental Engineer, Madison; and Tom Smith, Water Management Investigator, Wisconsin Rapids. The first day was spent on cranberry properties in the Biron area, then flying the Cranmoor, City Point, Mather areas with Mel Potter. The second day properties in the Wisconsin Rapids and Cranmoor area were visited. The third day was spent in the Hayward area. Those on the tour had the opportunity to see cranberry har-

vesting, water management practices, several methods of diversion and recycling and wetlands management. Reaction and comments about the tour were positive.

Cranberry growers should be aware of a large drainage project in southeastern Jackson County. (See *Cranberries* Oct. 1977 and this issue). Several thousand acres are being drained for a vegetable crop operation. The project could have implications for the cranberry industry and will affect growers depending on surface water in that area. At present, the U.S. Corps of Engineers and DNR have initiated actions to halt further ditching and draining. Become familiar with the project in case the Growers' Association is asked to initiate action.

Don't forget the winter meeting at Port Edwards on January 10.

## Washington

Open Space Taxation will be discussed by Washington State University Economist Bruce Florea at meetings in Long Beach and Grayland, in December.

Open Space or Controlled Use Taxation is a program aimed at preserving certain agricultural or other open space land in its current use. Dr. Florea will be discussing the rationale for the law and pros and cons in the program.

According to the Open Space Act, land is to be assessed on the basis of its value in use rather than market value. The result may be reduced property taxes on some land. An important factor in the success or failure of this program lies in correctly determining land values. Dr. Florea will provide general information on the Open Space Act to help land owners decide if they want to classify their land under the Open Space Program.

The meetings will be held Wednesday, Dec. 14, at 7:00 p.m. at the

Willapa Grange Hall, Grayland, and Thursday, Dec. 15, at 7:00 p.m. at the Coastal Washington Research & Extension Unit, Pioneer Road, Long Beach. Cranberry growers and all other interested persons are urged to attend.

After the extremely dry conditions of the year beginning in September 1976, October and November 1977 added to the September rainfall, brought the Washington area to within 8.22 inches of the overall average! October precipitation totalled 5.83 inches and November 15.97. There was ample water to complete water harvesting in the Long Beach bogs, and perhaps too much for Grayland-North Beach dry picking areas.

October maximum temperature was 71 degrees on the 12th and minimum 33 degrees on the 18th. November maximum temperature was 61 degrees on the 11th and minimum 24 degrees on the 19th. No flooding occurred in the cranberry bogs during the late November heavy rainfall, as in other areas of Washington.

A.Y.S.

## Mass. Station

### Weather

November was warm and dry but also a very cloudy month. The temperature averaged 1.6 degrees a day above normal. Maximum temperature was 70 degrees on the 4th and minimum 22 degrees on the 15th. Warmer than average periods were 2nd-5th, 8th-11th and 16-17th. Cooler than average days were the 13th, 14th, 20th, 23rd and 27-30th.

Precipitation totalled only 1.94 inches, which is 2-2/3 inches below normal. There was measurable precipitation on eight days with 0.79 inches on the 8th as the largest storm. We are now 9-2/3 inches above normal for the year and over 13 inches ahead of 1976.

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There was an inch of snow recorded on the 28th.

### Crop Estimate

The official crop estimate released by the Crop Reporting Service as of November 1 indicates the Massachusetts crop declined 55,000 barrels to 865,000. In other areas New Jersey decreased 45,000 to 175,000 barrels; Oregon held at 95,000 barrels; Washington fell 2,000 to 133,000 barrels and Wisconsin increased 80,000 barrels to 870,000. The national crop stands at 2,138,000 barrels, down about 270,000 barrels from last year's record crop.

## Nova Scotia

The high rainfall established earlier in the year has continued through October and into November. We had a week of fine weather at the end of October which enabled farmers to finish their harvest operations. Temperatures have remained mild up to this date, November 22.

From the British Columbia Ministry of Agriculture Horticulture Report, I note that the 1977 crop was 14,000,000 lb. of berries. The outlook for 1978 is 13,500,000 lbs.

## New Jersey

It was very rainy and mild during November.

One of the most intensive rainy spells ever experienced here, 16 rainy days, in the thirty-day period, deposited a total of 8.38 inches of rain. This was the second rainiest November in the forty-nine year weather recording history at Pemberton, being exceeded only by November, 1972, which had 9.09 inches.

The excessive rain in October and November during which a total of 12.51 inches occurred has restored the acute water shortage to normal levels. The accumulated precipitation for the year now

totals 39.86 inches, only 1/4 of an inch below normal.

The average temperature for the month was 48.5 degrees F or 2.4 degrees above normal. Extremes in temperature were 75 degrees on the 4th and 5th and 25 degrees on the 12th, 14th and 20th. The mild weather was in sharp contrast to

the record breaking cold average temperature of 39.8 in November of 1977. The winter last year went on to be the coldest ever experienced in Pemberton. Hopefully, the mild November portends a more moderate winter this year.

P.E.M.

### WATER HARVESTING 1977 CRANBERRY CROP IN WASHINGTON



-Photo Courtesy Pacific Tribune

## R. F. MORSE & SON, Inc.

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# New Products In Agriculture

## NEW STACKABLE MOLDED SHIPPING TANKS

New, extra-strength shipping and storage tanks built of tough, thick polyethylene to take the roughest use and abuse are now available from United Utensils Co., Inc. of Port Washington, New York. When empty, the tanks are designed for nesting inside each other, thereby saving floor space. When full, a special high-strength cover enables the tanks to be stacked. Floor clearance permits forklift entry from all four sides.

Both the 30 and 35 cubic foot capacity tanks are available in sanitary versions which are USDA approved for meat and foods. Polyethylene is an excellent material of construction for these vats due to its extreme resistance to contamination from chemicals, foodstuffs and process fluids. Their smooth surface and extreme passivity make the new tanks easy to maintain and clean.

The 30 cubic foot model, with outside dimensions of 40" x 50" x 38½" high, is priced at \$198 (\$33 additional for the sanitary version). The 35 cubic foot model, with outside dimensions of 49" x 49" x 36" high, is priced at \$215 (also \$33 additional for sanitary version). Covers are priced at \$47 and \$54



respectively, for the two sizes.

For additional information and delivery, please contact Mr. R. Malkin, United Utensils Co., Inc., Yennicoek Avenue, Port Washington, NY 11050. Phone (516) 883-7300.

## STRATOTHERM HEAT SYPHON WARM AIR CIRCULATORS

Users of StratoTherm Heat Syphon warm air circulators in many different applications are reporting up to a 25 percent savings in heating costs, even in freezing temperatures and weeks-long cold snaps.

A StratoTherm unit consists of a dome-shaped fan housing attached to a flexible vinyl duct, six inches in diameter. The device is suspended from the ceiling of a building and is powered by 110/120 V AC current. When operating, the fan continuously forces the upper-level warm air down the tube, where it is redistributed at floor level. Through simple air convection, the device will raise floor temperatures from 7 to 15 degrees, thereby substantially lowering heating costs.

A typical StratoTherm user report comes from Larry D. Henton of Florist Supply of Omaha, Inc., Omaha, Neb. Florist Supply has installed 12 units in a 24,000-square-foot warehouse, with 18'6" ceilings and heated by five ceiling-suspended natural gas heater/blower units.

According to Henton, "We have only been in our present location for one year, so we are not able to compare monthly heating bills with last year. However, we feel, after comparing heating bills with our other locations, that StratoTherm has saved us approximately 25 percent in heating costs for the months that we had them installed in our Omaha location.

"To give you an example, we heated from March 23 to April 23, 1977, for \$128.49. During that time, we had several 20° days. This reflects a great deal of savings because of recycled heat from the ceiling and a fair amount of solar heat from the sun on our roof that is brought down to floor level with the StratoTherm."

StratoTherm and Heat Syphon are trademarks of Rusth Industries, and the device has been submitted for U.S. Patent Office approval.

For further information on StratoTherm, including distributor or representative arrangements, write Rusth Industries, PO Box 1519, Beaverton, Oregon 97005.

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## MARKETING ORDER HEARINGS HELD

Hearings have been held in cranberry growing areas on the proposed new federal cranberry marketing regulations.

The program regulates the handling of cranberries sown in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington, and Long Island, N.Y.

Barbara Lindemann Schlei, administrator of USDA's Agricultural Marketing Service (AMS), said the principal proposal provides for updating allotment bases for producers now affected by the program and entry of new producers into the program. Producer allotments provide the means for tailoring yearly cranberry marketings to market requirements, Ms. Schlei explained.

The proposed changes in the cranberry regulations would provide for updating allotment bases for producers and provide for entry of new producers; provide authority for a public member to serve on the USDA's cranberry marketing committee; allow excess of grower allotments to be used by charity or research groups; provide periodic reviews of grower bases; and change the date of calculating annual bases from May 1 to September 1.

## CRANBERRY BOG SAND

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## USDA Revamps Method For Reporting Volume of Produce

Beginning Jan. 1, the U.S. Department of Agriculture (USDA) will report the volume of fresh fruits moving through marketing channels by weight instead of rail carlot equivalents. The change ends a 50-year tradition of converting truckload quantities of produce to the size of rail car loadings.

Clay Ritter, USDA marketing official, said changing transportation modes and the reduction or withdrawal of rail service at shipping and receiving points prompted the change. With trucks hauling nearly 75 percent of all fresh fruits and vegetables marketed today, the use of carlot terms has declined significantly within produce trade circles, he said.

Daily and weekly reports will show produce shipments in units of 10,000 pounds as proposed in the June 9 Federal Register. Yearly totals will appear in units of 1,000 hundredweights in annual reports. This method, Mr. Ritter said, makes it possible to include low-volume items like blueberries in daily reports and to simplify the consolidation of data for use in annual reports.

The market news program of USDA's Agricultural Marketing Service currently covers fresh fruit and vegetable market activities in 25 major U.S. metropolitan areas. Key agricultural production and shipping centers are also covered. The daily and weekly market reports are immediately made available to news media through USDA's nationwide telecommunications network and mailed reports.

A notice confirming the volume reporting method change appeared in the Oct. 17 Federal Register. Copies may be obtained from the Fruit and Vegetable Division, Agricultural Marketing Service, USDA, Washington, D.C. 20250.

## OBITUARY

### DR. FRANCIS C. ORTOLANI

Dr. Francis C. Ortolani, 66, a Plymouth, Mass. and Duxbury dentist for many years, died suddenly Nov. 21, about 9 p.m., at the Jordan Hospital. He had planned to return to his home at 60 Warren Ave. for Thanksgiving.

Holder of a real estate broker's license, Dr. Ortolani owned considerable real estate, including cranberry bogs on the Plympton-Carver line, Kingston and Wareham. He was a member of the Ocean Spray Cranberry Association.

He is survived by his widow, Ruth (Rogers) Ortolani of Plymouth; a son, Francis Rogers Ortolani of New York City; two daughters, Mrs. Kathleen Ardleigh of Newton and Miss Amy Ortolani, a teacher in Carver; a granddaughter, Kirsten A. Ardleigh; two sisters, Mrs. Francis (Clementine) O'Neill and Miss Ada Ortolani of Plymouth; a brother, Charles Ortolani of Plymouth.

A funeral Mass was celebrated at 9 a.m., Nov. 25, at St. Peter's Church, followed by burial in St. Patrick's Cemetery, Stoneham.

### FARM BUREAU

*Continued from Page 7*

exempt. In a Corporation, there are no exemptions. All salaries are included. *Be Sure to Fill Out the Form* sent by the Division of Employment Security, so your own experience can be accurately recorded. Remember, you are eligible for this new tax on January 1, 1978. *In Filling out the Employees Status Report*, when you come to Question #14, be sure to use figures applicable to calendar years 1976 and 1977 for both parts A and B. That gives DES a comparison of both years, and a more accurate picture. Also, you may ignore questions 1 through 11 on page 3 if you have owned your business since Jan. 1, 1976. (In other words, the information for 1976 and 1977 applies to you, and not to any predecessor.)



## LUSCIOUS TREATS MAKE GREAT HOLIDAY GIFTS!

*'Tis the season to be cooking!*

*Delectable aromas issue from kitchens throughout the country as cooks everywhere prepare festive Christmas goodies to give as gifts. This is where the fun really begins!*

*While visions of sugar-plums dance in your head, visions of cleaning up afterward needn't throw you into a tailspin. Even sweet-tooth treats such as the ones that follow cause nary a problem when you use a non-stick skillet such as the one from France called T-Fal. (One of these super-slick pans would, as a matter of fact, make a super Christmas present—with or without an accompanying gift-from-your-kitchen.)*

### PRALINES

(Makes about 48 patties)

- 1 pound confectioner's sugar
- 1 cup (2 sticks) butter or margarine
- 1/4 teaspoon salt
- 1 can (6 ounces) pecans
- 1/2 cup boiling water
- 1 teaspoon vanilla

Combine all ingredients in a 12-inch T-Fal non-stick skillet. Bring mixture to a rolling boil and boil for 5 minutes, stirring occasionally, until thick, or until candy thermometer registers 238° F. Drop mixture by tablespoonfuls onto sheets of foil. Cool until hardened, then remove from foil. Store in an airtight container in a cool, dry place.

### MINTED NUTS

(Makes about 2 pounds)

- 1 can (6 ounces) walnuts
- 1 can (6 ounces) pecans
- 1 can (5 ounces) whole unblanched almonds
- 2 cups granulated sugar
- 1 cup water
- 2 teaspoons peppermint flavoring

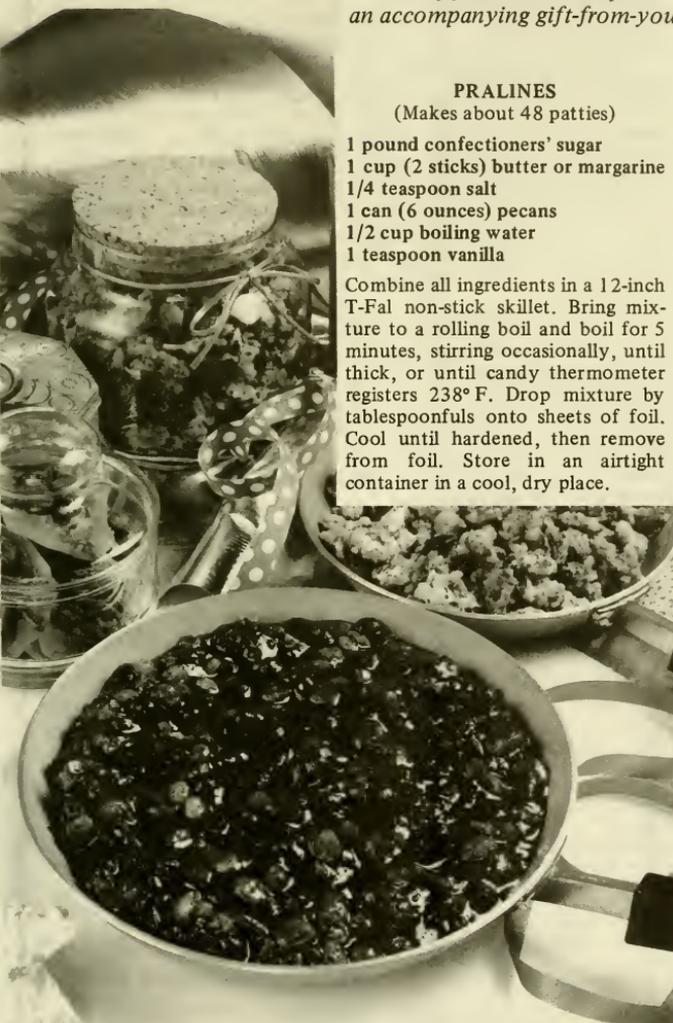
Combine all ingredients except peppermint flavoring in a 1-1/2 quart T-Fal non-stick saucepan. Cook at a rolling boil, stirring constantly, until water disappears and sugar becomes grainy. Quickly stir in flavoring. Pour out of pan and spread into a thin layer on a greased cookie sheet. Cool until hard. Break into bite-size pieces. Store in an airtight container in a cool, dry place.

### APRICOT CRANBERRY CHUTNEY

(Makes 1 quart)

- 1 can (1 pound, 14 ounces) apricot halves, drained
- 1 can (1 pound) whole berry cranberry sauce
- 1/4 cup chopped crystallized ginger
- 1/2 cup golden raisins
- 1-1/2 cups cider vinegar
- 1 cup sugar
- 1 teaspoon garlic salt
- 1/2 teaspoon red pepper flakes
- 1/2 cup coarsely chopped pecans

Combine all ingredients in a 12-inch T-Fal non-stick skillet. Simmer, stirring occasionally, for 50 to 60 minutes or until chutney is thick. Spoon into sterilized jars, seal and store in a cool, dry place.



the landowners themselves, beginning with a drainage district formed in 1892.

Van Susteren agreed to broaden the DNR charge in the case at the request of Kathy Falk, attorney for Wisconsin's Environmental Decade, and Asst. Atty. Gen. Peter Peshek, who serves as a public intervener in environmental issues.

Peshek and Ms. Falk contended that water regulation laws were violated and the operation required a waste water discharge permit.

No testimony was taken at the hearing, but Gregory Nettesheim, Wisconsin Rapids attorney for the Huebners, argued that the DNR had no jurisdiction over the wetlands involved. He said all the wetlands and pools in the area were created by the landowners themselves over 70 years.

He said 80% of the work done by the Huebners involved cleaning old ditches and was believed to be exempt because it was done under an agricultural exemption similar to that enjoyed by cranberry growers.

*Courtesy of Milwaukee Journal*

## USDA PROPOSES TO CLARIFY PACA RULE

The U.S. Department of Agriculture (USDA) has announced a proposal to revise the regulation dealing with misrepresentation of fruits and vegetables in violation of the Perishable Agricultural Commodities (PACA) Act.

The proposal was published in the Federal Register on Nov. 15 and will be open for public comment until Dec. 30.

It details the procedure followed in determining violations and outlines the criteria used to issue warnings or determine the level of monetary penalties that may be assessed. Violations are defined as "serious," "very serious," and "repeated or flagrant." Monetary penalties may range from \$200 to \$2,000 for violations.

Monetary penalties were authorized under a PAC Act amendment effective in 1974. The legislation was intended to provide more flexibility in dealing with persons who misrepresent produce. Previously, officials could only issue warning letters or take formal action to suspend or revoke a produce trader's license.

Officials said one of the important changes being considered in the current proposal would clear a licensee's record under the Act if there were no violations for a 24-month period, providing the person was not involved in a formal proceeding at the time.

Copies of the proposal may be obtained from Michael D. Price, Room 2095-So., AMS-USDA, Washington, D.C. 20250. Anyone wishing further information may call Mr. Price at (202) 447-4180.

Persons interested in commenting on the proposal should send two copies of their views to the Hearing Clerk, USDA, Washington, D.C. 20250.

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

Merry  
Christmas

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