





**Warrens Stat** 

STULUJS

10 Ways to Ruin

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

# LARCH MONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-25502



# IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

FOR EXAMPLE:

Gorman-Rupp Self Priming Electric Sprinkler Pumps Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect) Contact:

Bill Stearns, Plymouth, Mass. (617) 746-6048 (617) 224-4554



Office 295-2222 BEATONS

K. Beaton 295-2207





MASS.

Specializing in

P. Beaton 947-3601

- COMPLETE BOG MANAGEMENT
- NETTING

• DITCHING

- HARVESTING (Wet & Dry)
- SANDING

 CUSTOM HERBICIDE APPLICATION

.



Also

APPLICATI



15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

# Nisconsin Cranberrying Makes Trivial Pursuit But Nothing Trivial About New Station

By FREDERICK POSS

f you happen to ask her as she hes with feverish enthusiasm d a charming smile to guide irs at the Warrens, Wisc., ean Spray Cranberry ceiving Station, Luann randa will be happy to tell about the two things she es most to tell visitors. one, this bouncy, red-haired tive Wisconsinite enjoys, of urse, explaining to the informed how the world's gest cranberry receiving tion handles approximately 1 lion pounds of fruit during h eight hour shift at the peak the harvest. And, two, she es asking any of the 2.200 ne visitors to the Warrens ility if they play enough vial Pursuit to know the wer to the board game's stion: Which state ranks ond in the nation in terms of nberry production?

othing will make Luann ppier than if you respond with correct answer: the state of consin.

es, Wisconsin cranberrying made Trivial Pursuit. But re's nothing trivial about the unitment to high tech that an Spray has made to the aberry industry with the struction of its Wisconsin lity. Opening for its first full

#### **COVER PHOTO**

E WARRENS, Wisc., nberry Festival had a at deal to offer, even the of a hand by a warm py. For a story and tos of the festival, turn to e 20.

ANBERRIES photos by derick Poss)



PROCESSING involves a lot of getting cranberries from here to there.
(CRANBERRIES photos by Frederick Poss)

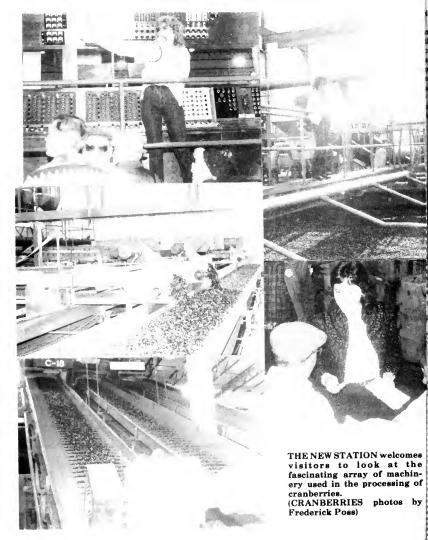
run in 1984, and this year going full tilt for the five weeks of harvest time, the Warrens plant receives, screens, cleans, sorts, judges, tests, loads, crates and ships 70 percent of the total state crop from the 110 growers who belong to the cooperative association.

And just how does this whole highly automated operation

begin?

"Many growers from the Warrens area will use their own trucks to bring their berries to our plant," explains Luann. "Others who live up to as much as 220 miles away will requisition trucks from our plant."

And what happens when the trucks arrive with a load of



We weigh in a semi in just 9 utes," says Koranda. "Then re is a visual inspection for content before the berries dumped into one of three lis—one for bright red berries, for lighter colored berries one for the lightest color." OLOR happens to be a very ortant word with the folks m Ocean Spray. Their

### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

#### RANBERRIES



National Cranberry Magazine d correspondence to:

P.O. BOX 249 Cobalt CT 06414 (203) 342-4730

I TAYLOR, PUBLISHER/EDITOR OLYN GILMORE, ASSOCIATE EDITOR OLYN LABAN, MARKETING DIRECTOR Advisors, Correspondents

SSACHUSETTS—Irving E. Demoranville, or, Oranberry Experiment Station, Stevan Hall, outh; Carolyn Gilmora, Rochester, Y JERSEY—Philip E. Marucci, Cranberry & sarry Specialist, Cranbarry & Bluaberry worth, Mary Chataworth; Elizabeth G. Carpenter, worth, Mr SCOTIA—IV. Hall, Botanist, Research Station,

ile.
GON—Arthur Poole, Coos County Extension

GON—Arthur Poole, Coos County Extension | Coquilla | Security | Coquilla | Security | Shawa, Horticulturist and | Idon Agent in Horticultura, Coastal Washington | Irch & Extension Unit, Long Beach.

Incompany of the property of t

naster, send Form 3749 to: NBERRIES

680x 249 6 H CT 06414 products are natural—and that means no artificial coloring.

"Our color lab grinds to a liquid a sample of berries from the truck," says Koranda, "Then we mix it with methanol, alcohol and hydrochloric acid. The mixture is analyzed on a spectometer for the percentage of color content. As a courtesy to growers, we color test samples for them to help determine when the crop can be harvested. In other words, growers wait until just before the cold weather freezes the crop because they know we pay for that rich red color."

But what happens when 48,000 pounds of fresh, very bright red cranberries arrive in a semi-trailer that has no hydraulic lift to dump the load? State-of-the-art technology at the Warrens plant has the answer. The truck bed is chained tightly to one of three gigantic

platforms which can lift up to 100,000 pounds to a 63 degree angle. And upsy daisy—out comes the crop—no problem!

Which brings up another important word at the Warrens receiving station. WEIGHT! And weight, of course, is the other factor for determining how much a grower will be paid for his "colorful" crop.

Koranda, an employee so dedicated that she plans other work and seasonal activities to fit into the needs of the plant, is an excellent source for explaining a "weighty" subject like this.

"We have four tests here," she says. "One, the wet weight which is measured by a random 10 pound sample of berries still in the truck bed. Two, a dry weight after the sample has passed through a dryer. Three, a poor berry weight based on fruit selected out by hand extraction.

### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

## WISCONSIN CRANBERRY HEADQUARTERS FOR



#### **SEVIN XLR**

DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



SHINY cranberries pour into a bin and a lab worker tests the prod (CRANBERRIES photos by Frederick Poss)

d four, a trash weight termined by material collected er a mini-screen to extract the sh, such as leaves and vines." Berry interesting, Luann. But at happens once the fruit is ddy to be conveyed into the mt?

I go to meet another tour,"
says, with a grin, "and you
turned over to our expert—
nt foreman Mike Scott."
I full-time, year round
ployee, this quiet, softken, dark haired gentleman
h a shy smile only needs a
nute or two to establish his
ensive knowledge of the
nt's operation.

With pools one, two and se," says Scott, "we use 1 lion gallons of water each k. The holding pools are 10 deep and contain the fruit two sets of pumps for ning water and for a rotoar to remove trash." The berries come up from the e ponds and pass through a ker," Scott adds. "A firm y will bounce up to seven es in this shaking process, le soft berries are sorted out. crew conveyor takes away waste material. Next, a ver removes more leaves and s for the screw conveyor. d, a fresh-water rinse with sets of brushes-like a car h—cleans the fruit. Fourth, ader sorts out three levels of luct material into big trash. l berries and small trash.' ad just where does the eyor take all the trash? Isn't e good organic material g thrown away?

cean Spray tries to recycle ything," Mike explains, screw conveyor takes the e to be spread on fields of fa as an organic fertilizer the water is used to irrigate 'roo."

y! What happens to the fruit passes inspection? Once the perries Ocean Spray has ned, tested, screened and ed are actually sorted out the waste, how does all the stainless steel machinery help to load the fruit for transfer to the processing plant in Kenosha, Wisc.?

"There are two basic systems for loading," the plant foreman says, as he carefully moves toward a beehive of activity. "First, there is a telescoping arm which actually moves back and forth inside a semi to load the berries in bulk from the front to the back of the truck. Second, other semitrailers are filled with packing crates of cranberries placed in the trailer with forklifts."

Then what happens, Mike? "That's easy," he laughs. "I turn you back to Luann."

"The berries are then shipped out to freezers in five cities around the state Plover, Beaver Dam, Madison, Jefferson and Kenosha," Koranda explains without missing a beat (remarkably, she is still smiling, even after nonstop tour guiding). "Our plant in Kenosha makes juice and sauce products out of what we ship there."

The last tour bus rolls away now and the interview winds to a close.

"And seven members of the coop copack fresh berries for Ocean Spray by hand sorting the fruit into 12 ounce bags," Luann adds.

"But remember that in just a few weeks time we have to receive and ship two-thirds of our growers' crop," says the tall, sandy-haired plant manager, Jim Peterson, as he jogs over to see that all is well in the world of journalism. This day, not only has Jim been busy keeping pace with the tours, but, at the same time, he has been supervising receiving operations.

That's right, folks—you guessed it ... Jim is smiling, too. For further information on the Warrens Receiving Station or other company operations, inquiries can be directed to the corporate headquarters of Ocean Spray in Plymouth Ma 02360.

#### The CHARLES W. HARRIS Company

Company
451 Old Somerset Avenue
North Dighton, Mass.
Phone 824 5607
AMES
Irrigation Systems
RAIN BIRD
Sprinklers
HALE

Pumps
Highest Quality Products
with Satisfaction Guaranteed



## **Since 1903**

**MORTON** Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436



When you choose Felker, you get time ested reliability.

The flow gate specialists or generation.

2 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846





#### GRANDMOTHER'S FAMOUS CRANBERRY BREAD

(Get Mother to Help)

This recipe is from the book, "Cranberry Thanksgiving," by Wende and Harry Devlin.

2 cups sifted all-purpose flour 1 cup sugar

1% teaspoons baking powder 1 teaspoon salt

% teaspoon baking soda % cup butter or margarine

legg, beaten
l teaspoon grated orange peel
% cup orange juice

% cup orange juice 1% cups light raisins

1% cups fresh or frozen cranberries, chopped
Sift flour, sugar, baking powder, salt,

and baking soda into a large bowl. Cut in butter until mixture is crumbly. Add egg, orange peel, and orange juice all at once; stir just until mixture is evenly moist. Fold in raisins and cranberries.

Spoon into a greased 9 X 5 X 3 inch loaf pan. Bake at 350 degrees for I hour and 10 minutes, or until a toothpick inserted in center comes out clean. Remove from pan; cool on a wire rack.

If you choose, you may substitute cranberries for the raisine to have an all cranberry bread.

Recipe tested by the Food Department of Parents' Magazine.

# STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years

Send check or money order to.

CRANBERRIES
P.O. Box 249
COBALT CT 06414

Replace old aluminum mains with government provided 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butf fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals

#### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers

Felker Aluminum Flumes and Culverts

BILL STEARNS

FEDERAL FURNACE RD.

PLYMOUTH, MASS. 02360

TEL: 746-6048

224-4554

# We don't ignore \$99,999.

Many large brokerage firms really aren't very interested in you unless you have \$100,000 to invest. Too often the small investor ends up getting pushed aside. We don't have that attitude at Gage-Wiley and Com-

We don't have that attitude at Gage-Wiley and Company. For more than 50 years, we have been serving investors throughout New England and we give each the same careful attention. We take time to learn about your personal financial goals, and then use our experience to select investments which will best fit your needs and resources.

Whatever the size of your portfolio, even if you're just getting started, call us at Gage-Wiley and make an appointment to talk with one of our experienced investment counselors. Small investors have always been important to our company. We don't ignore them. After all, at Gage-Wiley we want to help small investors reach their own \$100,000 qoal.



#### Gage-Wiley & Company Incorporated

Village Landing • P.O. Box 3507 • Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m./Sat, 9:30 a.m. to Noon Member of the Securities Investor Protection Corporation

# 10 Ways to Ruin Your Business

By RICK KREPELA Businessmen fail, often in prisingly short time, even in see days of prosperity, turning serwise profitable enterprises to dismal failures.

A highly detailed survey was ently conducted by the reau of Business Research of University of Pittsburgh.

eir investigators uncovered management "traps." led ink, according to the thors of the survey's report, is indication, not a cause, for a akdown in a company's alth.

seing guilty of one failing of 10 major ones outlined, or a abination of several, can sink 7 profitable business into ivion. Whether a firm is a nt in its field, or is a relatively all firm, the businesses which

are guilty of one or more ses of good management, and into one or more of the owing traps:

owing traps:

# CEEPING INADEQUATE CORDS:

he surest way to run afoul of ountants and tax collectors is conduct your business with raps of paper." A drawer full bills, a stack of statements notations on the backs of selopes detailing sales orders at the same as a carefully

CRANBERRY GROWERS
REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass. 02537 (617) 888-1288 kept set of records.

Poor records lead to an absence of adquate financial information to allow management to know the results of operations.

While larger firms often skirt this problem because of full time staffs, inadequate record keeping was the greatest single cause of business failures unearthed. It was an important factor in nine out of every ten firms studied. Management did not KNOW they were heading for trouble until it was too late.

2. IGNORE NEW DEVEL-OPMENTS IN YOUR FIELD:

Doing things in the same old way simply because they were once successful is a sure way to aggressive, up-to-date competition to take over. Retailers need store modernprograms, manufacturers must constantly improve their products and service industries must be on the lookout for new and better ways to serve their customers. The report emphasized that "keeping abreast" was not only essential to a firm's growth, but it detailed a number of instances where failure to adopt new ways

# Need Help?

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



P.O. Box 7, Taunton, Mass. 02780, Tel: (617) 824-7578

Located on Rt. 44 1/4 Mile West of Rt. 24

was a dominant factor in leading to the "out of business" signs.

# 3. INCUR CUMULATIVE LOSSES:

A trickle of red ink isn't much to worry about. Or is it? At least 40 percent of the firms in the study discovered that the "little" leaks added up to a torrent. Add one unproductive division, product or store to excessive waste in some other area, couple it with "minor" losses elsewhere and the result can wreck havoc with a firm's profit and loss statement.

# 4. HITCH YOUR WAGON TO ONE CUSTOMER:

Signing up a single big account to the exclusion of others MAY look like an easy road to a secure future. Manufacturers subcontract one small part for a larger firm, service industries latch onto a single big account and both think they have it made. Sounds great! No sales headache, only

one customer to keep happy. But there's NO PLACE TO HIDE if the account suddenly sours on you. The University of Pittsburgh report shows that three out of 10 bankrupt firms fell into this particularly inviting trap. These hapless firms found to their chagrin that "friends in court" move on, that the old saw about all your eggs in one basket is all too true.

#### 5. BE YOUR OWN EXPERT:

Trying to save money on professional advice can lead to costly mistakes, the survey shows. Any expert—production, sales training, distribution, not to mention legal or tax aid—costs money. But specialized opinions minimize errors and form a sound basis for decisions. Operate solely on your own hunches and half-proven guesses and you could wind up making one or two company-killing mistakes.

## 6. BUILD A FAMILY

Nepotism may be one way keep your family in control—b look out! Unless the relative at least as competent in his/h job as someone else you mig hire, the practice of burdening payroll with family membe siphone cash from the till as squelches initiative in no family members.

# Pump Repairs

All Types

#### Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St. Plympton MA 02367

> Bruce Sunnerberg (617) 585-2394



It isn't only a question of the sh drain going out to a nproductive or lazy brotherlaw. Think what happens to aff morale when conscientous, ger management talent finds a top of the ladder blocked.

FORGET ABOUT COST

so long as the checkbook ows a balance, why bother? rone thing, the investigators oved that unless a firm knows (ACTLY what it costs to ovide a product or service, the itter of pricing is largely esswork. Usually, it boils wn to "meeting competition." ouble here is that the meetition could be in the dark.

competition can only go so far setting a price. If you or your n cannot provide a product or vice at a profitable price, it is bably better, the experts see, to drop it and let the apetition can handle the item fitably, then something is ang with your costs. Only reful cost analysis can point the faults.

# GNORE THE MISTAKES YOUR COMPETITORS:

Iany business magazines ail glowing success stories. et a guy at a convention and likely will tell you about the 1gs he's doing RIGHT. But at about the companies that by the wayside? If they are your line of business, it is a d idea to find out what uppened.

he answers may be more saling than studying—or se yet, envying—the success and you. Excessive invent, poor sales management, bete equipment or methods whatever the reasons are for failure of a competing pany, make sure your firm t making the SAME takes.

EXPAND BEYOND BOURCES:

An enthusiastic salesman who signs up dozens of big orders can throw a production schedule into a tailapin if the company isn't geared to increase output. Likewise, a prosperous business gulping down "acquisitions and mergers" at the drop of a stock-swap can soon find itself with the headaches associated with

coordinating activities throughout a corporate empire that were undreamed of when the company was a single unit. Again, if a company launches new products before it has a solid marketing and servicing base under the old ones, it has expanded beyond its resources and is headed for trouble. A really successful business,

# Big Wheel Truck Sales 42 Quanapoag

### E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

(617) 763-5927

Call Bob or Joe

or (617) 763-8745

## VINES FOR SALE

++++++++++++++++++++++

Order Now For Spring Delivery
Pure Prunings Of

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

the study shows, grows within its means. The rate can be fast or slow, but it must have sound financial footing and, above all, the management talent necessary to consolidate new gains.

Also under this heading are such expansion moves as runaway borrowing to purchase little needed equipment or facilities. The report states quite frankly that some lenders lack "proper management and financial analysis" and that some thinly capitalized companies in the study found it surprisingly easy to obtain credit.

# 10. LET EVERYONE SHIFT FOR HIMSELF/HERSELF:

The researchers cite several instances where partners were so busy trying to outsmart each other that otherwise profitable businesses were jeopardized by the intramural struggles. Uneven work loads on supervisory personnel, failure to delegate authority along with responsibility, unusual or

unequal management privileges inevitably sap a management team of its enthusiasm. Coordination comes from the top on any organizational chart and the objectives and energies of a company must come from this same direction.

Failure to provide firm guidance along these lines results in either staff bickering or a company figuratively set adrift. In either case, the management breakdown can prove disastrous.

THERE are other points in the Bureau of Business Research study. Failure to watch depreciation schedules, neglecting to provide for a competent successor to the present management, unequal sales territories were among a host of specialized reasons why particular businesses went bust. But the 10 points listed here are applicable to virtually ANY business, large or small.

Whether or not your firm is next on the red ink parade depends in large part upon how well you follow—or how cleve you avoid—this checklist of common management "trap

> regional news notes

#### **Massachusetts**

By IRVING DEMORANVILLE

As the barvest was winding do; it appeared that the Massachuse crop will fall under the Aug estimate by about 5 perce Probably a total of 1,500, barrels, which will be our sect best. Size about average or best color excellent. Quality genera better than last year.

Dr. Robert Devlin attended a we control round table sponsored recer by Agway in Syracuse, N. Dr. Charles Brodel attended the receastern branch meeting of Entomological Society of America Williamsburg, Va. Chuck was modere of a symposium on entomology in

# C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743

TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

# STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM

eeting in Baltimore, Md. Chuck is son representative for the sachusetts Agricultural Experiment

#### Nova Scotia

By IVAN V. HALL

e had a good harvest in both va Scotia and British Columbia. n Oct. 24, I had the opportunity visit some of the cranberry rations in the Richmond area of tish Columbia. A considerable sage has been set in the past see years and is on peat soil. e have been fortunate in our ther to date as it has been ideal harvest operations and the nup that follows. Prices for pherries have been reasonably

CRANBERRIES is ad by more than o-thirds of the owers in the U.S.



"We're Best on Earth"
One yd. CAT backhoe

Bog Construction
Land Clearing
Canal Work
Flume Setting

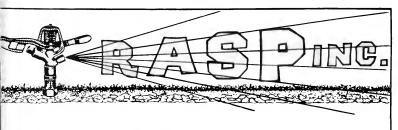
Pond Construction
Ditchina

Contact:

Peter K. Meier 63 South Street Halifax, MA 02338 (617) 293-3218

Grower references available Equipped with swamp mats





AUTHORIZED AGWAY REPRESENTATIVE

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

ROBERT A. ALBERGHINI — SPRAYING RFD 5 PLYMOUTH STREET, CARVER, MASS. 02330 TELEPHONE: 866-4429

For further information, call evenings after 5:30

AGWAY

AGWAY

# TWO WAY RADIO Service of Kingston



IT CAN CHOP WASTED TIME AND MONEY RIGHT OUT OF YOUR BUSY SCHEDULE

If you believe that time is money, call TWO WAY RADIO SERVICE Today. We'll help you find out how much money you will save with a truly efficient corporate communication system. Clear, instantaneous communications for your fleet, or service personnel, your salesmen and your office—you can even make & receive telephone calls from your mobile units!

Motorola Trunked Radio Systems Are Big News and They're As Easy As 1-2-3.

- When one of your radios transmits on a channel, your radios-and only your radios-are directed to that channel. Other users talk simultaneously on adjaceent channels, but they can't hear your messages. All other talkers are locked off your channel as long as you talk. They can't cut in and overpower your signal. There are also other privacy options. Privacy Subfleets-Within your radio fleet, you can designate subfleets. This way you can talk to some of your drivers and keep messages private from others. Only those designate members to the subfleet receive the message. This subfleet option permits you to distinguish between all-vehicle call and messages meant only for supervisors, or it lets you zone your drivers by territory or job function. Besides giving you privacy of speech, it gives the drivers a silent radio when they aren't part of the conversation.
- Motorola has gone to great detail to make these trunked radios the easiest you've ever operated. Ease of Channel Access- Now there are up to 20 channels to accommodate your communications needs each time you initiate a call request. And initiating a call is easier than on a one or two-channel radio. There's no searching for a channel, no listening to make sure it's clear-the system does it for you automatically. All radios in your fleed or subfleet are automatically programmed to the frequency the system assigns to you. Just depress the Push-To-Talk (PTT) button and communications can begin. Automatic Call Back-An open channel is usually available to you within 1/3 second of depressing the PTT button. If all radio channels should be momentarily busy, your radio operator hears a "Talk Prohibit Tone." The request to talk is automatically placed in an ordered, waiting line (queue) so there's no need to wait and monitor for a clear channel. Waiting callers are selected on a first-in, first-out basis. When a clear channel is available, the operator is alerted by a short audible tone that a channel has been assigned, and he-she can begin to talk.
- Easy Modification for Growth-Motorola's trunked radio gives you the capability to expand or modify your fleet and subfleet structure as your needs change. Easy, inexpensive modifications can be made simply by exchanging a code plug. This code plug holds all fleet and subfleet identities. It enables you to add new units to your fleet, divide your fleet into new subfleets, or add a new fleet. If the number of frequencies in the fixed equipment of your trunked radio system increases, additional frequencies are automatically incorporated into your mobile, without returning radios to the service shop.

# **2** TWO WAY AND Radio Service

100 Marion Drive . Kingston, MA 02364 . Phone (617) 746-9100



COMPLETE MOTOROLA SERVICE
 TOWER ERECTION AND CONSTRUCTION



# editorial



# Golden Anniversary

You get extra high marks for reading in detail if you noticed that the folume number on the front cover of this issues has been changed from 9 to 50. That means CRANBERRIES is 50 years old. Yup, 50 years did. Excuse us for feeling a little bit of pride over being associated with magazine that has reached its 50th year. Not many do, you know.

Now we're not going to make a big fuss about our age. We're just roing to carry on as usual, attempting to preserve what's best about he magazine founded 50 years ago by newspaperman Clarence Hall, and adding some new wrinkles as we go along. (Actually, we're the hird owner of CRANBERRIES. I. Stanley Cobb of Kingston, Mass., an the magazine for 13 years before we bought it in 1978.)

The first issue of CRANBERRIES came out on May 1936. For the May 1986 issue, we plan a little something special. Clarence Hall wrote the following in his first editorial in the May 936 issue.

"There has been no medium by which the individual growers could eep informed of new developments throughout the whole cranberry field; there was no medium through which research workers could address messages to growers everywhere, or medium by which prowers themselves could get directly in touch with other growers. We appect CRANBERRIES to fill this need ..."

"It is our earnest desire to work with all who have the best interests of the industry at heart. We confidently believe we may be able to play a part in uniting growers and all those who have interests in cranberry ulture, and that eventually we may be able to help in increasing ranberry consumption, which, after all, is what we all most desire."

Amen.

## Niemi Electric Co.

ROBERT NIEMI

# ELECTRICAL CONTRACTORS HEAT. LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehurst Dr.

Wareham, Mass.

# weather watch

#### MASSACHUSETTS

October temperature was slightly on the warm side, averaging 0.3 degrees a day a hove normal. Maximum temperature was 77 degrees on the 2nd and the minimum was 27 degrees on the 30th. Warmer than average days were the 1st, 2nd, 9th, 10th, 15th, 25th and 27th. Cooler than average days were the 12th, 20th, 21st and 28th through 31st.

Rainfall totaled 1.75 inches, about 1-2/3 inches below normal. This was the driest October since 1965 and the seventh driest in our records. There was measurable precipitation on nine days, all in small amounts, with 0.41 inch on the 19th as the greatest storm. We are about ¼ inch below normal for 1985 and nearly 6 inches behind 1984.

There were a total of 15 frost warnings issued on 12 days during the frost season. The first warning was on Sept. 13, the remainder in October. The coldest temperatures occurred near the end of the month with minimums in the mid to upper teens. We issued 10 warnings in 1984, 13 in 1983, 17 in 1982 and 20 in 1981.

I.E.D.

## Questions on Girdler Asked At Field Day

Dr. Carl H. Shanks Jr. answered the inquiries on insects that were stuffed into the Question Box at the 1985 Cranberry Field Day held recently in Long Beach, Wash. QUESTION: At what stage is the girdler susceptible to an insecticide?

ANSWER: This would depend on the insecticide. Not all chemicals will kill all stages of the insect.

Some chemicals will kill adults. One disadvantage of using adulticides is that they would be applied during bloom and be a threat to the bees. Another problem is that adults will emerge and fly into a bog over a considerable period of time. Therefore, several applications might be needed.

Applications of granules against the larvae constitute little hazard to the bees. Properly timed, one or two applications should control the larvae.

# 5,000 Cran Fans Attend Ilwaco Fete

#### By DEBORAH ABRAMOWITZ WOODBURY

"Be a 1985 Cran Fan" said the bright red admission buttons. Despite foreboding skies, over 5,000 people accepted that invitation to the Cranberry Harvest Festival in Ilwaco, Wash.

It was a busy festival with much to do and see. Bus tours traveled up the narrow Long Beach Peninsula, carrying visitors to watch harvest in progress. The actual festival site was the Ilwaco Heritage Museum, Here, the Coastal Washington Research and Extension Station provided the next best thing to the tour. Their detailed display included a "portable bog." The museum itself showcased the cranberry industry; an important part of local history.

The "Food Circus" gave festivalgoers a chance to get even better acquainted with the "guest of honor." Specialities from cranberry butter to cranberry sundaes were available, as well as other fine foods. A wine tasting featured cranberry wine from the Shallon Winery of Astoria, Ore.

There were exhibits by a number of artists and craftspeople. The festival sponsors were pleased to have Ann Kurz Chambers attending. From Wisconsin. Chambers is known for her "cranberry art." Her work ranges from watercolors to etchings actually done on cranberry paper.

Poised between art and entertainment was Charles Mulvey, a nationally known painter. Mulvey worked during the festival on an historical mural for the museum. Fiddlers and banjoists provided a musical accompaniment from another room.

And so it went! Noreen Robinson. a festival organizer and director of the Heritage Museum, called th event "an overwhelming success.

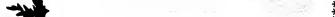
Have a piece of equipment you want to sell? Write or call: CRANBERRIES P.O. Box 249 Cobalt CT 06414 (203) 342-4730

#### \*\*\*\*\*\* STAY INFORMED

subscribe to CRANBERRIES \$10 a year - \$18 two years Send check or money order to:

> CRANBERRIES P.O. Box 249 COBALT CT 06414





### Serving Massachusetts cranberry growers

- All cranberry chemicals
- Aerial pesticide application
- Frost protection equipment
- Chemical application equipment
- ◆Culverts all sizes steel and aluminum

#### CONTACT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST. Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)





ILWACO FESTIVAL: (clock-wise from bottom left) 1. Glenn Woodbury checks out local historical photos. 2. A favorite at the festival was cranberry ice cream, served by the Gazebo. 3. Karen Winn, a local grower, staffed the Ocean Spray display; 4. Charles Mulvey begins a historical mural for the Heritage Museum.

(CRANBERRIES photos by Deborah Abramovitz Woodbury)

# CONTESTS,

By FREDERICK POSS

Wisconsin may finish second in production of cranberries, but the Warrens, Wisconsin Cranberry Festival has to be rated second to none in the production of people pleasing fun.

A tiny west central Wisconsin village of only 300 residents, Warren has put itself on the map and in the minds of many people throughout the midwestern U.S. each of the past 13 years with its annual celebration of the cranberry harvest.

"Last year, the festival attracted at least 50,000 people," estimated Jim Peterson, manager of the nearby Ocean Spray Receiving Station. And while the calculations for this year aren't in yet, Carolyn Habelman, a grower and fest committee member, reported favorably to area news gatherers.

"I don't have any number totals for the weekend now," she said, "but the Saturday turnout doubled what it ever was in the past ... and Sunday was like a regular Saturday!"

But just what was it that caused people to reserve campsites an entire year in advance, to fill up all the existing hotels and motels in the surrounding area, and to pile into Warrens by the tens of thousands?

Down home, small town, family type entertainment—good, clean fun—may have something to do with the Warrens success story . . . and from Friday, Oct. 3, it ran nonstop to Sunday evening, Oct. 5

Following fresh on the heels of Friday night's community dance, Saturday morning featured contests of every kind imaginable. There was a vegetable contest with prizes for

# CRAFTS, CRANBERRIES

unbeetable entries, like Chris Salzwedel's blue ribbon beet. Other awards were presented for the best vegetable display, unusual cucumbers and squash, potatoes, peanuts, sweet potatoes, carrots, sunflowers, and, last but certainly not harvest time's least—pumpkins!

A new contest this year brought \$50, \$25 and \$10 cash prizes in adult and youth divisions for creation of the most interesting scarecrows.

Jill Jensen of Warrens claimed the blue ribbon at the Flower Show for her miniature arrangement of a fall centerpiece. Jill Potter was awarded the prize for the best of show with her arrangement of kale and dusty miller in an old time cranberry rake.

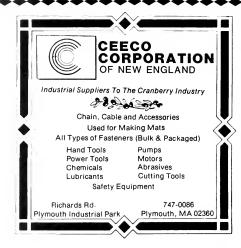
There was attention given the

ATTENTION: Massachusetts Bog Owners With Expansion & Maintenance Projects

EQUIP RENTALS—D8L—D8K—D6D—235—225—966D. Screening plant, screen your own sand. Also complete projects: BOGS—PONDS—ROADWAYS—SAND GRAVEL & FILL. Also interested in purchasing surplus sand & gravel from your expansion projects.

P.A. LANDERS, INC.

826-8818





HE WARRENS FESTIVAL had everything you'd want, including a scarecrow contest, warm cloves, squash, pumpkins, and, of course, fresh cranberries.

CRANBERRIES photos by Frederick Poss)

21



ALL KINDS of goods, from original cranberry art by Ann Kurz Chambers, upper right, to cranberry wine were seen at the Warrens, Wisc., Festival. (CRANBERRIES photos by Frederick Poss)

rts, too. A Youth Art Contest proved very popular, gaining .69 entries in grades 1-3, 4-6 and 9. The Adult Art Contest warded prizes for work in oil. vatercolor, mixed media, pen ind ink, pastels and acrylic. For those with a musical bent, here was Pickin' and Grinnin' ime, too, from 2-4 p.m. inside the Varrens school gym. Outside. ocal firefighting units gathered ogether, not to fight a fire—but o fight each other! Water annons at 30 paces! The Gospel ariety Hour later in the vening proved to be a welcome ause in a day overflowing with uch a cornucopia of fun. And just so nobody would aiss anything, tours were ffered all day long to those who aight enjoy visiting local ranberry marshes and the narvelously automated Jarrens Ocean Spray receiving tation. In an interview for the 'omah Journal. Kenneth eterson, president of the Cran est, was quoted as saving. "We ad 35 tour buses in here, and we light have accomodated at east 2,500 (people) on the tours

Both Saturday and Sunday isitors had opportunities to splore other noncontest areas f fun and frolic, too. Lining all f the main avenues and streets I the village were more than 450 chibitors from nine states. So tense, in fact, was the interest 10wn by potential exhibitors of rts, crafts, antiques, flea arket items and farm market roducts, that all available saces had been booked by June it.

... the most successful yet."

Of course, any serious scussion of cranberries and art as to lead to the work of Ann urz Chambers.

A Port Edwards, Wisc., sident, Ann has received a imber of awards for her stercolors and oils since she gan painting in 1978. Of articular interest here. wever, is her focus in painting e various stages of the developing cranberry.

"My subject matter is varied," the artist explained as she checked the plastic tarp covering her display booth. "I paint a fluid, wet on wet technique for flowers . . . a spatter technique for weeds and flowers . . . and my third approach is through watercolor drawings to present the cranberry plant in a realistic manner."

And the result? Even the untrained eye pauses to consider the unnoticed beauty and rare charm of the developing cranberry blossoms and fruit uniquely captured by Chambers on her canvas.

"And I make my own paper out of cranberries themselves . . . out of the berries, the stems, the leaves and rag pulp," she added. "That way I could have cranberry paper printed with cranberry etchings." (To view the highly original art of Ann Kurz Chambers, she can be contacted at 1631 4th St., Port Edwards WI 54469.)

Paintings were not the only items for sale, however. An expedition into the vast multitudes of people and exhibits would provide buyers an opportunity to consider such purchases as: quilt and

**Tractors** 

needlework, antiques and flea market items shown in 350 different booths, goods in 100 stalls at a farm market, pancake breakfasts, mugs of cold brew from a beer tent, bratwurst and chicken fresh off the grill, andnot to be overlooked-fresh cranberry produce and products.

And Sunday held no rest for the weary. While Mother Nature provided a bright, sunny day, fest folks frolicked in fine fashion. There were helicopter rides for the adventurous going up or fried cheese curds, hot lamb sandwiches, fresh Indian fry bread and tasty funnel cake for the hungry going down.

Of course, everybody loved the parade! More than 150 units were in the 1985 Cranberry Fest Parade: senior high school bands, junior high school bands, drum and bugle corps, commercial floats for cheese, apple and Octoberfest festivals, riding horses, draft horses, clowns on bicycles, a veterans unit from Fort McCoy, youth floats from 4-H clubs, souped up, customized automobiles, and the "crowning touch" for any parade-Cranberry Queen Heidi Jensen of Tomah.

Contests, crafts and cran-(continued on page 27)

# Equipment Inc.

307 West Grove Street (Rte 28) Middleborough MA 02346

# Diesel Equipt.

2 & 4 wheel drive — 12-90 hp.

947-6299

Compact Excavators 11/2 to 6 ton

Wheel Leaders 1/2 to 3/4 yd.

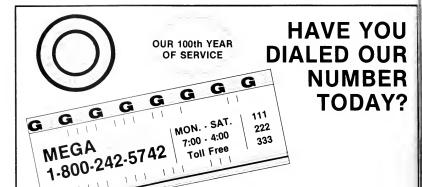
4 to 104 hp. Water Cooled Diesel Engines

All Types of implements

Polymark Beaver-Mowers Specialty Fabrication Work

Kubota Financing as Low as 81/2%

\*So ta "Satviça \*Parts \*Leasing 50±. 50± ≥ 50 50 1 50 1 50 1



OVER 250,000 TONS

OF

Now Available for Delivery Throughout Bristol and Plymouth Counties.

#### We Offer:

Prompt, Reliable Delivery Service 10 Wheeler, Tri-axle, or 18 Wheeler Delivery Deliveries Six Days A Week



For More Information Call Our Main Office Toll Free

"It could be your Lucky Number"



# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

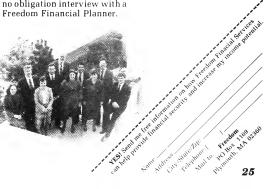
Freedom Financial Services is committed to helping you build a secure financial future. As a Freedom client, you work with seasoned financial planners and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Share's Leading
Independent Financial Planning Firm





#### RACCOONS DON'T LIKE STICKERS According to This Week in

According to Inis week in Farm Bureau, the Massachuletts Farm Bureau newsletter, Pat Hoffman of Princeton, Mass., has found a way to keep accoons out of her corn field. In the past, she has tried a sadio wrapped in plastic, thicken wire fence, moth balls and flakes, the family dog, the leighbor's dog—none of which leterred the raccoons.

Now, she says, she and her amily plant a natural fence of

#### WARRENS FETE . .

continued from page 23)

erries! The 1985 Warrens, Visconsin Cranberry Festival ontained the finest of all three ngredients necessary for a truly uccessful pageant. But wait! he best news of all is that they re already hard at work clanning for next year!

pumpkin and squash plants. That fence keeps the raccoons away. Why? According to Pat, the raccons don't like the stickers on the large squash leaves.

Whatever works!

\*

\*

쌁

쌁

쌁

\*

\*

\*

\*

⋫

\*

\*

\*



\*

\*

\*

\*

\*

×

\*

\*

# **Bog Sand For Sale**

Call now for delivered and picked up prices.

We also excavate water holes and build bogs.

Byrne Sand & Gravel Middleboro, Mass. 947-0724







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

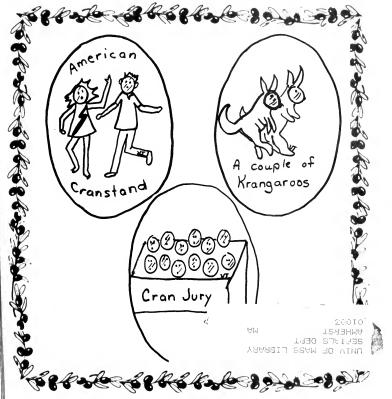
Agricultural Applications • Lift Work • Executive Charters • Aerial Photography



The farmer's cooperative that brings you a wide range of natural fruit juices, cirinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 50th Year of Publication



Cranberry Cartoons -3Estate, Gift Taxes -8

## **Since 1903**

**MORTON** Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436

# PUN, PUN, PUN . . .

Somehow, the prefix "cran" recame inextrically linked one lay with the vivid imagination f cartoonist Vicky Taylor and he began whipping out cranons—whoops, we mean artoons—with the speed of ouncing berries. Below Vicky also how she and her cartoons are about.

#### By VICKY TAYLOR

I grew up in a wonderful place nec called Barefoot, Tennessee. here actually was a post office y that name there around 1900. I still live in Tennessee with y husband, Sam, and our two ns, Max, 5, and Adam, 2. We're



COVER DRAWINGS IESE are just a sma

IESE are just a small mpling of the cartoons at reflect the humorous agination of Vicky Taylor, tose mind and fingers ve somehow gotten all dup with the prefix cran. r story and other draw-(s start on this page.



WRITER-Artist Vicky Taylor thinks Cran- all the time.

right on the Kentucky/ Tennessee line, about 60 miles from Tennessee.

I graduated from Western Kentucky University (BA '77, MA '81), where I majored in Spanish, German and biology. Since there is very little demand around here for Spanish or German, I got a job teaching 8th

(please turn the page)



ATTENTION: Massachusetts Bog Owners With Expansion & Maintenance Projects EQUIP RENTALS—D8L—D8K—D6D—235—225—966D. Screening plant, screen your own sand. Also complete projects: BOGS—PONDS—ROADWAYS—SAND GRAVEL & FILL. Also interested in purchasing surplus sand & gravel from your expansion projects.

P.A. LANDERS, INC. 826-8818 grade science, health and language arts.

I have always enjoyed puns and cartooning. When I taught school, I got a lot of great cartoon ideas from my students. who wrote about things like "pullet-proof vests" in their essays. Now I get most of my





TEACHER Vicky Taylor has a way with words, whether they're words in English, Spanish or German, or words that start with cran-.

ideas from my son, Max, who likes to pretend to be a monster called a "bubbling crude." (Remember the theme song from "The Beverly Hillbillies"?)

I got the idea for cranberr cartoons one day in the grocer store while shopping fo cranberry juice. I looked at th combinations like cranappl

# \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Flumes Detrashers Conveyors (steel or aluminum) Shearing · Shop Welding Bending

## STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM
- REINFORCEMENT ROD WIRE MESH \*

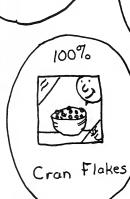
nd crangrape and wondered hat other cranberry products ould be called. To wit: crandue. melted cheese and cranberry sh; cranlet, an egg and anberry dish; cranwich-need sav more?

I have always wanted to be a riter and cartoonist but used e lack of a typewriter as an cuse not to try to publish lything. Then my husband, am, played a dirty trick a uple of Christmases ago and ought me one of those fancy ectronic typewriters that rrects mistakes and practilly types by itself. I had no oice.









Other cartoons on the

next page.



#### CRANBERRIES



The National Cranberry Send correspondence to:

> P.O. BOX 249 Cobalt CT 06414 (203) 342-4730

BOB TAYLOR, PUBLISHER/EDITOR CAROLYN GILMORE, ASSOCIATE EDITOR CAROLYN LABAN, MARKETING DIRECTOR Advisors, Correspondents

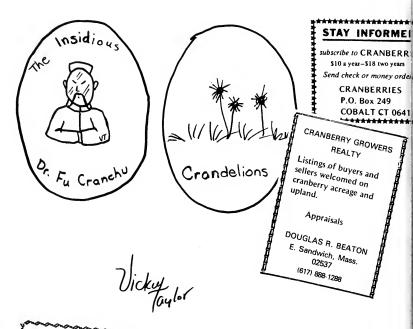
MASSACHUSETTS—Trving E Demorarville, Director, Cranberry Experiment Station, Steven Hall, Falmouth Carolyn Gilmore, Rochestar NEW JERSEY—Philip E Merucci, Cranberry & Blueberry Socialist, Cranberry & Blueberry Socialist, Cranberry & Blueberry Laboratory, Chatworth, Elizabeth G. Carpenter, Chatworth NOVA SCOTIA-I.V. Hall, Botanist, Research Station.

Kentvill OREGON-Arthur Poole, Coos County Extension

gent, Coquille WASHINGTON-Azmi Y. Shawa, Horticulturiat and Extension Agent in Horticulture, Coastal Washington Research & Extension Unit, Long Beach.

WISCONSIN-Frederick Poss, Eau Claire; Tod D. Planer, Farm Management Agent, Wood County; Dan Brockman, Vesper; Joan Humphrey, Friendship. Brockman, Vesper, Joan Humphrey, Friendahly.

ISSN: 0011-0787 nd Form 3748 to: Postmaster, sen P.O. Bos 248 Cobalt CT 06414



# VINES FOR SALE

Order Now For Spring Delivery Pure Prunings Of

Blacks Howes SOLD OUT Crowleys SOLD OUT Stevens \$4.000 \$4,000

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

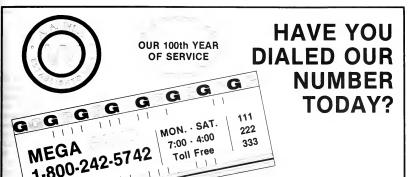
### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

ofCranberry Equipment

WARRENS WI 54666 (608) 378-4511



OVER 250,000 TONS

**OF** 

Now Available for Delivery Throughout Bristol and Plymouth Counties.

### We Offer:

Prompt, Reliable Delivery Service

10 Wheeler, Tri-axle, or 18 Wheeler Delivery
Deliveries Six Days A Week



For More Information Call Our Main Office Toll Free

"It could be your Lucky Number"

# KEEPING THE BUSINESS IN THE FAMILY

By MARK E. BATTERSBY

À survey by the National Federation of Independent Businesses revealed that, among its 539,000 members, death taxes are a close second to concerns about changes in individual income taxes.

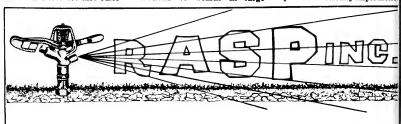
Well, now that Congress is studying a number of wellpublicized steps to ease the bite of income taxes, what about relief from the insurance premiums that so many cranberry growers feel that they have to pay in order to guarantee that their heirs will be able to keep their operation when they die?

Fortunately, our tax laws contain several provisions that, in effect, virtually eliminate the estate tax. There are also rules for substantially reducing the value of your estate as well as increased gift limits. There is even a provision that eliminates the current tax on transfers between spouses. In other words, the worries about estate taxes have almost been eliminated in our present tax law.

Since gift and estate tax liability is determined by first computing the gross amount of gifts and estate tax and then reducing this amount by the unified estate and gift tax credit, the unified credit of \$121,800 effectively eliminates the estate and gift tax on the first \$400,000 of transfers.

One of the principal roles of the estate and gift tax in the past has been to break up concentrations of wealth in large estates. With the old level of tunified credit, unfortunately, testate tax was often imposed estates of a relatively sm size—which also frequent contained the family farm business. Obviously, the estat ax placed a great deal financial pressure on the estates, often resulting in t forced sale of family enterpris

Increasing the unified creas the Economic Recovery Act 1981 did, should significan alleviate much of the pressi without substantially reduci the impact of the estate tax the larger estates so hated by c lawmakers. Last summer's t bill increased the unified estrand gift tax credit from \$47.0 to \$192,800 over a four ye period. When fully implement



**AUTHORIZED AGWAY REPRESENTATIVE** 

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

ROBERT A. ALBERGHINI — SPRAYING RFD 5 PLYMOUTH STREET, CARVER, MASS. 02330 TELEPHONE: 866-4429

AGWAY

For further information, call evenings after 5:30

AGWAY

### TWO WAY RADIO Service of Kingston



IT CAN CHOP WASTED TIME AND MONEY RIGHT OUT OF YOUR BUSY SCHEDULE

If you believe that time is money, call TWO WAY RADIO SERVICE Today. We'll help you find out how much money you will save with a truly efficient corporate communication system. Clear, instantaneous communications for your fleet, or service personnel, your salesmen and your office—you can even make & receive telephone calls from your mobile units!

Motorola Trunked Radio Systems Are Big News and They're As Easy As 1-2-3.

When one of your radios transmits on a channel, your radios-and only your radios-are directed to that channel. Other users talk simultaneously on adjaceent channels, but they can't hear your messages. All other talkers are locked off your channel as long as you talk. They can't cut in and overpower your signal. There are also other privacy options. Privacy Subfleets Within your radio fleet, you can designate subfleets. This way you can talk to some of your drivers and keep messages private from others. Only those designate members to the subfleet receive the message. This subfleet option permits you to distinguish between all-vehicle call and messages meant only for supervisors, or it lets you zone your drivers by territory or job function. Besides giving you privacy of speech, it gives the drivers a silent radio when they aren't part of the conversation.

Motorola has gone to great detail to make these trunked radios the easiest you've ever operated. Ease of Channel Access-Now there are up to 20 channels to accommodate your communications needs each time you initiate a call request. And initiating a call is easier than on a one or two-channel radio. There's no searching for a channel, no listening to make sure it's clear-the system does it for you automatically. All radios in your fleet or subfleet are automatically programmed to the frequency the system assigns to you. Just depress the Push-To-Talk (PTT) button and communications can begin. Automatic Call Back-An open channel is usually available to you within 1/3 second of depressing the PTT button. If all radio channels should be momentarily busy, your radio operator hears a "Talk Prohibit Tone." The request to talk is automatically placed in an ordered, waiting line (queue) so there's no need to wait and monitor for a clear channel. Waiting callers are selected on a first-in, first-out basis. When a clear channel is available, the operator is alerted by a short audible tone that a channel has been assigned, and he-she can begin to talk.

Easy Modification for Growth-Motorola's trunked radio gives you the capability to expand or modify your fleet and subfleet structure as your needs change. Easy, inexpensive modifications can be made simply by exchanging a code plug. This code plug holds all fleet and subfleet identities. It enables you to add new units to your fleet, divide your fleet into new subfleets, or add a new fleet. If the number of frequencies in the fixed equipment of your trunked radio system increases, additional frequencies are automatically incorporated into your mobile, without returning radios to the service shop.

**2** TWO WAY • ANTE • ELECT Radio Service

100 Marion Drive . Kingston, MA 02364 . Phone (617) 746-9100



COMMUNITY REPEATERS
 ANTENNA SITES

• ELECTRICAL CONTRACTOR





this will mean no estate or gift tax on the first \$600,000 in an estate.

The increases effectively exempted \$325,000 in 1984, \$400,000 in 1985 and \$600,000 by 1987 and thereafter. But that's not all. Don't forget that under the present tax rules, transfers to spouses will no longer be considered taxable transfers, so that the actual reduction in estate taxes may be even greater.

The so-called "marital deduction" was originally created in 1948 to help equalize the estate and gift tax treatment of couples who resided in separate property states with that of those couples who resided in community property states.

We're all familiar with the planning headaches this created as property purchased with family funds needed to be viewed as "his" or "hers" rather than "ours." And, as those transfers were accomplished. there was the ever-present threat of incurring a gift tax if the cumulative value of the transfers was too great. Or, how about the problem of trying to decide what portion of the value of jointly-held property should be included in the estate?

The unlimited marital deduction created by this new tax law will offer smaller estates more flexibility and further ease the pressure to engage in

Failure to plan may mean that your family and heirs will be forced to play under the old rules . . . where losing often means selling the family operation.

complex tax planning. Specifically, the new law allows an unlimited marital deduction for both estate and gift tax purposes. This will allow a cranberry grower to maklifetime and deathtimtransfers, no matter how large to his or her spouse withou incurring any taxes.

Furthermore, one half of the value of all property owned by a husband and wife as join tenants will be includible in the estate of the first spouse to die This will significantly simplify the law and virtually eliminate the burdensome task of determining how much each spouse contributed to the property.

The bottom line effect of the unlimited marital deduction is to postpone the payment of any estate taxes until the death of both marriage partners. But remember, it is a deferral, not relief.

The temptation, of course, is to draft your will in such a way as to leave everything to your spouse, but that is not always a good idea. If one spouse has a

### MALCON Screenmaster

the most superior screen in the world market today



Photo shows how mainframe folds for screen maintenance.

LOCAL AGENT: INTERSTATE DIESEL SALES & SERVICE P.O. Box 87 Oakdale, WI 54649 (608) 372-3608 Portable Screening Equipment is rapidly increasing its share in the overall screening market and the reasons are many and obvious. No site preparation costs by the customer. Lower initial costs. No reinforced concrete structures. Positioning the screen beside the workfaces eliminates the need for Site Conveyors or Dump Trucks. The machine may be moved with the workface and from site to site. these being just two more of many time and cost saving factors that can be attributed to the benefits of portable Screening Equipment. Add in the superior quality of the SCREENMASTER.

### Farm Credit Leasing Services Corporation

The Financing Alternative

•WE LOWER YOUR COSTS
•LOWER YOUR PAYMENTS
•GIVE YOU GREATER CASH FLOW
•AND...

IMPROVED TAX PLANNING

- LOW COST FINANCING The cost benefit of arranging a lease through FCL can be considerable when compared with the finance costs of purchasing.
- TAX PLANNING CERTAINTY Both savings and improved tax planning can be achieved with an FCL arranged lease.
- 3. PURCHASE OPTION CHOICE. In many cases an FCL arranged lease can offer you a choice of a fixed purchase option or a purchase option based on fair market value. With other leasing companies you usually have no choice.
- 4. FIXED RATE FINANCING.
  All financing costs are set and agreed upon right from the start. Including the lease rate.
  As a result, your payments remain the same. There are no surprises.



- 5. YOUR CHOICE OF EQUIPMENT. An FCL arranged lease is available for a wide range of agricultural equipment and facilities. You choose the equipment, and you make the deal. FCL will consider any request from \$10,000 on up.
- FLEXIBLE LEASE TERMS. It all depends on the equipment you choose and your cash flow. Lease terms range from 3 to 10 years rates.

	I am intereste leasing progra	d in more information a m.	about your
Name: Address:			
City:		State:	Zip:
Phone: (	)		
	Riverplac	DIT LEASING SERVICI ce, Suite 300; 10 Second Iinneapolis, MN 55413	
	]	Phone: (612) 378-1733	

Attn: Ken Reiners

larger estate than the other, the tax bill could end up higher. At the very least, the \$600,000 exemption should be used. The estate won't pay tax on it anyway, so why not transfer at least that portion directly on to the next generation or to other heirs?

Speaking of those heirs, the new tax law not only eases the problem of estate distributions; it also makes it less costly to make gifts while you are alive. Although many people ignored the law requiring the payment of a tax on any gift that exceeded \$3,000, it was on the books and enforced.

That rule allowed an annual \$3,000 per done exclusion from the gift tax. Or, a husband and wife could consent to split their gift so that a couple transfer up to \$6,000 per donee each year free of tax. Surprisingly, this annual exclusion has remained unchanged since it was enacted unchanged since it was enacted to the tax of the transfer up to \$6,000 per done to \$6,000 per done each year free of tax. Surprisingly, this annual exclusion has remained unchanged since it was enacted to the tax of tax o

Today the annual gift tax exclusion is \$10,000 per donee. This will permit a husband and wife to consent to transfer up to \$20,000 per donee each year without being subjected to the

### Pump Repairs

All Types

Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St. Plympton MA 02367

> Bruce Sunnerberg (617) 585-2394

### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft

with (7 marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

Replace old aluminum mains with government gust below bog surface. No insert fittings. Rent our but I tusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. For buried laterals.

### Irrigation supplies

PVC PIPE 2" - 12" WITH FITTINGS

Quick Couple Risers

Felker Aluminum Flumes and Culverts

BILL STEARNS

FEDERAL FURNACE RD.

PLYMOUTH, MASS, 02360

TEL: 746-6048

224-4554

### Niemi Electric Co.

ROBERT NIEMI

### ELECTRICAL CONTRACTORS

**HEAT, LIGHT and POWER WIRING** 

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehurst Dr.

Wareham, Mass.

gift tax.

Finally, further helping reduce the onerous burden of our gift and estate taxes is a littlediscussed provision that may well prove quite beneficial to the estate of every small cranberry grower.

Ordinarily, for estate tax purposes, all property must generally be included in an estate at its fair market value. What's more, the law clearly states that fair market value should be based on the highest and best use. That means a farmer's estate must find the farmland priced as a housing tract and a cranberry bog valued as best suited for a skyscraper. Fortunately, if certain ircumstances are met, our resent tax law allows farm roperty and all real property sed in any closely held business be included in the estate at its urrent use value. The only rawback is that the difference n those two values under

present law cannot exceed \$500,000.

Many a cranberry grower's estate has been able to successfully reduce the value of farm property by using the special use valuation method. Combining this special use valuation system with the new tax laws simply means that if





the assets are not passed tax free to the spouse, if the \$600,000 exemption isn't sufficient to eliminate estate taxes, then the assets used in the closely held farm or business may be valued at their special use valuation rather than fair market value to help reduce the size of—and the taxes on—the estate.

Even though the valuation differential of \$500,000 has only been increased to \$750,000 under the new law, it still means that a cranberry bog used in the operation may be worth a million dollars on the open market, but may be worth only \$250,000 in its present use and this difference will be acceptable to the Internal Revenue. Still other changes in this area may make the "special use valuation" rules even more profitable for the estates of many cranberry growers to use.

Specifically, the new tax law provides for an increase in the limitation in the reduction from fair market value allowable for qualifying real property from the current \$500,000 figure to \$750,000. This increase was phased in over a three year period beginning with the estates of decedents dying after 1980.

Under our present tax laws, property for which special use valuation can be utilized must be used as closely held business or as farm property (in other words. a "qualified use") on the date of the decedent's death and for at least five of the eight years preceding death. The old rules demanded that a decedent or a family member materially participate in the closely held business or farm for a period aggregating five of the eight years prior to the decedent's death. But that is all changing for the better.

The tax laws also provide an alternative to the material participation requirement for qualification of real property for special use valuation. Under the law, active management by a surviving spouse who acquired the property from a decedent in whose estate it was included at its special use valuation will

satisfy the material particpation requirement. Activ management simply means th making of business decision other than the daily operatindecisions of the closely helbusiness. Thus, the new rule demandless activity than actus material participation.

material participation. Now would be an excellentime to review your estate, you will, your insurance requirements, etc. Failure to plan mamean that your family and heir will be forced to play under thold rules . . . where losing often means selling the family operation. Proper planning car mean the difference between a family cranberry operation remaining in the family or being sold to pay estate taxes

(Mark E. Battersby's ta. columns have appeared in Are. Development Magazine, Mari Floral & Nursery Times, Mich Marketworld and many othe magazines. A tax and financia advisor, freelance writer an columnist, his weekly columno farm taxes is carried by mor than 45 newspapers.)



# weather watch

#### MASSACHUSETTS

November was a warm month, eraging 3-4 degrees a day above ormal. This was our warmest wember since 1963 and fourth irmest in our records. It was also a udy month with the least sunshine ice 1977. Maximum temperature was degrees on the 10th and minimum 25 grees on the 25th. Warmer than erage periods were 5-7, 9-11, 13, 14, 17 d 19-21. Cooler than average days re 16, 22, 25, 26, 29 and 30. recipitation totaled 5.60 inches, ich is about 1 inch above normal. ere was precipitation on 14 days, with greatest storm 1.67 inches on the 5th. are 1/3 inch above normal for the ir but about 2 inches behind 1984. en though rainfall is almost normal it s appear from observing some of the ds and reservoirs in the area that the ter table remains on the low side. owfall was only 11/2 inches. I.E.D.

#### FRUIT JUICES, CONCENTRATES IMPORTS GROW

Although the U.S. share of the Canadian import market slipped slightly in 1984, fruit juices and

concentrates formed the second largest category of imports by U.S. neighbors to the north.

Fresh fruit and vegetables was the largest category.

Leading commodities included table grapes, citrus fruit, tomatoes, potatoes and celery.



Cranberries Bought and Sold

Screened Bog Sand Available

Vines for 1986 Early Black Howes Crowleys

Lawrence W. Pink Office 934-6076 Cordwood Road Duxbury, Mass. 02332







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography



Below are three more favorite recipes of Marianne and David Moll, who wrote in the December 1985 CRANBERRIES about cranberry picking in Canada's Northwest Territories.

#### Rose Hip Cranberry Jam.

- 2 lbs. rose hips and cranberries 6 cups sugar 4 cup lemon juice
- 1. Choose slightly underripe rose hips and cranberries.
- 2. Wash and pick over if necessary. 3. Mash or put through a food grinder. 4. Add boiling water to almost cover and cook 10 minutes.
- 5. Put berries through a food mill or sieve to remove seeds and skins.
- 6. For every 8 cups rose hips and cranberry puree add 6 cups sugar and measure out 1/2 cup lemon juice. 7. Stir and boil rose hip and cranberry puree with the eugar for 5 minutes. 8. Add the lemon juice and stir well. 9. Pour into eterilized jars and seal,

### Cranberry Pudding

2 cups bread crumbs

1 quart milk

3 eggs, separated 1% cups sugar

2 tablespoons melted butter

2 cups cranberry sauce or jelly

Meringue

3 egg whites

4 cup sugar

- 15 teaspoon cream of tartar 1 tablespoon water
- 1. Soak together the bread crumbs and milk. 2. Combine well beaten egg yolks, sugar
- and melted butter.
- 3. Add to the bread crumbs. 4. Turn into a baking dish.
- 5. Place in a pan of hot water. 6. Bake in a moderate oven at 350° F. 45 minutes or until firm.
- 7. Spread the 2 cups cranberry sauce or jelly over the baked custard and cover

with the meringue. 8. Brown in the oven at 450° F. for 5 minutes. Serves 6.

### Mock Cherry Pie

Pastry for 2 crust pie

3 cups cranberries washed 1 cup scalded raisins 1% cups sugar 4 tablespoons flour % teaspoon salt 1 cup water 5 teaspoon almond flavoring 1. Mix flour, sugar and salt ir a saucepan, add water and bring slowl a a boil, stirring constantly.

2. Add cranberries and raisins, br back to a boil, then reduce heat simmer for 5 minutes, stirrig constantly.

3. Remove from heat, add almid flavoring and let cool.

4. Pour into prepared pie crust, cowith top crust and bake in 425° F. o'a for 15 minutes, reduce to 375° F. ad continue baking for 30 minutes or us crust is lightly browned.



"We're Best on Earth" One vd. CAT backhoe

**Bog Construction** Land Clearing Canal Work

Flume Setting Pond Construction

Ditchina

Contact:

Peter K. Meier 63 South Street Halifax, MA 02338 (617) 293-3218

Grower references available Equipped with swamp mats

### Equipment Inc.

307 West Grove Street (Rte 28) Middleborough MA 02346

### KUBO.

Diesel Equipt.

Tractors 2 & 4 wheel drive - 12-90 hp. Compact Excavators

11/2 to 6 ton Wheel Leaders

1/2 to 3/4 vd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers

Specialty Fabrication Work Kubota Financing as Low as 81/2%

947-6299

OT OT 4 ±OT -±OT

# regional news

### Massachusetts

By IRVING DEMORANVILLE

Unofficially, the Massachusetts crop ppears at or slightly above the August timate of 1,580,000 barrels-perhaps 600,000 barrels.

Dr. Karl Deubert attended a setting of Environmental Toxiogy and Chemistry in St. Louis om Nov. 10-13. Karl presented a aper on some of his research.

### Oregon

Ocean Spray is well on its way to coming a billion dollar business. That was the opinion expressed by ower Dave Brooks at a dinner meeting the Bandon Chamber of Commerce cently.

Brooks said the cooperative's gross des increased from \$95 million in 1975

\$541 million 10 years later. He told chamber members that Ocean ray is working on 22 new products, including marketing of a guava drink and of two new drinks, Crantastic and Cranorangs, sold in the chilled foods section in supermarkets.

Cranberry production in the Bandon area in 1985 showed a 16 percent increase over the prior year's harvest. Growers brought in 94,013 barrels in '85. compared to 78,943 in '84.

Grower Barry Winters told the Bandon Western World that the increased harvest was due primarily to the fact that 10 percent more acres were picked. Generally, he said, the winter, with little rain, led to a poor production year.

### Washington

AZMI Y. SHAWA

This writer is taking a six month professional leave (through June 30, 1986) at Lincoln College, New Zealand.
During my leave, I'll be conducting

research work on post harvest physiology and storage of blueberries. This will be a continuation of one of my present projects and will be adapted to cranberry culture in improving berry keeping quality and extending shelf life during storage.

During my absence, our secretary, Edith Shire, will carry on her secretarial duties and coordinate and direct inquiries from growers to Dr. Carl Shanks or Dr. Pete Bristow for sntomological or pathological recommendations. She may search for

answers published in the Cranberry Vine or in other publications to save time.

John Wang, agricultural research technologist, will carry on planned research work at the station and commercial bogs in Long Beach, Grayland and North Beach; collect data; check fruit buds for cold injury, which will be published in the Cranberry Vine: check for the black headed fireworm hatch and have notification sent to growers about May and July. Also, he will be available to answer grower weed and fertility inquiries.

Richard Brenenstahl, farm worker, and any extra hired laborers as needed, will carry on the day to day cultural practices, assist with plot work and data collection, do area landscaping, maintain equipment, including the irrigation system, and perform any other duties as required, directed by John Wang.

Harryette Ogden was the grand sweepstakes winners in the cranberry recipe contest held in conjunction with the recent Ilwaco Cranberry Festival. Her entry-Ray's special cranberry roll-also took first place in the descert category.

Other winners: Myrtle Young, first place, relishes, for cranberry chutney sauce; Linda Bauske, first place, main dish, for cranberryturkey cutlets.

The contest was sponsored by Ocean Spray.



### Serving Massachusetts cranberry growers

- Sanding by helicopter
- Aerial pesticide application
- •Frost protection equipment
- Chemical application equipment
- •Culverts-all sizes-steel & aluminum
- Consulting services

CONTACT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST. Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)

### Test Fertility Of Your Soil

By AZMI Y. SHAWA Director, Coastal Washington Research & Extension Unit

There are many factors that contribute to normal growth of vines and high yields of cranberies.

One of these factors is soil fertility. Vines need an adequate supply of nutrients, which they obtain from the soil, for normal growth. An inadequate supply of nutrients will give less than normal growth and low yields.

The best way to determine if low soil fertility is a problem is to have a sample tested. With the help of a soil test, the right kind and amount of fertilizer can be recommended to bring the fertility of a bog up to a highly productive level.

In some cases, poor vine growth may be due to an extremely acid soil condition. In others, it may be due to a high concentration of soluble salts in the soil. Saline soils may occur in bogs close to tideland area. A announcement of the second of

soil test can determine if any of these conditions exist. If they do corrective measures can be prescribed in accordance with the severity of the condition

Hearty, vigorous, productive

### STEVENS CRANBERRY VINES

For Spring 1986 planting. Delivery early Spring, F.O.B. our bog.

\$3,500. per ton

Saddle Mound Cranberry Co., Inc. 105 Old 54, City Point, WI 54466 715/ 593-2326 or 593-2350

Office 295-2222 REATON'S

K. Beaton 295-2207

D. Beaton 888-1288

WAREHAM,

Specializing in

P. Beaton 947-3601

COMPLETE BOG

NETTING

DITCHING

MANAGEMENT

 HARVESTING (Wet & Dry)

SANDING

 CUSTOM HERBICIDE APPLICATION

Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers



Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes

Right after harvest is a good time to have your soil tested. If calcium is needed, it should be applied this fall. This will give the calcium enough time to be worked down with rain through he soil.

In Oregon, soil test sample pags and instructions are available at the Ocean Spray receiving plant in Bandon and at the Coos County Extension office in Coquille.

In Washington, bags and sampling instructions are

available at:

County Extension Office, Courthouse, P.O. Box 88, South Bend WA 98586, 875-6541, Ext. 360. Washington State University.

Or: Coastal Washington Research & Extension Unit (CWREU), Rt. I, Box 570, Long Beach WA 98631, 642-2031,

There are two Soil Testing Laboratories available for ranberry soil testing:

NORTHWEST Agricultural Consultants (formerly Waddoups), 2545 West Falls, Kennewick WA 99336.

And:

THE RESERVE THE RESERVE THE PERSON NAMED IN

Oregon State University, Soil Testing Lab, Corvallis, OR <del>3</del>7331.

Please indicate your choice when requesting sampling supplies.

### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass.

Phone 824-5607

AMES

Irrigation Systems

RAIN BIRD

Sprinklers HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

# Big Wheel Truck Sales 42 Quanapoag

E. Freetown, Mass. All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

(617) 763-5927

οr (617) 763-8745

Call Bob or Joe 

# **We don't ignore**

Many large brokerage firms really aren't very interested in you unless you have \$100,000 to invest. Too often the small investor ends up getting pushed aside.

We don't have that attitude at Gage-Wiley and Company. For more than 50 years, we have been serving investors throughout New England and we give each the same careful attention. We take time to learn about your personal financial goals, and then use our experience to select investments which will best fit your needs and resources

Whatever the size of your portfolio, even if you're just getting started, call us at Gage-Wiley and make an appointment to talk with one of our experienced investment counselors. Small investors have always been important to our company. We don't ignore them. After all, at Gage-Wiley we want to help small investors reach their own \$100,000 goal.



### Gage-Wiley & Company Incorporated

Village Landing • P.O. Box 3507 • Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m./Sat. 9:30 a.m. to Noon Member of the Securities Investor Protection Corporation







# TED'S FARM EQUIPMENT Sales and Service

27 ALDEN ROAD ● FAIRHAVEN, MASS.
Tel. 994-5312

CUSTOM MADE & REPAIRS on Hydraulic hoses - P.T.O. shafts

# **BUSH HOG**



# Go ahead with SAME



AIR COOLED DIESEL

# editorial



### Let's Exploit Cranberries

(The following editorial appeared in the Oct. 16, 1985 issue of the Chinook (Wash.) Observer and it is reprinted with the permission of the Observer.)

The harvest of cranberries on the Long Beach Peninsula has begun and, frankly, not enough people know about it.

Yes, the Cranberry Festival is coming this weekend to the Ilwaco Convention Center and it promises to be a good time. But the harvest of those tart, little red berries began Oct. 5 and will continue through the entire month and into November. That's more than 30 days of harvest activity.

There must be some way to use the berry harvest as a drawing card for increased tourism, building upon the success of the Cranberry Festival and its popular bog tours.

Cranberry grower David Aase said this year he sent postcards with photos of cranberry harvesting to all the Portland, Ore., television stations. He invited them to come down and see the harvest.

A news team from KOIN Channel 6 in Portland arrived Wednesday morning, Oct. 9, and a three to four minute news report aired later that day on the regular evening news show featuring harvesting at the Malcolm and Ardell MacPhail bog near Ilwaco. The MacPhails are open to telling people to stop by about the harvest.

Many people drink cranberry juice or mixtures of the juice, but many don't know those berries come from low-growing vines and never have witnessed the unique harvest techniques in action.

Aase said he's placed a poster in his Long Beach pharmacy urging tourists to visit his bog during harvest. He gives them a little map on how to reach his place.

His wife Kathy provides guided tours during harvest and visitors have included people from Portland, St. Helens, Ore., Ellensburg and a couple from San Francisco who watched the operation for two hours.

Maybe five or six bogs could become the official bog tours with prior organization with the growers. The growers would harvest at different times through the month so tours could last the entire harvest period. Tours of the Ocean Spray Receiving Plant on Sandridge Road could be developed, too.

Perhaps the organized bus tours could charge a fee. These funds could help build up local tourism coffers. Other tours, where participants travel to the bogs on their own, would be free.

Not all growers will welcome such an idea, but perhaps there are a few who would and are willing to work with merchants and chamber groups to bring the month-long tour offer into a reality.

Based on the number of cranberry bog acres, the Long Beach Peninsula is pretty small in comparison to large tracts of berries back east and elsewhere. But those berries could play a big factor in adding a new attraction for tourists looking for a fall getaway.



#### CRANBERRIES ELIGIBLE FOR PROMOTION ASSISTANCE

Cranberries are among t horticultural products currently elig for export promotion assistan according to the Department Agriculture's Export Incentive Progr

Other products currently eligible citrus from California and Ter almonds, walnuts, prunes, canned co fresh lettuce and honey.

Developed in 1969 as an alternativ generic promotion programs within USDA, the Export Incentive Progr (EIP) provides limited exp promotional support to horticultuindustries for which cooperator man development agreements are suitable. The EIP is more shar focused than the cooperator progra trageting the export promotion branded U.S. agricultural products the retail level. Partial reimbursemen promotional expenses is general determined not only by the level expenses but also by a firm's exp performance.

ARE YOU INVOLVED WITH CRANBERRY GROWING.

PROCESSING, MARKETING. ETC?

Then you ought to read CRANBERRIES, the national cranberry magazine. Each monthly issue contains informative news and feature articles about the industry. Keep informed, Read

CRANBERRIES. Mail your check or

money order to: CRANBERRIES P.O. Box 249

Cobalt CT 06414

\$10 one year; \$18 two years



GROUP of American cranberry growers traveled to Tullamore, Ireland, recently to inspect a llcon Screenmaster on site. L. to r.: Craig Scott, Scott Cranberry; Bob Clark, Flying Dollar anberry; Richard Pease, Interstate Diesel; Ian Thornton, Brian Malcon and Liam McQuillan, of Malcon Screenmaster; and John Rezin, North Tomah Cranberry. Malcon Engineering Ltd. s appointed Interstate Diesel of Oakdale, Wisc., as a distributor of the Malcon Screenmaster.

### *bituary* William Dufort

rvices were held recently in St. n's Episcopal Church in Bandon, for William Taft Dufort, a former ager of the Ocean Spray plant in don.

ifort, a native of Bandon, died Nov. i his home at age 76.

addition to his wife, the former tha Felsheim, he is survived by five tren and a sister.

morial donations may be made to lohn's Episcopal Church or to the ion Public Library.

#### AINE BOASTS A LAR RECORD CROP

uine's 1985 wild blueberry crop is nated at 44 million pounds, reports New England Crop and Livestock rting Service.

tal tonnage—well above earlier ctations—exceeded 1984's output by reent and fell only 1 percent short of 'e record output.



### WISCONSIN CRANBERRY HEADQUARTERS FOR



### **SEVIN XLR**

DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G • PARATHION • ETHREL

### Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO.
P.O. BOX 7211, MADISON, WISCONSIN 53707
608-221-1581



TENNIS STAR Chris Evert Lloyd, voted the "Greatest American Woman Athlete of the Last 25 Years," wasn't the only winner in the recent Ocean Spray consumer marketing campaign. The company said it was one of the most successful marketing programs it had ever launched, with a nationwide response of one-third of a million voters. Posing at the awards ceremony in Los Angeles from left are: Peter Maccarrone, western division manager, Ocean Spray; Chris Evert Llovd: James Kirk, division business manager, cranberry, of Ocean Spray; and Peggy Fleming, former Olympic figure skating champion and trustee of the Women's Sports Foundation, which cosponsored the award.





The scoop of the year!

Cranberry Flavor, Fact and Folklore in

THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries... you'll find this book a treasure."—Des Moines Register. Paperback, \$8.95



Please send \_\_\_\_\_ copies of THE CRAN-BERRY CONNECTION, \$8.95 each.

Name\_\_\_ Address

\_\_Zip\_

Add \$1.50 for postage; Conn. residents add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414



# Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialist for generation after generation.

FELKER BROS. CORP.

In Massachusetts

call Bill Stearns

22 NORTH CHESTNUT AVENUE, MARSHFIELD. WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846



NAN INTERESTING CONCEPT—BUT JUST WHAT MAKES YOU THINK THE ARABS ARE SECRETLY BUYING UP FARMLAND?"

### Questions on Girdler Asked At Field Day

Dr. Carl H. Shanks Jr. answered the inquiries on insects that were stuffed into the Question Box at the 1985 Cranberry Field Day held recently in Long Beach, Wash.

QUESTION: Around the 1st of July last year, there was a tremendous moth flying action around my bog. I applied parathion spray and it minimized the moth population. Does this help control a pest or am I wasting my time (and money) spraying moths?

ANSWER: I assume that the moths referred to in the question were cranberry girdler adults. As stated in the answer to the previous question, some insecticides probably will kill the adults. If a high degree of kill was obtained, that probably at least reduced the number of larvae present later. Also important would be the number of eggs produced before the spray was

applied to the adults and the number of adults that emerged from pupae or flew in from other areas after the spray was applied.

QUESTION: Is Lorsban allowed to be used for girdler control on cranberries?

ANSWER: Cranberry girdler is not on the Lorsban label. Under current Federal law, however, it could be used against the girdler if the directions concerning rates and interval before harvest are followed. Do not apply Lorsban as a spray during bloom as it is very toxic to bees. We do not have good information on the efficiency of Lorsban against the girdler in cranberry bogs.

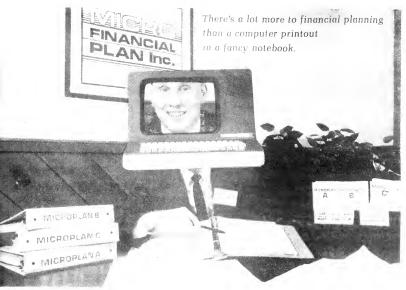
QUESTION: When should Lorsban be applied for control of girdler?

ANSWER: As stated previously, only Lorsban 4E is registered for use on cranberries and should not be applied during bloom because of hazard to bees. Therefore, it could not be applied earlier than the time the bees are removed from the area. QUESTION: What do I order girdler control?

ANSWER: Diazinon 14G registered for this use. Until have data to show that of insecticides are superior diazinon 14G, that is what shall recommend.

QUESTION: What is the status black vine weevil researc ANSWER: There is a ve small number of chemics available that might conti black vine weevil in cra berries. Permethrin (trac names are "Pounce" ai "Ambush") and Baythroid a the most promising and bo would be aimed at killing t adult weevils. Permethrin d not work well last year but bo Permethrin and Baythroid a in trials this year. We are testil them in sprays, using much le water than what is usually us by cranberry growers in ord to try to get more of t chemical to adhere to # leaves.

Until we get something el registered, Furadan granul are the only material we crecommend for the control this pest.



# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm





The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer Our 50th Year of Publication



80 Ft Boom Sprayer -3 Balloon to Bog -14

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES . FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

#### **BOB ALBERGHINI - SPRAYING**

For further information, call 866-4429 evenings after 5:30.









Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting - Cranberry Lifting Mats Available

# t's a Crane, It's a Stork-No, It's the WildHawk Boom



RACTOR, tank and boom ready for operation. Tractor is driving on the dike with the boom spended over the cranberry bed. The boom supports a sprayer system which sprays fluid rtilizers on the beds. Note the nozzle at the end, which is the foam marker indicating how far ray has been applied on this bed.

(CRANBERRIES photo by Lyda Lanier)

# COVER PHOTO

### COVER PHOTO

COND graders from the nscom Air Force Base imary School in Bedford, ss., watch (and learn) as inherries are wet harved at the Charles Johnson inherry Bogs in Carver, ss. How did the children open to come to this cticular bog? For the swer, turn to page 14. LANBERRIES photo by Dert Fitch)

#### By LYDA LANIER

"What's a better way?"
That question was asked of
Robert Hawk, president of
WildHawk Inc.

The answer became a special sprayer with an 80 foot boom, designed and built a little over a year ago and put into use in the spring on Wisconsin cranberry bogs.

Attached to the side of a fourwheel driver tractor, the boom is suspended over the bogs and used to support a sprayer system which supplies fluid fertilizers on beds of vines. It's a specialized machine for a specialized industry and is claimed to be the first machine of its kind in the cranberry industry.

"I don't think this has ever been done before," said Robert Hawk, president of WildHawk Inc., who helped design and develop the special sprayer.

"Just about anything done in the cranberry market," he reflected, "requires machinery that you can't go out and buy. You have to design it and build it, go out and try out."

THE MACHINE and its use became the cornerstone of WildHawk, which incorporated in Warrens, Wisc., two years ago. The business functions as an agri-supplier to the cranberry industry and, since its opening, has serviced a significant percentage of growers in central and northern Wisconsin.

Owned and managed by Hawk and his wife, Tina, who is vice president and bookkeeper. WildHawk currently is the only supplier in the area that works with growers fulltime.

"It's a market we enjoy," Hawk told CRANBERRIES. "There are a lot of challenges here "

The company's busy season on the marshes begins the last week in April, when the spraying season starts, and continues through mid June or up until early bloom. The sprayer is then in operation almost daily, applying fluid



THE SIGN in front of the office of WildHawk Inc. featuring hawk with a cranberry vine in its claw.

(CRANBERRIES photo by Lyda Lanie:



aspension fertilizers and fluid me with the new equipment. Fluid suspension fertilizers re made by blending dry aterial with water and onstantly agitating the mix. Because the boom is so long, anberry bogs as wide as 160 et can be treated. For narrow ogs—those less than 80 feet ide—individual nozzles urried on the boom can be shut

"This shut off system plus a am marker at the end of the bom," said Hawk, "prevents aste and overlapping, which ay result in tremendous vine rowth but no berries." The boom can be folded in half at then hydraulically moved ext to and parallel with the actor for convenient transportion and storage. Countereights on the opposite side of e tractor keep the boom lanced.

The boom was built by allenberg Equipment Co., ntigo, Wisc. The rest of the achinery on the boom, such as

### RANBERRIES



ne National Cranberry Magazine
and correspondence to:

P.O. BOX 249 Cobalt CT 06414 (203) 342-4730

B TAYLOR, PUBLISHER/EDITOR ROLYN GILMORE, ASSOCIATE EDITOR ROLYN LABAN, MARKETING DIRECTOR Advisors, Correspondents

ASSACHUSETTS—Irving E Damoranville, scor, Cranberry Experiment Sistion; Steven Hall, mouth: Carolyn Gilmore, Rochester. EW JERSEY—Philip E Marucci, Cranberry & Busberry Saccialial, Cranberry & Blusberry yratory, Chatsworth, Elizabeth G Carpenter, teworth.

tsworth.
DVA SCOTIA—I.V. Hall, Botaniat, Research Station, tville

ville
REGON—Arthur Poole, Coos County Extension,
It, Coquille
ASHINGTON—Azmi Y Shawa, Horticulturist and

SSTINUL UN-AZMI Y Snawk. HORICUITURI and maion Ageni in Moriculture. Costali Weshington Person Control Control

ISSN: 0011-0787 Imaster, send Form 2748 to: ANBERRIES I. Box 249 Watt CT 08414 Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

# Need Help?

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



P.O. Box 7, Taunton, Mass. 02780, Tel: (617) 824-7578 Located on Rt. 44 1/4 Mile West of Rt. 24

5

### Farm Credit Leasing Services Corporation

The Financing Alternative

- •WE LOWER YOUR COSTS
- •LOWER YOUR PAYMENTS
- •GIVE YOU GREATER CASH FLOW
- •AND . . .
- •IMPROVED TAX PLANNING
  - LOW COST FINANCING
     The cost benefit of arranging a
     lease through FCL can be
     considerable when compared
     with the finance costs of
     purchasing.
  - TAX PLANNING CERTAINTY
     Both savings and improved tax
     planning can be achieved with
     an FCL arranged lease.
  - 3. PURCHASE OPTION CHOICE. In many cases an FCL arranged lease can offer you a choice of a fixed purchase option or a purchase option based on fair market value. With other leasing companies you usually have no choice.
  - 4. FIXED RATE FINANCING. All financing costs are set and agreed upon right from the start. Including the lease rate. As a result, your payments remain the same. There are no surprises.



- 5. YOUR CHOICE OF EQUIPMENT. An FCL arranged lease is available for a wide range of agricultural equipment and facilities. You choose the equipment, and you make the deal. FCL will consider any request from \$100,000 on up.
- FLEXIBLE LEASE TERMS. It all depends on the equipment you choose and your cash flow. Lease terms range from 3 to 10 years rates.

	I am intere leasing pro	sted in more information	on about your
Name:			
Address:			
City:		State:	Zip:
Phone: (	)		
	Riverplac	DIT LEASING SERVIC e, Suite 300; 10 Second Iinneapolis, MN 55413	
	I	Phone: (612) 378-1733 Attn: Ken Reiners	



BERT HAWK checks a fertilizer application on a bog.

(CRANBERRIES photo by Lyda Lanier)

plumbing, liquid lines, pump 1 hydraulic system, was put ether by Hartung Brothers. na, Wisc., and WildHawk. 'HE BOOM and the lying system it supports e about as a result of a iversation among Dan rtung, Howard Rasmussen esman for Hartung) and wk over a cup of coffee at the intry Kitchen in nearby oqua. Some of the talk dealt th the shortcomings of lications by truck, airplane prinkler systems.

We feel our method is a better of controlling application," Hawk. "By utilizing a spray hine, every square inch is ing the same results, form growth and uniform production."

Besides providing the spraying system, WildHawk strives to be a full service center for cranberry growers. During July, Hawk is out taking soil and plant samples for his clients. The samples are sent to an independent laboratory that analyzes them for strengths and deficiencies.

Plant food recommendations based on standards established by the University of Wisconsin/Madison Horticultural Department are then drawn up for the individual growers. These guidelines help the grower and WildHawk to work up a fertilizer program designed to meet his particular needs.

"This way we put on only

plant food that's needed," said Hawk.

Supplier for Wildhawk is Hartung Brothers, specialists in manufacturing fluid suspension fertilizers, which are custom mixed according to recommendations for each bed.

WildHawk also sells manufactured dry fertilizers and chemicals geared to the cranberry industry. In operation now, too, is Hawk's own laboratory, set up in his office, which enables him to do on site plant tissue analysis for major plant nutrients, such as nitrogen, phosphorous, potash and sulfur.

"A grower will have the results in about 30 minutes," said Hawk

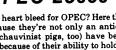
# editorial



### Growers Win. **OPEC Loses**

Ah, doesn't your heart bleed for OPEC? Here those poor fellows (we say "fellows" because they're not only an antidemocratic bunch of rascals but male chauvinist pigs, too) have been rolling, sleeping, bathing in money because of their ability to hold a gun to the head of the world on oil prices. Had they been less greedy, they might not have influenced consumers to reduce use and to seek alternative fuels. But they opted for defying inexorable economic laws and now they're in trouble. Couldn't happen to a nicer bunch of guys.

Bad news for the sheiks and despots, of course, adds up to good news for growers, who ought to see positive effects in terms of lower costs for fuels used in agricultural machinery.



#### ESTECH SOLD SULLIVAN & PROOP

The sale of the Branded Fertilizer Ur of Estech Inc. to Sullivan & Proops w completed Jan. 10.

The new company will be nam Eetech Branded Fertilizers Inc. and w continue to be headquartered Fairview Heights, Ill. Sullivan & Proc is a Chicago investment firm whi purchased Kaiser Agricultural Chemic

of Savannah, Ga., in March 196 Estech Branded Fertilizers Inc. is marketer of agricultural fertilizers a chemicals, consumer lawn and gard products and professional turf a nursery fertilizer products.

#### \*\*\*\*\*\* STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years

Send check or money order to:

CRANBERRIES P.O. Box 249 COBALT CT 06414 \*\*\*\*\*\*\*\*\*

Office 295-2222 REATON'S

K. Beaton 295-2207

D. Beaton 888-1288

WAREHAM,

P. Beaton 947-3601

- COMPLETE BOG MANAGEMENT
- NETTING

Specializing in

DITCHING

- HARVESTING
- SANDING

(Wet & Dry)

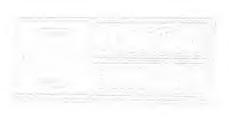
Also

 CUSTOM HERBICIDE APPLICATION

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers



Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes



### **Since 1903**

**MORTON** Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436

# A CRANBERRY DICTIONARY OF DAFFYNITIONS

By JOHN H. DROMEY Buying gravel: Putting money in the "bank" (of the

Can. berries: Cranberries from Nova Scotia.

from Nova Scotia.

Conveyor: Berry ferry.

Cranberries: Sour grapes

with a sunburn.

Cranberry juice cocktail:
Bog nog.

Ditcher: Dirtilizer.

Down-to-earth evaluation: You can probably determine whether or not an irrigation system installer knows what he's talking about, or if he's simply "all wet," by asking him about the advantages of a "buried pipe." If he answers, "That's no problem, I've been planning to quit smoking anyway," you'd better look elsewhere before he asks you for travel expenses and a road map in order to install a "Maine line."

Eye for a bargain: Don't be fooled by ads for an inexpensive product to "get the red out." It's probably considerably more expensive than evedrous.

Herbicide application: Speed weeding.

Ideally designed bog hog: A brush hog that knows how to swim.

Keep cool: The first rule in growing cranberries.

Kissing cuisine: Why are inadequately sweetened cranberry eaters always so lovable? They walk around with their lips in a perpetual pucker.

Loser: The would-be cranberry grower who couldn't get started, because every time he talked to a "sand" man, he fell asleep. Mass. transit: Taking cranberries to market in the Bay State

Not such a hot idea: A cranberry plant going south for the winter and becoming a "nevergreen."

Outsider: You can tell that a landowner is just "getting his feet wet" in cranberry growing when he wears sandals to inspect a flooded bog.

Packaging technique: Using plastic bags, which have an "uncanny" ability to get cranberries to the consumer.

Pessimist: A cranberry grower who equips his tractor with an inflatable liferaft.

Power of suggestion: The inclination to go to the movies whenever the cranberry crop reaches the popcorn stage.

Pressing engagement: When you put the squeeze on cranberries, first you get CRAMberries, then you get juice.

Regional crop: What cranberry growing is likely to remain, unless someone figures out a way to air-condition the entire state of Florida and turn the Everglades into a giant cranberry bog.

Riddle: What did the turkey drumstick, dropped by a clumsy diner, say as it passed the cranberries? "A rolling bone gathers no sauce."

Ripe gripe: Why does the cranberry harvest always have to start during the football season?

"Rushes everywhere": A comment on either a grower in a hurry or the land of one who needs to apply some herbicide fast.

Seasonal hazard: Hiring worker whose idea of fro protection is wearin thermal underwear an staying inside where it warm and who goes fishir at the first mention a harvesting wet.

Spraying protective chemicals on cranberrie Lucrative 'cide line.

Washington: One of the states that makes "washingtons" of cranberries possible each year.

Winter: The time of year th makes cranberry growers see re if there's any delay in getting the bogs flooded.



# ARE YOU INVOLVED WITH

CRANBERRY GROWING.

PROCESSING, MARKETING, ETC.?
Then you ought to read CRANBERRIES, the national cranberry magazine. Each monthly issue contains

monthly issue contains informative news and feature articles about the industry.

Keep informed. Read

CRANBERRIES

Mail your check or money order to:

CRANBERRIES
P.O. Box 249
Cobalt CT 06414

r

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

STATE ZIP





# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine or department stores and oank lobbies, but out here in he real world, you're going to leed all the help you can get.

Freedom Financial services is committed to elping you build a secure inancial future. As a Freedom lient, you work with easoned financial planners nd investment analysts.

Freedom Planners are natependent professionals /hose expertise and undertanding are the keys to eveloping the one plan that right for you. Your planner tays with you, offering uidance over the rough spots nd opportunities for greater icome and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading
Independent Financial Planning Firm





### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449
TEEEPHONE (715) 384-3121 TWX 510-370-1846



Federal Furnace Rd., Plymouth MA 02360.

Tel. (617) 746-6048

#### VEST GERMANY IS TRONG PORT FOR J.S. FARM GOODS

By RICHARD L. BARNES

est Germany is the world's largest aporter of agricultural products. In 184, agricultural imports from all urces totaled \$21.1 billion. In local rrency, 1984 imports were 9 percent ove 1983 levels.

West Germans rank among the salthiest consumers in the world, at out \$10,000 per capita. Shoppers are epared to spend more money for food d not just for essentials. There is a owing taste for delicatessen items and

w-to-market foods, many coming from eign countries.

Apart from a high rate of employment in West Germany, onomic prospects are bright. lications are for an increasing mber of jobs and rising disposable omes.

West Germany's small arable land face has its southernmost border on ghly the same latitude as Duluth, nn. Despite its northerly position, the intry has made impressive advances ts own food production during the last eral years. Farmers and policy-kers alike are beginning to worry re about how to dispose of surplus duction in future years than about king self-sufficiency-a preupation of the post World War II

lest Germany already produces more ry products, beef and sugar than it consume domestically; and it ders on self-sufficiency in most food

feed grains.

ver-increasing production has been ulated in part by the European amunity's (EC) Common Agricull Policy. Even in the face of rising out, farmers have responded to ner support prices by producing e.

es a production in Germany and in EC countries rose, the EC conded by rigorously enforcing cles designed to increasingly restrict

d country imports.

is U.S., which has played a icularly important role in supplying st Germany's huge import irements, has felt the brunt of these ies and other influences that have the U.S. market. Increased import rictions, combined with other ors, forced a decline in German rts of U.S. agricultural products their peak of \$2.9 billion in 1980 to billion in 1984.

est German exports to the U.S. have than doubled since 1980 to \$456 on in 1984. Largest among all ps are beer and wine, which inted for one-third of exports. ted coffee ranks third, followed by and vegetable preparations and e. The U.S. takes 45 percent of any's total agricultural exports.

rnes is the U.S. agricultural selor in Bonn, West Germany.)



WEST GERMANS have money and a taste for a wide variety of foods.



# Balloon Ends Up in Bog

#### By ROBERT FITCH

It all began with a classroom project in communications. Pupils in Peggy McWade's

Fupils in Feggy McWade's second grade class at the Hanscom Air Force Base Primary School in Massachusetts were asked to write messages, place ther in balloons and send the balloons aloft. Finders were asked to notify the school.

The balloon set aloft by Erik McDonald sailed high into the sky, took off on a southeast course, merrily rode along for about six miles, and floated down on the bog of Charles and

Jean Johnson in Carver, Mass. Mrs. Johnson was so delighted at finding the balloon and message that she made contact with the school and invited the whole class and Mrs. McWade to the bog in Carver to witness a harvest and learn about how cranberries grow.



JEAN JOHNSON, with arm extended, points out to teachers and pupils how cranberries ar grown.

## regional news notes

#### Washington

rof. Azmi Shawa, horticulturist and a county extension agent for shington State University, is on batical leave through June 30 at coln College, Canterbury, New land. His work will cover blueberry t harvest physiology.

Annual Cranberry Field Day Washington will be held June 27 the Coastal Washington search & Extension Unit, Long ach, beginning at 10 a.m.

br. Peter Bristow, plant pathologist, I present the latest in cranberry sase research and the effects of Bravo at the growers' meetings, March 11 Grayland and March 14 in Long seb Washington's harvest in '85 reached 144,000 barrels, a 68 percent hike over last year's 98,500 barrels.

The Cranberry Advisory Board for CWREU will meet on March 14 at 10 a.m. at the PUD Building in Raymond, Wash.

The Washington Cranberry Commission will meet March 14 at 1 p.m. at the PUD Building in Raymond.

Dr. Carl Shanks Jr., entomologist, made a progress report to the Washington growers on insect and insecticide research on cranberries at the area meetings, Feb. 11, Grayland and North Beach growers, and Feb. 21, Long Beach growers,

#### Massachusetts

By IRVING DEMORANVILLE

Dr. Charles Brodel and Sheri Roberts attended the annual meeting of the Entomological Society of America in Hollywood, Fla., Dec. 8-13. They presented papers based on work done at the Massachusetts Cranberry Experiment Station.

## Q&A

Dr. Carl H. Shanks Jr. answered the inquiries on insects that were stuffed into the Question Box at the 1985 Cranberry Field Day held recently in Long Beach, Wash.

QUESTION: What is the damage that cutworms do to cranberries?
ANSWER: Cutworms feed mostly at night. They will cut off buds, berries, flowers or leaves. This insect does not seem to be a common problem in Washington cranberry bogs. At least, I have not had any infestations brought to my attention. Recommendations for control are in the 1985 Cranberry Insect and Disease Control Program.

QUESTION: What is the rate of application for Lorsban?

ANSWER: The rate shown on the Lorsban 4E label is 3 pints (1½ lb. actual Lorsban) per acre. So far as I know, no other formulations of Lorsban are registered for use on cranberries. Be sure to read the label before using it on your cranberries.



#### Serving Massachusetts cranberry growers

- Sanding by helicopter
- Aerial pesticide application
- •Frost protection equipment
- •Chemical application equipment
- •Culverts—all sizes—steel & aluminum
- Consulting services

CONTACT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

John C. Decas
DECRAN AG SUPPLIES INC.
219 MAIN ST.

Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)

#### TWO WAY RADIO Service of Kingston



IT CAN CHOP WASTED TIME AND MONEY RIGHT OUT OF YOUR BUSY SCHEDULE

If you believe that time is money, call TWO WAY RADIO SERVICE Today. We'll help you find out how much money you will save with a truly efficient corporate communication system. Clear, instantaneous communications for your fleet, or service personnel. your salesmen and your office-you can even make & receive telephone calls from your mobile units!

> Motorola Trunked Radio Systems Are Big News and They're As Easy As 1-2-3.

When one of your radios transmits on a channel, your radios-and only your radios-are directed to that channel. Other users talk simultaneously on adjacent channels, but they can't hear your messages. All other talkers are locked off your channel as long as you talk. They can't cut in and overpower your signal. There are also other privacy options. Privacy Subfleets-Within your radio fleet, you can designate subfleets. This way you can talk to some of your drivers and keep messages private from others. Only those designated members to the subfleet receive the message. This subfleet option permits you to distinguish between all-vehicle call and messages meant only for supervisors, or it lets you zone your drivers by territory or job function. Besides giving you privacy of speech, it gives the drivers a silent radio when they aren't part of the conversation.

Motorola has gone to great detail to make these trunked radios the easiest you've ever operated. Ease of Channel Access. Now there are up to 20 channels to accommodate your communications needs each time you initiate a call request. And initiating a call is easier than on a one or two-channel radio. There's no searching for a channel, no listening to make sure it's clear-the system does it for you automatically. All radios in your fleet or subfleet are automatically programmed to the frequency the system assigns to you. Just depress the Push-To-Talk (PTT) button and communications can begin. Automatic Call Back-An open channel is usually available to you within 1/3 second of depressing the PTT button. If all radio channels should be momentarily busy, your radio operator hears a "Talk Prohibit Tone." The request to talk is automatically placed in an ordered, waiting line (queue) so there's no need to wait and monitor for a clear channel. Waiting callers are selected on a firstin, first-out basis. When a clear channel is available, the operator is alerted by a short audible tone that a channel has been assigned, and he-she can begin to talk

Easy Modification for Growth-Motorola's trunked radio gives you the capability to expand or modify your fleet and subfleet structure as your needs change. Easy, inexpensive modifications can be made simply by exchanging a code plug. This code plug holds all fleet and subfleet identities. It enables you to add new units to your fleet, divide your fleet into new subfleets, or add a new fleet. If the number of frequencies in the fixed equipment of your trunked radio system increases, additional frequencies are automatically incorporated into your mobile, without returning radios to the service shop.

TWO WAY • ELECTRICAL CONTRACTOR Radio Service

100 Marion Drive . Kingston, MA 02364 . Phone (617) 746-9100



- COMMUNITY REPEATERS
- ANTENNA SITES







#### The scoop of the year!

Cranberry Flavor, Fact and Folklore in THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries... you'll find this book a treasure."—Des Moines Register. Paperback, \$8,98

lease	send	copies	of	THE	CRAN-
BERR	Y CONN	ECTION,	\$8.	95 eac	h.

Name\_\_\_\_

Address \_\_\_\_\_

Add \$1.50 for postage; Conn. residents

add 7% sales tax.
CRANBERRIES MAGAZINE

P. O. Box 249, Cobalt, CT 06414





"We're Best on Earth"

One yd. CAT backhoe

Bog Construction Land Clearing

Canal Work

Flume Setting
Pond Construction

Ditching

Contact:

Peter K. Meier 63 South Street Halifax, MA 02338 (617) 293-3218

Grower references available Equipped with swamp mats

# NYLON BERRY BAGS

- · 8-9 Barrel Capacity · Cost Efficient
  - \* Easy to Handle
    - · No Wheel-Off Rigs
      - No Wheel-Off Rigs
        No Bulk Bins
        - · No Fork Lifts
- TRUCK COVERS

- Custom Made -Allow 4-6 weeks for delivery.

\* CONTACT \*

866-4429



RFD 5 PLYMOUTH ST. CARVER, MASS. 02330 A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



- FOR EXAMPLE: --

Gorman-Rupp Self Priming Electric Sprinkler Pumps

Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact: Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 (617) 746-6048



22 years experience & Society construction lifts



· MUD LIFTING ·

# **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags bulk bins

BEATON'S CRANBERRY **GROWERS SERVICE** 

WAREHAM MASS

JOE **BRIGHAM** INC

lightweight durable

contact PETER - CHUCK 617-295-2222

mat rentals & sales



# Now there's Bravo 500. A better way to control fruit rot.

That's what eight years of testing clearly showed—Bravo 500 fungicide is more effective on fruit rot diseases than captafol.

What's more, cranberry growers will get exceptional control of leaf and twig blight with Brayo 500.

Yet, Bravo does not adversely affect fruit color like other fungicides are known to do. Nor does Bravo leave any lingering odor.

It's this kind of first-rate performance that's made Bravo 500 America's preferred food crop fungicide. And now you can use it too.

Bravo 500 fungicide. Because better disease control means bigger yields of higher quality cranberries come harvest.



Biotech

Agricultural Chemicals Business SDS Biotech Corporation 7528 Auburn Road, PO Box 348 Painesville, Ohio 44077

Always follow label directions carefully when using agricultural chemicals.

#### HEAVY DUTY PLATFORM TRUCK BODIES



"We" Stretch and Shorten Truck Chassis the Wright Way

Fast Service

Mounting \$250 U-Bolts, Wiring.

Includes: Flaps, Lights, CALL NOW!

Complete Trailer Hitch Installation Center

- Standard Features -

All Bodies Include 3/16 Steel Decking, ICC Bumper, Stake Pockets, Rub Rail,

48" Head Board

- Options -Tool Boxes, Diamond Plate Decking,

Primed & Painted, Lumber Rollers, Nylon Webbing w/Winches Tie Downs, Etc.

Quantity Discounts Available

©&D TRUCK BODY MFG. 1-617-336-4338 29 Fall River Ave . Rehoboth MA 02769

\* C.R. LEONARD & SONS INC.

> 890 MIDDLE ROAD ACUSHNET, MASS. 02743

TEL. 763-2712

Flumes **Detrashers** Conveyors (steel or aluminum) Shearing · Shop Welding Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM
- REINFORCEMENT ROD WIRE MESH \*



# We don't ignore \$99,999.

Many large brokerage firms really aren't very interested in you unless you have \$100,000 to invest. Too often the small investor ends up getting pushed aside.

We don't have that attitude at Ğage-Wiley and Company. For more than 50 years, we have been serving investors throughout New England and we give each the same careful attention. We take time to learn about your personal financial goals, and then use our experience to select investments which will best fit your needs and resources.

Whatever the size of your portfolio, even if you're just getting started, call us at Gage-Wiley and make an appointment to talk with one of our experienced investment counselors. Small investors have always been important to our company. We don't ignore them. After all, at Gage-Wiley we want to help small investors reach their own \$100,000 qoal.



# Gage-Wiley & Company Incorporated

Village Landing • P.O. Box 3507 • Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m./Sat. 9:30 a.m. to Noon Member of the Securities Investor Protection Corporation

#### **OBITS**

#### 3 Members of Bay State Industry Die

Russell Makepeace, 81, one of the foremost leaders in the cranberry industry in Massachusetts, and two other membere of the industry in the Bay State, Elizabeth (Atwood) Costello, 83, and Arthur E. Helsen, 85, died recently.

A feature on Makepeace and his impact on the industry will appear in the April issue of CRANBERRIES. Makepeace's career in the cranberry industry began in 1930 when he joined A.D. Makepeace Co., a firm established by his grandfather.

Mrs. Costello, of South Carver, widow of Frank D. Costello and daughter of the late John E. and Lillian M. (Vaughan) Atwood, died at her home after a brief illness. She had been treasurer of Crane Brook Cranberry Co. of Carver.

Mrs. Costello attended Bates College and taught in the Freetown school system. She was a member of the Carver Old Home Day Committee. In the 1920's, she was an office clerk for the former Atwood-Costello Chevrolet of Middlebora.

Survivors include two brothers, John E. Atwood of Carver and Leonard L. Atwood of Arizona and several nieces and nephews.

Arthur E. Heleen, of East Rochester, died following a lengthy illness. Grower Heleen was the husband of Elsie H. (Hanninen) Heleen and the son of the late Walter and Helga (Matson) Heleen. He was a member of the Finnish Congregational Church in West Wareham. Besides his wife, he is survived by three brothers, Edwin, Vijio and R. Allen, all of West Wareham; two sisters, Ailie Heleen and Lillian Rinta, both of West Wareham, and several paleocs and nephews.

#### **BOG WANTED**

- Massachusetts
- Productive bog
- •5 to 10 acres

•Outright purchase or will exchange my experienced, professional management and/or labor for equity in 10 acres or more

•Attractive tax arrangement for senior growers

(617) 746-9584

# weather watch

#### Washington

September 1985 brought a maximum mperature of 80 degrees on the 26th d minimum of 32 degrees on the 29th d 30th. These warm days and chilly ghts helped to color up the cranberries. ecipitation totaled 4.49 inches, about erage for September, but not enough to lp the water shortage in the water pick

October gave a maximum temperature 71 degrees on the 5th and a minimum 29 degrees on the 8th, 9th and 29th. ecipitation total was 11.12 inches, ring the wet harvest growers enough sisture to carry through harvest, and ough the berries were medium in size, ere was good color, and abundance to ip make the 1985 crop of 144,122 rrels for Washington the largest crop ice 1979 and 46 percent above the 1984

yo. November maximum temperature was degrees on the 3rd and the minimum s 15 degrees on the 24th. Precipitation al was 7.10 inches, 4.28 below erage.

December brought many days with ze over the entire area. A minimum aperature of 23 degrees on the 12th I a maximum of 62 degrees on the 26th urred. The precipitation total of 3.07 hes brought the total for the year to 31 inches, the third lowest on record ce 1945. 1949 had 50.78 inches, 1952 ught 52.05 inches.

A.Y.S.

#### Pump Repairs

All Types

#### Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St. Plympton MA 02367

> Bruce Sunnerberg (617) 585-2394

#### Niemi Electric Co.

ROBERT NIEMI

#### **ELECTRICAL CONTRACTORS** HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- **COMMERCIAL**
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pineburst Dr.

Wareham, Mass.

#### Equipment Inc.

307 West Grove Street (Rte 28) Middleborough MA 02346

## KUBO

Diesel Equipt.

**Tractors** 2 & 4 wheel drive - 12-90 hp. Compact Excavators 1% to 6 ton

Wheel Leaders 1/2 to 3/4 vd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

eu 0 To **\*\*\*** FO. . FO ≥ > FO FO

**ATTENTION: Massachusetts Bog Owners** With Expansion & Maintenance Projects EQUIP RENTALS-D8L-D8K-D6D-235-225-966D. Screening plant, screen your own Also complete projects: BOGS-PONDS-ROADWAYS-SAND GRAVEL & FILL. Also interested in purchasing surplus sand & gravel from your expansion projects.

P.A. LANDERS, INC. 826-8818

# CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass. 02537 (617) 888-1288

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607 AMES

Irrigation Systems

Sprinklers HALF

Pumos

Highest Quality Products with Satisfaction Guaranteed



THE FREE PORT of Hong Kong is a busy place for the movemen of fruit.

## Hong Kong One of Largest Fruit Exporters From U.S.

By MICHAEL S. HUMPHREY

Agricultural Officer in Hong Kong Hong Kong is one of the largest and most competitive markets for fresh fruit in Asia, importing roughly \$240 million worth in 1984. While the territory produces about 5,000 metric tone of tropical fruits each year, some 400,000 tones of fruit are consumed by its 6 million inhabitants.

Because Hong Kong is a free port and an open market, fruits from all over the world compete entirely on price and quality. A number of U.S. freeh fruits have been successful in this market for a long time. For example, Hong Kong is one of the largest export markets for U.S. oranges, grapes, melons, lemons, apples, plums and prunes. The market potential for other U.S. fruits still awaits exploration by U.S. exporters. Imports from other sources include

bananas and pineapples from Taiwan; mangfoes, papayas and durians from Southeast Asia; pears from Japan and Australia; and mandarines, lychees and longans from China.

Citrus imports were 142,000 tons in 1984, accounting for 37.5 percent of fresh fruit imports. Fresh oranges are Hong Kong's largest fruit import item. Hong Kong imported 113,000 tons of oranges in 1984, with 103,000 tons coming from the U.S. Hong Kong's per capita consumption of oranges was 20 kilograms annually, probably the highest in the world.

The fresh orange market in Hong Kong is dominated by the U.S., which accounts for over 90 percent of the

imports.

In addition to oranges, U.S. apples, lemons and grapefruits also are well recognized as quality products in this market.

The expanding population of Hong Kong, coupled with both the steadily rising standard of living and the growing health consciousness of consumers, will probably favor these

Potential also exists for larger sales of such items as avocados, berries and cherries. Consumption of these fruits has shown some increase in recent years, although their respective shares of the fruit market are still small.

#### FARM MACHINERY FOR SALE

Backhoe Loader JCB 1550C3, 600 hrs - \$28,000

New Kubota Tractor L355SS 4 wheel drive w/Beaver hang-over mower, 20 hours, - \$20,500

Flat Bed Trailer, tip load, 17 foot bed

7 ton capacity - \$1500

1970 Dodge Dump Truck, 10 yard - \$3000

750 Ford Truck, box body for cranberries 200 barrel capacity, excellent condition

Darlington Picking Machine, exc. cond - \$500 Koch Sickle Bar. 7 foot side mount - \$300

Flymow Mower, good condition - \$100 Telephone (617)-293-7691 after 6 p.m.

24

#### ranswave Changes s Name to ARAX

Barbara A. Kovell, vice president/ rketing, Transwave Corporation, inderbilt, Pa., announces that answave Corporation has changed its me to ARAX International

rporation.

This move, says Kovell, was spurred the rapid success of a new duct, called ARAX—an automatic orting agricultural weather system, roduced in the spring of 1985. The ard of directors of Transwave rporation unanimously approved the me change and felt that the image of s new product is greatly enhanced by

lovell stated that over the past several nthe the marketing of ARAX has alted in the establishment of a strong ional dealer network, as well as ernational distributors in Australia, Zealand, India and Canada. RAX senses, gathers, and stores data soil and weather. A portable, solar vered, microcomputer and electronic esuring system, it is designed for ation in a bog or other environmental a. It senses and records temperature, ometric pressure, wind speed and ection, rain or enowfall, solar liation, crop growth rate, soil perature and moisture, salinity and of irrigation water and the presence lew and thunderstorms.

he information is transmitted by d-wire or radio telemetry at prected periodic intervals to a small s computer where data is historically I and used. ARAX can initiate a ne call automatically to report frost ditions to any prescribed telephone

aber.

he corporate headquarters of ARAX rnational Corp. is nestled on 72 oded acres in Vanderbilt, Pa he board of directors of ARAX mational Corp. includes Dr. Harry Sampey, president and CEO, Dr. urles A. Schuler, Samuel L. Spotto S. Kent Rockwell. The directors have roved the construction of a new sufacturing plant to be located near corporate office and plans are erway to begin construction of AX Center early this spring.

# weather watch

#### MASSACHUSETTS

ecember was cool and dry. peratures averaged 1.3 degrees a below normal. Maximum perature was 60 degrees on the 2nd the minimum was 8 degrees on the I. Warmer than average days were ist, 2nd, 24th and 31st, Cooler than average days were the 3rd, 4th, 15th, 18th through 22nd and 26th.

Precipitation totaled a mere 1.15 inches, about 3 inches below normal and a record low for us. There was measurable precipitation for only seven days and the most for any storm was 0.35 inch on the 11th. There was only 2.5 inches of snow.

For the year 1985, our temperature averaged 0.2 degrees a day above normal. Substantially warmer than normal months were February, March, April and November. Cooler months were January, June and December. Maximum temperature for the year was 92 degrees on July 20th and the minimum was 4 degrees on Jan. 21. This

was a relatively rare year, being without a below zero temperature. The last such year was in 1975.

Precipitation totaled 44.3 inches, or 2% inches below normal, and was 41/4 less than in 1984. The greatest precipitation from one storm was 4.82 inches on Aug. 30-31, which was our record amount for any August. The precipitation pattern was etrange, with the first four months very dry, the next four months wet and three of the final four months very dry. Snowfall was just slightly above average. Sunshine was substantially below normal and even less than in 1984. The bulk of the cloudiness occurred from April through September.

I.E.D.

## Big Wheel Truck Sales 42 Quanapoag

E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

(617) 763-5927

(617) 763-8745

Call Bob or Joe

Hearty, vigorous, productive

#### STEVENS CRANBERRY VINES

For Spring 1986 planting. Delivery early Spring. F.O.B. our bog.

\$3,500. per ton

Saddle Mound Cranberry Co., Inc. 105 Old 54, City Point, WI 54466 715/593-2326 or 593-2350





# TED'S FARM EQUIPMENT Sales and Service

27 ALDEN ROAD ● FAIRHAVEN, MASS.

Tel. 994-5312

CUSTOM MADE & REPAIRS on Hydraulic hoses - P.T.O. shafts

# **BUSH HOG**



# Go ahead with SAME



AIR COOLED DIESEL



#### DUBLE DELIGHT RANBERRY PIE

DEBORAH GIBBS SELLON inbaked 10 inch pie shell 6 oz can jellied cranberry or cranberry-raspberry up pecan (or walnut) halves oz packages cream cheese, softened

ip granulated sugar gs

teaspoon lemon extract loz container dairy sour cream p commercial cranberry-orange relish blespoons honey or light corn

syrup ablespoon unflavored gelatin ip cold water

cranberry sauce to soften, stir in , spread over bottom of pie shell; 15 minutes at 450 degrees. Remove oven and reduce heat to 350 ees. Beat cream cheese with electric er, adding sugar gradually; beat in and lemon extract. Pour over berry layer and bake at 350 degrees 10 minutes or until custard layer is

. Remove from oven, cool and chill.

s part of the preparation may be a day ahead if desired.) on gelatin in cold water in top of le boiler, then dissolve over hot r. Blend sour cream, cranberry-ge relieh and honey; stir in plyed gelatin and chill 45 minutes to hour or uuntil mixture will nearly its shape. Heap on top of previously ed pie and return to refrigerator

recipe sounds complicated, but it ally goes together very quickly, nally when made over two days'

serving time.

CRANBERRIES is ad by more than o-thirds of the owers in the U.S.

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N Wisconsin Rapids WI 54494 (715) 421-0917 Marsh Number

(715) 593-2285

#### VINES FOR SALE

Order Now For Spring Delivery **Pure Prunings Of** 

SOLD OUT **Blacks** SOLD OUT Howes \$4,000 Crowlevs Stevens \$4.000

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

#### WISCONSIN CRANBERRY **HEADQUARTERS FOR**



#### **SEVIN XLR**

DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G + PARATHION + ETHREL

#### Cole Chemical Supply

DIVISION OF Habkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer Our 50th Year of Publication



#### **Since 1903**

MORTON Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436

# Rates of Lorsban and Losses o the Cranberry Fruitworm

By CHARLES F. BRODEL Cranberry Experiment Cranberry Experiment

Station East Wareham, Massachusetts

The insecticide Lorsban<sup>1</sup> 4E as been approved for use on anberry since the spring of 364. Its label states that a cadcast foliar application ntrols the brown spanworm, anberry fruitworm, Sparganhis fruitworm, cranberry evil, cutworms, and fireorms. In all cases, a rate of 3 s per acre is specified.

In Massachusetts, most owers have reported favorably sout the performance of resban against a broad range pest insects. As a result of eir experiences, however, veral have suggested that tes lower than 3 pts per acre be commended. At the 3-pt rate, see growers have observed at all pest and beneficial

arthropods, including spiders, have been killed. It is reported that, on some bogs, arthropod life has not reappeared for 2 or 3 weeks following an application.

A perusal of efficacy trials in Massachusetts from the late 1960s onward indicates that, for whatever reason, 3 pts per acre was the most commonly used rate. A rate of 1.5 pts per acre was tested on 2 occasions against cutworms and fireworms. In both tests, the mortality rate was 100 percent.

With future recommendations in mind, it was decided to begin testing Lorsban during 1985 at rates lower than 3 pts per acre. The following report describes a preliminary trial involving the cranberry fruitworm.

#### Procedures

The experiment was conducted on a uniformly vined section of 'Howes' cranberry on State Bog in East Wareham.

Three sets of 4,5 x 5-ft plots were staked out end to end about 15 ft from a ditch. Plots were separated by 1-ft pathways and each set of plots by 5-ft pathways.

Applications of Lorsban 4E (Dow Chemical Co.) were made at sunrise on Jul 18, Jul 29, and Aug 13. These dates correspond to 7, 18, and 33 days after '50 percent out of bloom'. (The

Mention of a trade name does not imply endorsement of the product as opposed to other similar products containing the same active ingredient, chlorovrifos.

#### **COVER PHOTO**

JOHN McMAHON, Bandon, Ore., grower, inspects one of his bogs for insect damage. McMahon is among growers in the area using Lorsban for the control of cranberry girdler and cutworms. Two stories on Lorsban begin on this page.

(C.N. Henry photo)







PERIMENTS were done at the Massachusetts Cranberry Experiment Station using three rent application rates of Lorsban.

(Illustration by Charles F. Brodel)

parameter '50 percent out of bloom' stands for the vine growth stage at which half of the flower structures have lost most of their petals.) On each date. weather conditions were clear and calm with temperatures of 60-65° F. A 2-gal, hand operated, compressed air sprayer with cone nozzle was used to make all applications. Treatments were diluted to the equivalent of 400 gal of mix per acre to simulate conditions achieved commercially with overhead irrigation systems.

In each plot, 3 randomly selected areas of 1 ft² each were hand harvested during the week of Oct 7-11. Berries from each area were placed in a plastic bag, stored in a freezer, and examined under a stereoscope at a later date. Regardless of size, a berry with larval feces or larval entry and exit holes was judged to be infested by a cranberry fruitworm larva. The percentage of injured berries was calculated

for each bag. Percentages underwent arcsine transformation prior to statistical analysis. Statistical methods consisted of analysis of variance for randomized blocks followed by separation of averages via the Student-Newman-Keuls test at  $P \leq 0.05$ .

#### Results and Discussion

Results of the field trial are presented in Table 1. All 3 rates of Lorsban 4E reduced crop losses from the cranberry fruitworm to less than 2 percent. These acceptably small losses contrast with the greater than 40 percent losses in untreated plots. The number of berries per ft² was statistically equivalent among treatments.

In response to these preliminary findings, cranberry growers might think it feasible to decrease the amount of Lorsban used to manage fruitworm populations. In my opinion, such thinking should

not be discouraged. Althoug the economic savings per aci per season would not b substantial, there would be other benefits. A greater number natural enemies of th fruitworm and other pests wou survive to assist in reducing pe populations. Less insecticie would be introduced into the environment. The chances of fish or bee kill would diminis Regarding aerial application the possibility of damagir newly set fruit would all diminish.

Before deciding to reduce the rate, however, each grown should consider the followir factors:

Timing of applications. In the trial, Lorsban was applied at a intervals relative to vine at fruit development on a specific section of bog. Crop losses wou have been greater had the progress of bloom not be closely monitored and help to shan not been applied.

Table 1. Application rates of Lorsban 4E as related to fruit injury by the cranberry fruitworm. State Bog, E. Wareham, Mass. 1985.

Treatment (p	ots/A)*	No. berries/ft <sup>2**</sup>	Avg % ** <u>injured berries</u>	contro
Lorsban 4E	3.0	240 a	0.11 a	99.7
Lorsban 4E	2.0	253 a	0.17 a	99.6
Lorsban 4E	1.0	223 a	1.86 a	95.5
Untreated		223 a	41.63 b	

<sup>\*</sup>Amounts correspond to 1.5, 1.0 and 0.5 lb of active ingredient per acre, respectively; treatments applied 7, 18 and 33 days after '50% of bloom'.

\*\*Each number represents the average of 3 replicates; averages follow

by the same letter are not significantly different.

cording to schedule.

Uniformity of coverage. The plication of small quantities insecticide mix to demarcated ots insured uniform coverage vines and berries in this field periment. Applications rough sprinkler systems or by licopter are bound not to ovide uniform coverage of ge areas. With regard to rinkler systems, system essure may be inadequate, essure may vary from one ad to another, and risers may t be exactly vertical. Also, erals and heads may not be ally spaced, and procedures taining to the introduction of secticide mix may be properly executed. Aerially, re are potential problems h swath overlap, missed as of bog, and drift of

insecticide to non-target areas.

Array of pests. The major pest at the experimental site was the cranberry fruitworm. Even so, injury to some small berries in plots treated with 1 pt of Lorsban per acre resembled that caused by young Sparganothis fruitworm larvae. Such injury was not observed in plots treated with 2 or 3 pts of Lorsban per acre. Thus, an application of less than 3 pts per acre might be effective where the only significant pest during Jul and Aug is the cranberry fruitworm. In areas also populated by the cranberry weevil or Sparganothis fruitworm, the lower rate is less likely to be effective.

In conclusion, Lorsban 4E applied at rates lower than the

label rate of 3 pts per acre effectively minimized crop reductions from the cranberry fruitworm at a single test site. These results should encourage growers who want to use as little insecticide as possible. Currently, there are no federal or state regulations prohibiting the use of less product per acre than is specified on the label. However, before deciding to use less Lorsban, growers should evaluate their individual situations to determine, for each bog, whether the benefits are likely to outweigh the risks.

Acknowledgment. I am grateful to Michael Sylvia for withstanding the tedious task of hand harvesting berries.

#### RANBERRIES



National Cranberry id correspondence to:

P.O. BOX 249

Cobalt CT 06414 (203) 342-4730

TAYLOR, PUBLISHER/EDITOR OLYN GILMORE, ASSOCIATE EDITOR OLYN LABAN, MARKETING DIRECTOR

#### Advisors, Correspondents

SSACHUSETTS-Irving & Demoranville, SSAGMUSE I S—Irving E Demorativity (I) (Combinery Experiment Station; Steven Hell, touth: Carolyn Gilmore, Rochaeter, M JERSEY—Philip E. Merucol, Crenberry & Baserry Specialist, Cranberry & Buebarry etcoy, Chatsworth; Elizabeth G. Carpenter, worth
VA SCOTIA—I.V. Hell, Botaniet, Research Station.

ille. EGON—Arthur Poole, Coos County Extension

SHINGTON-Azmi Y Shawe, Horticulturist and

sonigation—acmi v Snawe, moritoriumes end sion Agent in Moritorium, Coastel Washington srch & Extension Unit, Long Basch, ICONSIN—Frederick Poes, Eas Claire; Tod D. r, Farm Management Agent, Wood County; Dan man, Vesper; Joan Humphrey, Friendship.

BERRIES to published monthly by Diversified loads. Wellwyn Drive, Perliand CT 08450, Second ostage to paid at the Perliand, Comn., Pool Office 8 70 a year, \$18 for two years, \$1 a copy in the 17 a year in Canada; \$18 a year in all other 90.8 Sack copies: \$2, incide petge. Copyright 1908 untiled Periodicals.

ISSN: 0011-0787 nactor, send Form 3748 to: 4BERNIES Box 248 # CT 06414

# We don't ignore

Many large brokerage firms really aren't very interested in you unless you have \$100,000 to invest. Too often the small investor ends up getting pushed aside.

We don't have that attitude at Gage-Wiley and Company. For more than 50 years, we have been serving investors throughout New England and we give each the same careful attention. We take time to learn about your personal financial goals, and then use our experience to select investments which will best fit your needs and resources.

Whatever the size of your portfolio, even if you're just getting started, call us at Gage-Wiley and make an appointment to talk with one of our experienced investment counselors. Small investors have always been important to our company. We don't ignore them, After all, at Gage-Wiley we want to help small investors reach their own \$100,000 goal.



#### **Gage-Wiley & Company** Incorporated

Village Landing • P.O. Box 3507 • Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m./Sat. 9:30 a.m. to Noon Member of the Securities Investor Protection Corporation

# Now there's Bravo 500. A better way to control fruit rot.

That's what eight years of testing clearly showed—Bravo 500 fungicide is more effective on fruit rot diseases than captafol.

What's more, cranberry growers will get exceptional control of leaf and twig blight with Bravo 500.

Yet, Bravo does not adversely affect fruit color like other fungicides are known to do. Nor does Bravo leave any lingering odor.

It's this kind of first-rate performance that's made Bravo 500 America's preferred food crop fungicide. And now you can use it too.

Bravo 500 fungicide. Because better disease control means bigger yields of higher quality cranberries come harvest.



Biotech ®

SDS Biotech Corporation 7528 Auburn Road, PO Box 348 Painesville, Ohio 44077

Always follow label directions carefully when using agricultural chemicals.

#### Pump Repairs

All Types

#### Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St.

Plympton MA 02367

Bruce Sunnerberg (617) 585-2394

307 West Grove Street (Rte 28) Middleborough MA 02346

#### Diesel Equipt.

wheel drive - 12-90 hp.

Compact Excavators 1% to 6 ton

Wheel Leaders 1/2 to 3/4 vd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of implements

Polymark Beaver-Mowers Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

#0# 10% / 0% 0% ±0% . ±0%

2 years experience 😂 construction lifts 🦮



· MUD LIFTING ·



· BERRY LIFTING ·

nylon berry bags bulk bins

BEATON'S

JOE BRIGHAM INC

lightweight durable

contact PETER - CHUCK 617-295-2222

mat rentals & sales

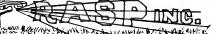
# YLON BERRY

- · 8-9 Barrel Capacity · Cost Efficient
  - - · Easy to Handle
      - · No Wheel-Off Rigs
        - · No Bulk Bins
          - · No Fork Lifts

- Custom Made -Allow 4-6 weeks for delivery.

CONTACT \*

866-4429



RFD 5 PLYMOUTH ST. CARVER. MASS. 0233

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

Cranberries Bought and Sold

Screened Bog Sand Available

Vines for 1986 Early Black Howes Crowleys

Lawrence W. Pink Office 934-6076

Cordwood Road Duxbury, Mass. 02332

# ROWERS FIGHT GIRDLER, UTWORMS WITH LORSBAN

y CHARLES HENRY

he cranberry girdler and k vine weevil have become wo most damaging pests of fon cranberry bogs," states Glenn Fisher, Oregon State eresity entomologist. "The omic impact of these two its is significant because kill the vines, creating dead in the bog,"

cording to Fisher, the berry girdler had not been idered a serious pest of berries until recent years. In 1950s and 1960s, it was colled by soil insecticides which are no longer registered due to environmental persistence. Since its detection in southern Oregon, it has caused extensive damage in many bogs there as well as in southwestern Washington.

Cranberry girdler is also known as the sod webworm in the Willamette Valley, where it is a pest of grass seed fields. Adults fly and mate from mid-May until early July. Females deposit eggs in the soil and these hatch in 12-14 days. The larvae feed below the soil on the roots and underground portions of the

cramberry plant.

Larvae develop through the summer and mature in late October, at which time a resting stage (hibernaculum) is formed and the larvae remain inactive through the winter. Control treatments are recommended during the summer period when larvae are immature.

Insecticide trials were conducted in the summer of 1984 by Fisher, OSU department of entomology aide Diane Burns, and Coos County Extension agent Art Poole. (See Chart)

continued on page 19

#### OREGON STATE UNIVERSITY CRANBERRY TRIALS

CONTROL OF CRANBERRY GIRDLER IN CRANBERRIES, 1984: Two insecticides were evaluated for cranberry girdler near Bandon, Oregon, in a 30-year-old bog.

LORSBAN 15G and DIAZINON 14G granules were applied by hand held "shaker jars". LORSBAN 4E liquid was applied in the equivalent of 53 gpa of water from a CO2 pressurized R&D backpack sprayer operating at 20 psi using a four nozzle (LF 80) boom capable of a 6-ft. swath.

Treatments were applied at approximately peak moth flight on June 26 and again 14 days later\*. Treatments and untreated check were replicated 3 times in 12 X 18 ft. plots in a RCB design.

Post treatment larval counts were made on Sept. 8 by taking two, 1-sq.-ft. soil samples to a depth of 6 inches per plot. Live larvae were extracted using Berlese funnels.

		Live Larvae			
Treatment	lb. ai/acre	I	II	III	Total
LORSBAN 4E	1.5	0	0	0	0
DIAZINON 14G	3.0	0	0	1	1
Check		0	5	2	7

\*/ Overhead sprinkler irrigation was applied for 20 minutes immediately following each application.



#### Serving Massachusetts cranberry growers

#### CONTACT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST.

Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)

AGWAY

AUTHORIZED AGWAY REPRESENTATIVE

AGWAY

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

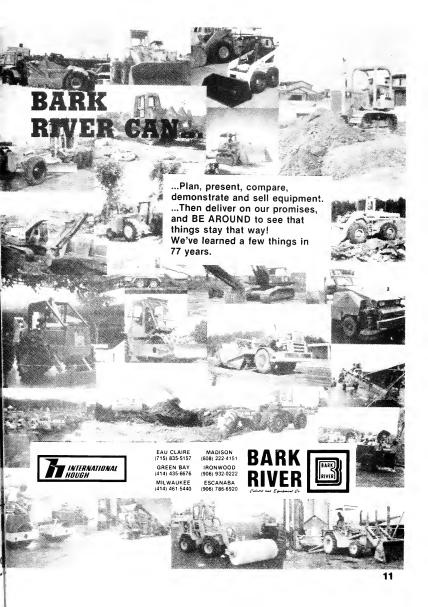
CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

#### BOB ALBERGHINI - SPRAYING

For further information, call 866-4429 evenings after 5:30.

866-4429 ING.

RFD 5 PLYMOUTH ST. CARVER, MASS. 02330



#### \* C.R. LEONARD & SONS INC.

890 MIDDLE ROAD TEL. 763-2712 ACUSHNET, MASS. 02743

Flumes Detrashers Conveyors (steel or aluminum Shearing · Shop Welding Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM
- REINFORCEMENT ROD WIRE MESH \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

ENGINEERING & IRRIGATION, INC. P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



#### IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

FOR EXAMPLE: —

Gorman-Rupp Self Priming Electric Sprinkler Pumps

Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact: Irrigation, 790 Federal Furnace Rd. Plymouth MA 02360 (617) 746-6048



### Russell Makepeace: A Life in Cranberrying

Editor's Note: The story below first appeared in the September 1981 issue of CRANBERRIES. Russell Makepeace died on Jan. 1 of his year.

#### By CAROLYN GILMORE

Russell Makepeace, cranberry company president, banker and family genealogist, knows cranberries—from Ben Lear to Stevens—and Makepeace history from Abel Denison to Mary Zelinda.

No great surprise there! Now in his seventies, he got his first job in cranberrying more than 50 years ago and has been president and director of the A.D. Makepeace Co. for 23 years.

As for family trees, the Makespeaces have been in America for 10 generations and Russell has been studying their history for years, tracing the name back to 13th century England.

A gregarious individual and a natural storyteller, Makepeace eccently told this writer of his ardy start in cranberrying as he eaned back in his chair next to n old fashioned rolltop desk in he office of the A.D. Makepeace o. Inc. in Wareham, Mass.

"The first job I had was nailing uarter barrel boxes in the screenouse," he recalled.

He also pasted labels and orked in the scoop shop on that rst job.

That was in 1930 when he ent to work for his uncle, John akepeace, in Wareham.

Prior to that stint, he had been aployed by Grand Union Co., a



RUSSELL MAKEPEACE'S grandfather started up a cranberry bog and Russell carried on the tradition, beginning in the industry by nailing quarter barrel boxes in the screenhouse.

(CRANBERRIES photo by Carolyn Gilmore)

grocery chain headquartered in New York City, for five years following his graduation from Williams College in 1925.

Russell played varsity football at Williams.

At Grand Union, he had worked his way up from delivery boy to assistant superintendent.

But an eventual commitment to cranberrying seemed inevitable in the life of a Makepeace.

For well over a century, the Makepeace name has meant cranberries. In the late 1860's, Russell's grandfather, Abel Denison Makepeace, gave up farming strawberries and potatoes on his Hyannis, Mass., farm (now the site of the Hyannis Cooper-

ative Bank and Dunfey's Restaurant) to try growing cranberries. With the aid of 11 investors, he started a 2 acre bog.

Successful with the Hyannis venture, he later bought land and built bogs in Plymouth County. When A.D. was in his seventies, he bought up some New Jersey "wasteland" for still more bogs.

The cranberry entrepreneur had three sons—William, John and Charles. Charles was pulled out of an early banking career to manage the New Jersey expansion. Charles' son, Russell, was born in Mays Landing, N.J., in 1904.

In 1922, William and John,

along with some of A.D.'s original partners, consolidated various Makespeace properties into the present A.D. Makepeace Co. Today the company has 1.350 acres of bogs in Plymouth and Barnstable counties.

Once he became involved, Russell remained deeply immersed in the family interests of cranberries and banking. He managed Makepeace bogs on Cape Cod and took on the directorship of four banks "from time to time."

The worst nightmare of growing cranberries on the Cape was the annual gypsy moth invasion, Russell said. DDT, "a specific for them," was the only effective control, he averred.

Makepeace said he fought the caterpillars with such zeal that thousands of dead ones served as bridges by which live ones crossed over the ditches into the bog. With the ban on DDT, he added, he is worried that the gypsy moth caterpillar may never be controlled.

Besides heading up the A.D. Makepeace Co., Russell also has found the time to involve himself

in other pursuits involving the cranberry. He has been a director of Ocean Spray, he has helped start four cranberry clubs and he has cooperated avidly with county agricultural agents.

Early in Russell's cranberry career, his company began experimenting with dehydration. The practice never caught on in the U.S. because of the abundance of fresh fruit for the holidays, he said, but it proved very useful for making cranberry sauce available for troops overseas in World Wars I and II and the Korean War.

"When World War II came around, we were ready for them," Russell said.

A small I lb. package of dehydrated cranberries was equal to 10 lbs. of fresh fruit and could feed 100 men. The moisture content was 4 percent as compared to 98 percent for fresh fruit, A carload could hold about \$200,-000 worth of dehydrated berries. the company president said.

A.D. Makepeace developed a method of piercing the fresh cranberries by running them through three sets of rolls with

phonograph needles. The perforated fruit then was placed on trays one berry thick and put in the dehydrator for eight hours. It was a 24 hour a day operation, with trays going in and coming out every half hour.

The processed fruit was packaged and then placed in a sealed metal can which, in turn, was put inside a wooden box which was nailed shut.

It had to be floatable, because, a Russell Makepeace said, "some food supplies for the forces had to be thrown overboard and floated ashore."

"We put out a super product," Russell said, "We were given an Agricultural 'A' award (Aug. 13, 1945) for excellence of the product. Most buildings along the Main Street in Wareham were covered with flags,"

The A.D. Makepeace president also has devoted much of his time and energy to civic life. In his hometown of Marion, he has been a selectman, moderator, school committeeman and planning board member.

#### VINES FOR SALE

Order Now For Spring Delivery **Pure Prunings Of** 

SOLD OUT Blacks SOLD OUT Howes \$4.000 Crowlevs \$4.000 Stevens

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

#### The HCHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607 AMES Irrigation Systems RAIN BIRD

Sprinklers HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass. 02537 (617) 888-1288

#### **Equipment For Sale**

1-1980 Trojan front end loader, model 1.500, vard and a haif machine

2-1974 White tractor, tandem, runs excellent, good shape all-around 3-Homemade water pickers 4-1 32 foot berry trailer

5-1 set of conveyors and parts

Please call Edgewood Bogs (617) 947-1234

Office 295-2222 REATON'S

K. Beaton 295-2207





Specializing in

P. Beaton 947-3601

O COLUPLEUE BI

OHARVESTIVE (Wet & Dirr)



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes



The scoop of the year!

Cranberry Flavor, Fact and Folklore in THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries . . . you'll find this book a treasure."—Des Moines Register, Paperback, \$8,95

						CRAN-
BERR	Y CON	INEC	TION,	\$8.	95 eac	h.
Name.						

Add \$1.50 for postage; Conn. residents add 7% sales tax.

Address

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414 "We're Best on Earth"
One yd. CAT backhoe

Bog Construction

Land Clearing

Canal Work

Flume Setting

Pond Construction

Ditching







## Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality duminum materials.

Our standard size conduits range from 15 -48 nches in diameter, with widths from 24 to 72 nches. The height of each unit built depends in your requirements. Custom sizes as well as ingle, double and triple log channel designs re available for virtually any water ontrol application.

Vhen you choose Felker, you get time ested reliability.

he flow gate specialists or generation after generation.

FELKER (

NORTH CHESTNUT AVENUE. MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846

#### TWO WAY RADIO Service of Kingston



IT CAN CHOP WASTED TIME AND MONEY RIGHT OUT OF YOUR BUSY SCHEDULE

If you believe that time is money, call TWO WAY RADIO SERVICE Today. We'll help you find out how much money you will save with a truly efficient corporate communication system. Clear, instantaneous communications for your fleet, or service personnel, your salesmen and your office—you can even make & receive telephone calls from your mobile units!

 ${\bf Motorola\ Trunked\ Radio\ Systems} \\ {\bf Are\ Big\ News\ and\ They're\ As\ Easy\ As\ 1-2-3}.$ 

- When one of your radios transmits on a channel, your radios-and only your radios-are directed to that channel. Other users talk simultaneously on adjaceent channels, but they can't hear your messages. All other talkers are locked off your channel as long as you talk. They can't cut in and overpower your signal. There are also other privacy options. Privacy Subfleets-Within your radio fleet, you can designate subfleets. This way you can talk to some of your drivers and keep messages private from others. Only those designated members to the subfleet receive the message. This subfleet option permits you to distinguish between all-vehicle call and messages meant only for supervisors, or it lets you zone your drivers by territory or job function. Besides giving you privacy of speech, it gives the drivers a silent radio when they aren't part of the conversation.
- Motorola has gone to great detail to make these trunked radios the easiest you've ever operated. Ease of Channel Access. Now there are up to 20 channels to accommodate your communications need seach time you initiate a call request. And initiating a call is easier than on a one or two-channel radio. There's no searching for a channel, no listening to make sure it's clear-the system does it for you automatically. All radios in your fleet or subfleet are automatically programmed to the frequency the system assigns to. Usst depress the Push-To-Talk (PTT) button and communications can begin. Automatic Call Back-An open channel is usually available to you within 1/3 second of depressing the PTT button. If all radio channels should be momentarily busy, your radio operator hears a "Talk Prohibit Tone." The request to talk is automatically placed in an ordered, waiting line (queue) so there's no need to wait and monitor for a clear channel. Waiting callers are selected on a first-in, first-out basis. When a clear channel is available, the operator is alerted by a short audible tone that a channel has been assigned, and he-she can begin to talk.
- Easy Modification for Growth-Motorola's trunked radio gives you the capability to expand or modify your fleet and subfleet structure as your needs change. Easy, inexpensive modifications can be made simply by exchanging a code plug. This code plug holds all fleet and subfleet identities. It enables you to add new units to your fleet, divide your fleet into new subfleets, or add a new fleet. If the number of frequencies in the fixed equipment of your trunked radio system increases, additional frequencies are automatically incorporated into your mobile, without returning radios to the service shop.

# 2 TWO WAY AND SELECTION OF TWO WAY AND SELECTI

100 Marion Drive . Kingston, MA 02364 . Phone (617) 746-9100

# ◆ COMPLETE MOTOROLA SERVICE ◆ TOWER ERECTION AND CONSTRUCTION ◆ 800 MHz TRUNKING

- COMMUNITY REPEATERS
- ANTENNA SITESELECTRICAL CONTRACTOR





#### rowers Fight Girlders continued from page 9

Other insects of concern to pregon cranberry growers not used the blackheaded ireworm and cutworms. "All growers normally spray or blackheaded fireworm with nost making one or two pplications for this pest," isher says. "Cutworms can lso be a problem in some ears."

"Application timing is critical control the cranberry girdler." regon State University stension agent Art Poole says. oole, agent in Coos County, is eadquartered in Coquille. "We are developing a heat unit nodel that will pinpoint the ptimum time to spray to control nis pest," he says, "Daily heat nits occurring since January 1 ach year are measured. Peak ights occur when we have ccumulated 1,500 heat units om a base temperature of 42 egrees F. Temperatures are ecorded in standard climate helters about 5 feet above the round. Poole and Fisher tested this

rogram for three years and ccurate guidelines will soon be adv to help growers time their isecticide applications. Until his heat model is erfected, Poole and Fisher commend growers apply an secticide at peak moth flight r the cranberry girdler, with a cond application two weeks fter the first. Flight is onitored with pheromone aps that are read twice a week. "In our trials, the Lorsban 4E secticide treatments looked ry good," Fisher states. rends indicate this will be a od material for the control of is insect."

John McMahon, Bandon, e., agrees that maintaing gh quality upright vines is one y to successful cranberry oduction. McMahon works urd on all aspects of

#### WISCONSIN CRANBERRY HEADQUARTERS FOR





DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1551

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

#### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

ATTENTION: Massachusetts Bog Owners With Expansion & Maintenance Projects EQUIP RENTALS—D8L—D8K—D6D—235—225—966D. Screening plant, screen your own sand. Also complete projects: BOGS—PONDS—ROADWAYS—SAND GRAVEL & FILL. Also interested in purchasing surplus sand & gravel from your expansion projects.

P.A. LANDERS, INC. 826-8818

production, including insect

He and his partner, Jack Dean, operate 31 acres of bogs with the help of one full-time employee, John Hoga, and McMahon's two sons, Mark and Jerry, part-time. All their production is contracted to Ocean Spray.

McMahon grows floodharvested cranberries in bogs ranking in age from 1 to 38 years old. Bogs achieve full production in about seven years, although some berries are harvested in the third season.

After harvest, bogs and ditches are cleaned and crossrunners are pruned and irrigation systems are protected for winter.

McMahon continues bog cleaning and irrigation equipment maintenance throughout the winter months. In November or December, they apply herbicides for purple aster and grass control and prepare for control of frost, which normally begins in February or March and may continue until June.

"Our system is automated with thermostats that will start the sprinklers anytime low temperatures threaten the vines." McMahon explains.

In May, McMahon applies 60-80 'lb./acre of potash, 60-80 lb./acre of potassium magnesium sulfate and begins application of 5 lb./acre of ammonium sulfate for nitrogen. He continues to add nitrogen as the crop needs it.

"May also brings on the bugs," McMahon says. The fireworm eats out the bud on top of the upright vines and the bogs turn reddish in color. And cutworm and cranberry girdler infestations begin to build."

Two years ago, McMahon tried a new insecticide, Lorsban 4E, applying the compound through his sprinkler system in late May the first year and in June last season. He applied 3



FRED COX, Bandon, Ore., cranberry grower, found success using Lorsban last year to control cranberry girdler and cutworms in his bogs.

(C.N. Henry photo)

pt. per acre in 100 gal. of water per acre.

"We turn the pumps on, apply the insecticide for 15 minutes and then flush the system thoroughly with clean water before we stop the pumps. Before each application, we make sure each sprinkler head is turning and working properly," McMahon explains.

"This insecticide is working great for us. It controls cutworm and fireworm plus achieving control of girdler. And since our cutworm infestations matched my sprays for the fireworm, we cut our expenses."

McMahon rents bees to pollinate the cranberries so he is very interested in the effect of insecticides.

"With Lorsban 4E, treatments

should be made when bees are not foraging," he says. "And the surface of the vines should be dry for 6 to 8 hours after application before bees can be allowed to return."

Irrigation usually begins in June and continues until harvest. Even though his bogs are located less than three miles from the Pacific Ocean, dry summers necessitate irrigation. McMahon applies about 1 inch of water per week. Good drainage and application timing are critical, he says, since the vines should not stand in water.

Four fungicide applications are made annually—in the fall, again in the spring and one each before and after bloom to control fungus diseases.

Hybrid variety vines which



# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

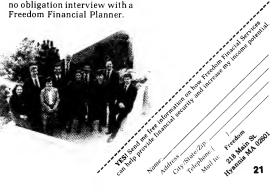
Freedom Financial Services is committed to helping you build a secure financial future. As a Freedom client, you work with seasoned financial planners and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm





ARTHUR POOLE, Oregon State University Extension Service, Coquille, Ore., reviews results from cranberry insecticide test trials that he conducted with Dr. Glenn Fisher, OSU entomologist, and Diane Burns, entomology aide. (C.N. Henry photo)



ripen first are harvested in October followed by McFarlin which are the standard variety vines.

"Good drainage and maintaining vine quality are the keys to cranberry production," McMahon concludes. "And high vine vigor is only possible when we control the insect pests and diseases that hurt the vines."

Fred Cox is another Bandon cranberry producer who has upgraded his insect control. Cox grows 25.5 acres of cranberries contracted to Ocean Spray. He is gradually replacing some of his oldest bogs that date back to 1944.

"Cutworms, black vine weevils, fireworms and the cranberry girdler are problems," Cox says. "These pests can really hurt a bog."

He tried Lorsban 4E two season ago for the first time to control fireworm and girdler.

"I applied 3 pt. per acre the second week in July through the sprinklers," he says. "The compound was applied in the early morning when the air was calin.

"This insecticide did a terrific job and it is easy to handle. But, most important, it gave us excellent control of all the problem insects except black vine weevil."

# weather watch

## WASHINGTON

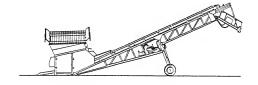
January was a wet month. Precipitation totaled 15.15 inches, which is almost 3 inches above normal. January 1985 totaled. 78 inches and the dry spell continued through the year. There was precipitation on 27 days, with the greatest storm 2.03 inches on the 19th. There were four other days with more than an inch and four days with over 1.80 inches.

Maximum temperature was 63 degrees on the 13th and minimum 30 degrees on the 24th. Warmer than average periods were 8-15, 17-19, 26, 27, 29 and 31. Cooler than average days were 2-4, 6, 7, 11, 12, 14, 20, 21, 24, 25, 28, 29

A.Y.S. by E.A.S.

## Specifications MK II





POWERSCREEN of America Inc. 725 Beanblossom Road Louisville, Kentucky 40213 (502) 367-0196 Telex: 0021-3125 Outside KY 1-800-648-6480

	Standard Hopper	Belt Feed Hopper
Length	48' 3"	51′ 3″
Width	8'1"	8′ 1″
Towing Height	13′ 1″	13′ 1″
Operating Height	18' 1"	18′ 1″
Hopper Opening	11'x5'	11' x 5'
Hopper Capacity	6 cu. yds.	8 cu. yds.
Weight	10,000 lbs.	11,000 lbs.
Engine	Air Cooled Diesel 30 HP	Air Cooled Diesel 30 HP

All specifications subject to change authors postce

POWERSCREEN can be as portable as you need it to be — as permanent as you want it. Easily transported from one job to another, POWERSCREEN serves where you need it, when you need at. Takes only a few minutes to rig the unit for highway travel. Built-in tow bar and sling hooks make it a one-man job.



## TREE SEEDLING SALE

The Plymouth County (Mass.) Conservation District announces its annual tree seedling sale. It asks that you send a business-sized, stamped, self-addressed envelope to the District Office, 10-48 Main St., Middleboro MA 02346 or

stopi at the office for an order blank. New for this year are lilac bushes and nyrtle. Other old standbys are available such as Norway Spruce, Scotch Pine, Black Hill Spruce, Honeysuckle, Mugho Pine; Autumn Olive, Japanese Larch, Pachysandra, Rugosa Rose, European White Birch.

The plantings are offered to home and and owners for erosion control, windbreaks and food and habitat for wildlife and birds. Also, purchase of the rees and shrubs makes it possible for the lonservation District to continue its programs for the conservation of soils, water and related resources.



Hearty, vigorous, productive

## STEVENS CRANBERRY VINES

For Spring 1986 planting. Delivery early Spring. F.O.B. our bog.

\$3,500. per ton

Saddle Mound Cranberry Co., Inc. 105 Old 54, City Point, WI 54466 715/ 593-2326 or 593-2350

# regional news notes

## Massachusetts

The latest crop report from the USDA Crop Reporting Service Indicates the Massachusetts crop as 1,880,000 barrels, which surpasses our 1984 record by 17,000 barrels, in other areas, New Jersey has 320 barrels (a record); Oregon, 97,000 barrels, washington, 166,000 barrels (a record), and Wisconsin, 1,183,000 barrels, The national total is 3,425,000 barrels, just over 100,000 barrels more than the 1984 record crop.

Drk. Robert Devlin and Karl Deubert attended the annual meeting of the Northeastern Weed Society in Boston Jan. 6-9. Both Bob and Karl presented papers.

# Big Wheel Truck Sales 42 Quanapoag

E. Freetown, Mass.
All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

++++++++++++++++++++++++++++

Largest tow trucks on the East Coast

(617) 763-5927

Call Bob or Joe

(617) 763-8745



# Serving Massachusetts Cranberry Growers

- Integrated Pest Management (IPM)
   Insect and weed scouting
- Scout training
- ●R-2-Know training
- Insect and weed identification
- Pheromone traps and balts cranberry girdler sparganothis fruitworm blackheaded fireworm
- Consulting services

Contact

Wareham Office 295-0147 Rochester Office 295-2731

## Ocean Spray Acquires Milne Fruit Products

Oean Spray recently bought Millie Fruit Products Inc. of Prosser, Wash., for a reported \$6 million. Milne will become a wholly owned ubsidiary of Ocean Spray, with President Ray Milne reporting to Doean Spray President Hal fhorklisen.

Founded in 1975 and located in the /akima Valley, the center of a prime ruit growing area, Milne manuactures a wide variety of fruit

concentrates for industrial markets.

Ocean Spray does not anticipate in personnel or pertaing philosophy at Milne as a esult of the acquisition.

"The merger of our two companies vill be mutually beneficial," said filine. "I am pleased that we are now isodciated with a company that has he same concern for quality as we

Milne has 24 full-time employees nd a total of 35 employees during leak season. The company also has trong ties to fruit growers in the area. "The Milne acquisition is part of our

ong range strategic plan for Ocean ipray," said Thorkilsen. "One of our rinciples is to stick to our knitting. hat means expanding in areas where we have extensive experience at successful track record.

"With products in the juice oncentrate area, Milne is a perfect fit or Ocean Spray. As one of the top ompanies in the juice drink industry, loean Spray can complement its roduct offerings, facilities and scholcal skills as a result of this terger."

Mine has a consistent record of ood profitability in the past five ears on sales increasing from more ann \$5 million in fiscal 1981 to almost 10 million in fiscal 1985.

## Massachusetts Growers

Financial assistance is available for SCHOLARSHIPS and MEDICAL ASSISTANCE for Cranberry Growers, their Employees and the families of both when financial need can be shown. For information contact:

URANN FOUNDATION
P.O. Box 1788
Brockton MA 02403
Telephone 588-7744

## High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285



## Crane for Hire

Three quarter yard crane with matts, clans and dragline. Have had years of experience in digging ponds, stumping and general bog work.

GEORGE R. NAVA CO. 11 Maple Avenue Kingston, Mass. 02364 Call 585-4514

# weather watch

#### MASSACHUSETTS

January was warm and wet. Temperatures averaged 1.5 degrees a day above normal, our warmest January since 1975: Maximum temperature was 56 degrees on the 19th and minimum 0 degrees on the 15th. Warmer than average periods were the 3rd, 5th, 10th, 12th-13th, 17th-23rd, 25th-27th. Cooler than average days were the 7th, 8th, 14th-16th, 24th, and 28th-30th.

Precipitation, mostly in the form of rain, totaled 7.72 inches, nearly 3-1/2 inches above normal. This was the wettest January since 1979 and 4th wettest in our records. There was measurable precipitation on 12 days, with 3.64 inches on the 26-27th as the greatest storm. There was only 1 inch of snow for the month

LED.

## NOVA SCOTIA

Our January weather was highly variable with extremely cold weather on the nights of the 7th and 15th. Unusually warm weather occurred on the 27th and 28th. As a consequence, nearly all of our snow cover was absent as of the 28th. Oxygen content of water surrounding vines should be adequate, but any exposed vines have probably suffered winter injury.

We had a moderate snow cover of approximately 30 cm through Feb. 19 and temperatures remained quite steady. Otherwise, things have been quite uneventful.

I.V.H.

## \*\*\*\*\*\* STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years Send check or money order to:

CRANBERRIES P.O. Box 249 COBALT CT 06414 \*\*\*\*



## Krause Excavating, Inc.

Canal Work Pond Construction

Ditching Land Clearing

1-1/4-3 vd. draglines with 80' boom and matts, 2 vd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

## Niemi Electric Co.

ROBERT NIEMI

## ELECTRICAL CONTRACTORS HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
  - INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.









# TED'S FARM EQUIPMENT Sales and Service

27 ALDEN ROAD • FAIRHAVEN, MASS.
Tel. 994-5312

CUSTOM MADE & REPAIRS on Hydraulic hoses - P.T.O. shafts

# **BUSH HOG**



# Go ahead with SAME



AIR COOLED DIESEL



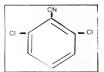
The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer Our 50th Year of Publication

8600 3000

# CRANBERRIES Celebrates Its 50th With Publication Of the First Issue Of the Magazine. Page 13

UNIV OF MASS LIBRARY SERIALS DEPT AMHERST MA 01003



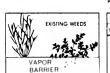
Norosac is 2.6-dichlorobenzonifrile commonly known as Dichlobenil unique herbicide goes directly to a vapor stage without going through a liquid stage. It is activated by temperature and soil moisture.



5 In this vapor barrier no plant cell division can occur Seeds trying to germinate in the barrier will die Sprouts below this zone will be killed as they try to penetrate the barrier



2 This remarkable herbicidal compound of razor-thin crystals is uniquely processed by PBI/Gordon to



6 Existing vegetation such as shallow rooted grasses and annual weeds having root structures in this barrier will likewise be aftected and die after two to three weeks



3. Granules are spread on soil or shallow water. Moisture cerries the Norosac crystals into the upper layer of soil Because of adsorption by soil particles, lateral movement is minimal



7 Certain perennial weeds coming out of dormancy and attempting new growth within the Norosac barrier will be killed by the vapor



Temperature and soil moisture tivate the Norosac crystels and the begin to radiate a herbicidal barrier. This continues for an entire growing season, and the spent crystals. disappear, leaving no residue



8 Norosac, when used as directed, does not affect cranberry bushes that have deep roots extending well below the herbicidal vapor zone

# **How Norosac Reduces the Cost** of Weed Control in Cranberries

Its vapor barrier not only gives season-long control of toughest weeds, but can be applied anytime between late fall and the popcorn stage.



The graphs above clearly demonstrate why Norosac is as efficient as any herbicide that has ever been offered to the Cranberry grower. We urge you to study it carefully.

Norosac provides season-long control of more than 40 tough weeds and grasses including ferns, rushes and sedges

The chemical cost per acre is low,and the cost of labor is drastically reduced Furthermore. Norosac can be applied by air or by ground either when the boas are dry or under water And it ca be applied anytime that suits yo between late fall and popcorn.

## Shouldn't you try Norosac?

Norosac Dichlobenil Herbicic can make a significant contribu tion to the efficiency of producin cranberries, and you owe it t vourself to try it on at least part (

For information or guidance ca our Technical Service Departmen

Toll Free 1-800-821-7925 In Missouri 1-800-892-728

ACME DIVISION pbi/sordon corporatio

PRI Garage Corporation 15

# CRANBERRIES Celebrates ts Fiftieth Anniversary

In 1936 a dream was born in a Wareham, Mass., weekly newspaper office. In May of that year, he first product of that dream came off the press. It was titled "CRANBERRIES: The National ranberry Magazine." The masthead bore the names of Lemuel C. Hall as Editor and Publisher nd Clarence J. Hall as Associate Editor and Business Manager.

We, the present owners of CRANBERRIES, thought it would be a good idea to reproduce that irst issue of CRANBERRIES, published 50 years ago. The complete issue, in its present dogared, yellowed, ink- and coffee-stained state, starts on page 13 and ends on page 36.

We hope you enjoy the look back.

In what is claimed to be the largest sale cranberry property ever made, major assachusetts land and residential develer Allan A. Comeau recently purchased e United Cape Cod Cranberry Company om Cumberland Farms for a reported \$30

The property includes 5,250 acres, ocessing and freezer plant and uipment and office space. Lands volved in the sale are located in Hanson, ilifax, Pembroke, Plympton, Freetown, rver and East Bridgewater, Mass.

Comeau, 66, an East Bridgewater resint, says that United has a plant capacity 30 million pounds or 300,000 barrels. The rchase reportedly makes the apartment d condominium builder the largest indendent grower in the country. He will be Michael, will be general manager. Another son, Kevin, will be a consultant.

Comeau, who has been associated with the cranberry industry on a smaller scale since 1960, says the berries produced by United won't be turned into final product

president of the company and his son, but will be sold to producers throughout the country.

United employs between 50 and 125 people, depending on the season.

Included in the purchase is "Bog 18." which embraces 300 acres and is reputed to be the largest bog in the world.

## tran Committee Varns Growers

overproduction of the '86 crop or lagging es in '85-'86 will result in "a serious plus situation."
That was the conclusion the Cranberry

rketing Committee came to at its recent niannual meeting in Minneapolis.

lased on the current 1986 production I sales forecasts, "it does not appear essary to establish a marketable ntity at this time," the committee

adds: "However, the committee must hasize to all current and new growers tanticipated production increases from ly planted acreage may require the blishment of marketing controls for 1987 crop year."

ccording to Richard H. Indermuehle of consin, committee chairman, the body d unanimously not to establish a ketable quantity at this time.

ne committee, authorized under the icultural Marketing Agreement Act of 7, administers the marketing order for berries to insure a stable and orderly ply of good quality cranberries. The ibership is comprised of seven industry thers and one nonindustry member esenting the general public.

# 50 and ll growi

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



## Gage-Wiley & Company Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9 30 a.m. to Noon

Member of the Securities Investor Protection Corporation



# When you're serious about money, talk to a planner who takes you seriously

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning



# rowers Hear Good News at N.J. Meeting

By ELIZABETH CARPENTER A plain smile or a "can't complain" is en a New Jersey grower's response to e query, "How's your crop this year?" st fall's harvest results are in and en the most cautious grower will dily tell you "1985 was a good year." PRESIDENT WILLIAM FOX JR. esided over the recent fact-filled nerican Cranberry Growers Associon (ACGA) winter meeting, as ephanie Moss, agricultural statistin for the U.S. Department of riculture, led off with data illustrating w great a year it was. New Jersey's oduction totalled 320,000 barrels

erage of 97.0 barrels per acre. This was a record breaking year in rall production—production that has adily increased during the last cade. Financially, the picture atinues to look promising. The price barrel in the state rose to \$55.10 in

rvested from 3,300 acres for an

35. It was \$13.50 in 1976.

OR. NICHOLI VORSA, plant eder at the Rutgers Blueberry/Cranberry Research Center, has enlisted the assistance of Philip E. Marucci, extension specialist in cranberry and blueberry culture and research professor of entomology, and Dr. Allan W. Stretch, U.S.D.A. plant pathologist, in revitalizing the center's breeding program.

The team has carefully chosen and planted properly identified varieties and/or selections.

Vorsa has chosen uprights having "true to name" fruit from early high anthocyanin content varieties. During the spring of 1986, Vorsa will make crosses between them, thus generating seedlings from which selections may be made for early, productive, high anthocyanin types.

Vorsa's data collected on standard varieties and on productive selections showed that Pilgrim, Stevens, Ben Lear, Early Black, Crowley, Franklin, and No. 35 all averaged over 150 barrels per acre. Of these seven, Pilgrim had the lowest percentage of rot (4.2%), while Ben Lear

showed the highest percentage of rot

Testing will continue on Ben Lear Open Pollinated No. 8, a selection from Dr. Donald Boone's Wisconsin breeding

It surpasses Earl Black, the New Jersey standard, in its ability to color early and in its high anthocyanin content. Vorsa plans further testing to determine the Wisconsin selection's long range suitability for New Jersey bogs.

DR. PAUL ECK of the Department of Horticulture and Forestry, Cook College, Rutgers University, updated growers on research related to cranberry vine "dieback," temperature control in cranberry bogs with sprinkler irrigation, evaluation of cranberry water requirements, and low temperature tolerance of cranberry plants and fruit.

Sudden dieback of apparently healthy cranberry vines appears to be related to extensive root destruction. Eck monitors isolated instances of the problem in New

## RANBERRIES



e National Crenbarry Magazine ind correspondence to:

> P.O. BOX 249 Cobalt CT 06414 (203) 342-4730

B TAYLOR, PUBLISHER/EDITOR ROLYN GILMORE, ASSOCIATE EDITOR ROLYN LABAN, MARKETING DIRECTOR

## Advisors, Correspondents

ASSACHUSETTS—Irving E Demoranville, ctor. Cranberry Experiment Station, Steven Hall, mouth. Carolyn Gilmore. Rochester EW JERSEY—Philip E Marucci. Cranberry & Blusberry Specialist. Cranberry & Blusberry Watory. Chaleworth. Elizabeth G. Carpenter. IVA SCOTIA-I V Hall, Sotanist, Research Station.

IEGON—Arthur Poole, Coos County Extension

it. Coquille ASHINGTON—Azmi Y Shawe, Horticulturist and spring ION—Agrif Shaws, Horiculturist and halon Agent in Horiculture, Coastie Washington serch & Extension Unit, Long Besch. SCONSIN—Frederick Poss, Eau Claire; Tod D. sw., Farm Management Agent, Wood County; Dan kman, Vesper; Joan Humphrey, Friendship.

GERRIES is published monthly by Diversified dicals, Wellwyn Drive, Portland CT 08480. Second peetage is paid at the Portland, Cown., Post Office. is \$16 a year, \$16 for two years, \$1 a copy in the \$12 a year in Conada; \$15 a year in all other peetages, paid of the Section of

ISSN: 0011-0787 tmaster, send Form 3748 to: 14NSERRIES 1. Box 248 1 all CT 08414

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

# Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

## High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with

marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285 We, the following advertisers, congratulate CRANBERRIES Magazine on the occasion of its 50th Anniversary.

May the magazine continue to publish for many more decades.

Stearns Irrigation, Inc.

790 Federal Furnace Rd. Plymouth, Mass. 02360

# **KRAUSE**

EXCAVATING, INC.

ROUTE 3 MARKESAN, WISCONSIN 53946 Plymouth Copters, Ltd.

> Plymouth Airport Box 3446 Plymouth, Mass. 02361

DeCran Ag Supplies, Inc. 219 Main Street Wareham, Mass. 02571 Congratulations on your 50th anniversary

The Fuller-Hammond

Company P O Box 425 Onset, Mass. 02558

## Cole

Chemical Supply P O BOX 7211 P. O. BOX 7211 MADISON, WISCONSIN 53707

# Morton

\*\*\*\*\*\*\*\*\*\*\*

Buildings

P. O. Box 549 Raynham Center Mass. 02768 Dave Swanberg Precision Ditching

Pudding Brook Farm Pembroke, MA 02359 McCarthy Associates

128 23rd Street Pittsburgh, Pa. 15215

Congratulations on your 50th anniversary

EARTH, INC.

4362 Dairy Road Arpin, Wi. 54410 DECAS BROS. SALES CO. 219 Main Street Wareham, Mass. 02571 Douglas R. Beaton Discovery Hill Cranberry Co. 27 Discovery Hill Rd. E. Sandwich, Mass. 02537 P. A. LANDER, INC. P. O. BOX FF HANOVER, MASS. 02339 Peter K. Meier

Meier Earlhmoving, Inc. 63 Soulh Street Halifax, Mass. 02338 ALLYN L. LAMB, Brench Office Menager ED UNDERWOOD, Credit Representative RICK O'MEARA, Credit Representative

> Southern New England Federal Land Bank Association Southern New England Production Credit Association

362 New State Highway P O Box 7 Teunton, Massachusetts 02780 (617) 824-7570

Gage-Wiley & Co., Inc.
P O Box 3507
Village Landing
Plymouth, Mass. 02361

Turf

Equipment, Inc. 307 West Grove St. Route 28 Middleborough, Mass. 02346 Original Designs by

Ann Kutz Chambets 1631 Joueth Steet Poet Edwards, Wisconsin 54469

JOE BRIGHAM, INC. CRANBERRY GROWERS SERVICE

27 Discovery Hill Road East Sandwich, Mass. 02537 OCEAN SPRAY CRANBERRIES, INC. PLYMOUTH, MASS.

\*

\*

YMOUTH, MASS. 02360

\*\*\*\*

\*

\*

\*

\*

\* \* \* \* \* \* \* \* \*

**DECAS** 

CRANBERRY CO. 219 Main Street Wareham, Mass. 02571

Congratulations on your 50th anniversary

— Robert C. Hammond

Morse

Brothers, Inc.

130 S. Washington St. P. O. Box 1112 N. Attleboro, Mass. 02761 Ceeco Corp.

of New England
Richards Road

Plymouth Industrial Park Plymouth, Mass. 02360

L'owerscreen

of America, Inc.

11300 Electron Drive Louisville, Kentucky 40299 LARCHMONT ENGINEERING & IRRIGATION, INC.

P. O. BOX 66 11 LARCHMONT LANE LEXINGTON, MA. 02173 Bark River

P. O. Box 249 Eau Claire, Wisconsin 54702

PAUL'S

IACHINE & TOOL VARRENS, WISCONSIN 54666 BIG WHEEL TRUCK SALES

42 QUANAPOAG E. FREETOWN MASS. 02717 RASP, INC.

RFD 5 PLYMOUTH ST. CARVER, MASS. 02330

## Congratulations, CRANBERRIES, from....

Industrial Pump Service, Inc.

66 Lake Street Plympton, MA 02367 \$\$\$\$\$**\$**  Carolyn & Kirby Gilmore

Cranberries Magazine on its 50th Anniversary

Freedom Financial Services, Inc.

> P O Box 1169 Plymouth, Mass. 02360

## CAPEWAY

BEARING & MACHINE INC. 57 SUMMER STREET KINGSTON, MASS.

# Lakeville

Sand & Gravel Corporation

90 Precinct Street RFD 5 Lakeville, MA 02347 Crisafulli Pumps

The Crisafulli Pump Co., Inc. P O Box 1051 Glandive, Montana, 59330

# 02364 UNITED

CAPE COD CRANBERRY COMPANY

> HAWKS AVENUE HANSON MA 02341



-----

international Corporation

Instruments for measuring soil and weather Ceder Valley Box 489 Vandarbilt PA 15486

(412) 628-6370

## Cranberry Originals Ann Kurz Chambers 1631 4th STREET PORT EDWARDS, WI 54469 FINE ARTS: (715) 887-3755

CRANBERRY PAPER

Now Available

GRAPHICS: NEEDLEWORK NOTECARDS NAPKIN WEARING APPAREL

#### DELICIOUS CRANBERRY NUT CANDIES FROM THE OREGON COAST

2 oz. Sampler Bags - Cranberry or Apple-Cranberry \$1.25 6 oz. Boxes - Cranberry or Apple-Cranberry \$3.85

POSTAGE & HANDLING Up to \$10.00 .... add \$2.00 \$10.01 to \$20.00 .... add \$2.75

WATERCOLORS

HANDMADE

INTAGLIO

OILS

To Order CRANBERRY ORIGINALS PRODUCT BROCHURE send a selfaddressed stamped envelop

Jersey. His efforts include correlation of the extent of dieback to yield, nematode population, diseased fruit, soil profile characteristics, and plant tissue analysis.

Data gathered during 1984 indicates dieback severity directly effects crop yield and percentage of rot. Eck reported that Dr. Ronald Myers has found nematode population does not appear to be a factor; however, soil profile analysis consistently shows the problem frequently occurs in bogs where coarse sand at a depth of 0-6 inches is underlain by medium grained sand at a depth of 12-18 inches. This porosity reduces the soil's water holding capacity. Percentage of rot also increases in direct proportion to the degree of dieback. Finally, preliminary tissue analysis reveals plants showing (continued on page 37) WISCONSIN CRANBERRY **HEADQUARTERS FOR** 

## **SEVIN XLR**



DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G • PARATHION • ETHREL

## Cole Chemical Supply

DIVISION OF Hopkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



# elker Flow Gates

e built to last, thanks to excellent Felker elded construction, generously braced esigns, and only the highest quality uminum materials.

ur standard size conduits range from 15 -48 ches in diameter, with widths from 24 to 72 ches. The height of each unit built depends 1 your requirements. Custom sizes as well as 1 ngle, double and triple log channel designs 2 available for virtually any water ntrol application.

hen you choose Felker, you get time ited reliability.

e flow gate specialists r generation after generation. In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd. Plymouth MA 02360. Tel. (617) 746-6048





ORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846

# **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags bulk bins

· MUD LIFTING ·

AEATON'S

JOE BRIGHAM INC

lightweight durable contact PETER - CHUCK 617-295-2222



mat rentals & sales

AGWAY

AUTHORIZED AGWAY REPRESENTATIVE

AGWAY

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES . MITICIDES . and FERTILIZERS IN STOCK!

BOB ALBERGHINI — SPRAYING

For further information, call 866-4429 evenings after 5:30.

866-4429



RFD 5 PLYMOUTH ST. CARVER. MASS, 02330



**MORTON** Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436

# TWO WAY RADIO Service of Kingston



IT CAN CHOP WASTED TIME AND MONEY RIGHT OUT OF YOUR BUSY SCHEDULE

If you believe that time is money, call TWO WAY RADIO SERVICE Today. We'll help you find out how much money you will save with a truly efficient corporate communication system. Clear, instantaneous communications for your fleet, or service personnel, your salesmen and your office—you can even make & receive telephone calls from your mobile units!

Motorola Trunked Radio Systems Are Big News and They're As Easy As 1-2-3.

When one of your radios transmits on a channel, your radios-and only your radios-are directed to that channel. Other users talk simultaneously on adjaceent channels, but they can't hear your messages. All other talkers are locked off your channel as long as you talk. They can't cut in and overpower your signal. There are also other privacy options. Privacy Subfleets-Within your radio fleet, you can designate subfleets. This way you can talk to some of your drivers and keep messages private from others. Only those designate members to the subfleet receive the message. This subfleet option permits you to distinguish between all-vehicle call and messages meant only for supervisors, or it lets you zone your drivers by territory or job function. Besides giving you privacy of speech, it gives the drivers a silent radio when they aren't part of the conversation.

Motorola has gone to great detail to make these trunked radios the easiest you've ever operated. Ease of Channel Access- Now there are up to 20 channels to accommodate your communications needs each time you initiate a call request. And initiating a call is easier than on a one or two-channel radio. There's no searching for a channel, no listening to make sure it's clear-the system does it for you automatically. All radios in your fleet or subfleet are automatically programmed to the frequency the system assigns to you. Just depress the Push-To-Talk (PTT) button and communications can begin. Automatic Call Back-An open channel is usually available to you within 1/3 second of depressing the PTT button. If all radio channels should be momentarily busy, your radio operator hears a "Talk Prohibit Tone." The request to talk is automatically placed in an ordered, wairing line (queue) so there's no need to wait and monitor for a clear channel. Waiting callers are selected on a first-in, first-out basis. When a clear channel is available, the operator is alerted by a short audible tone that a channel has been assigned, and he-she can begin to talk.

Easy Modification for Growth-Motorola's trunked radio gives you the capability to expand or modify your fleet and subfleet structure as your needs change. Easy, inexpensive modifications can be made simply by exchanging a code plug. This code plug holds all fleet and subfleet identities. It enables you to add new units to your fleet, divide your fleet into new subfleets, or add a new fleet. If the number of frequencies in the fixed equipment of your trunked radio system increases, additional frequencies are automatically incorporated into your mobile, without returning radios to the service shop.

- COMPLETE MOTOROLA SERVICE
- TOWER ERECTION AND CONSTRUCTION
- 800 MHz TRUNKING ● COMMUNITY REPEATERS
- ANTENNA SITES
- Radio Service

100 Marion Drive • Kingston, MA 02364 • Phone (617) 746-9100

TWO WAY





PRESENTING A \$5,000,000. A YEAR INDUSTRY







# In This Issue

OREGON-Smallest Producing State Has Highest Yield Per Acre.

CHARLES S. BECKWITH New Jersey State Cranberry Specialist

VERNON GOLDSWORTHY Wisconsin Sales Company Manager

BERTRAM E. TOMLINSON Barnstable County Agent

> JAMES O'BRIEN Grayland, Washington

PE COD EW JERSEY VISCONSIN OREGON WASHINGTON

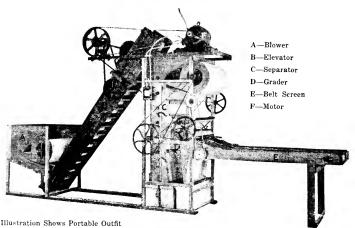


## WE MANUFACTURE ALL KINDS OF CRANBERRY EQUIPMENT

Separators - Conveyors - Belt Screens - Blowers - Elevators - Box Shakers - Box Presses - Scoops - Snaps - Gas Locomotives - Wheel Barrows - Dusters - Vine Setters Vine Pruners - Pumps - Sand Screens - Turf Haulers - Turf Axes-

## We Supply

Motors - Gas Engines - Sprayers - Belting - Pulleys - Shafting - Axes - Picks Grub Hoes - Mattocks - Shovels, etc.



## BAILEY'S CRANBERRY SEPARATOR AND GRADER

(Separator Patented March 13, 1923, U. S. Pat. No. 1448479)

The main feature of the Bailey Separator is the provision for causing the berries falling from each separator unit to drop at a predetermined point on the bounding board of the next lower unit, so that the berries rebound accurately in a predetermined path. This is insured by the fluted feed rolls and the yielding wipers, constituting elements of the Separator unit. These fluted feed rolls and wipers are adapted to position elongated or elliptical berries, and cause them to fall sidewise instead of endwise. Any equivalent controlling means causing a similar regulated or controlled delivery of the berries is an infringement on our patent,

OUR ROX PRESSES DO THE

JOB



WRITE US

TEL. CARVER 28.2

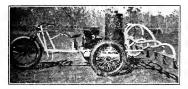
H. R. BAILEY CO.

SOUTH CARVER MASSACHUSETTS

ESTABLISHED 1895

## NOW IS THE TIME TO CONSIDER DUSTING

OUR DUSTERS PENETRATE AND GIVE EVEN SPREAD - PRICES ON APPLICATION



POWER DUSTER



HAND DUSTER



SAND BARROWS PNEUMATIC - STEEL WHEEL

H. R. BAILEY CO. ESTAB. 1895

PUMPS 4-IN, 20-IN. 800 to 14,000 GAL. CAPACITY

PER MINUTE



South Carver, Mass.

# Increase Efficiency

YOU Members of this Unique and truly Ameri-Subscribe to this. YOUR OWN can Industry. publication.

Keep yourself informed of all the new developments in the Cranberry world as they are brought to you by your own magazine.

## What's Going On In-

Massachusetts New Jersey Wisconsin Oregon-Washington

Each month of the year we will tell you.

You can manage your bogs more efficiently if you know what's new among all your cranberry neighbors.

SUBSCRIBE IMMEDIATELY

Apple Advertising

The apple growers of New England and New York are new starting a campaign to make Mr. and Mrs. Apple Consumer apple conscious. Growers in the Hudson Valley and Connecticut have pledged a sum in excess of \$10,000, being one percent per bush on their crop, while growers of New Hampshire and Massachusetts are contributing \$5,000 for advertising purposes.

#### 109 Year-old Apple Tree

What is the most historic apple tree in North America? It is believed to be a 109 year old tree at Fort Vancouver in the state of Washingtonn. It still bears fruit annually and was set out in 1826 by the Hudson Bay company,

Customer-Are you sure this parrot can talk?

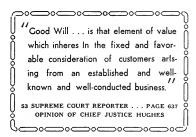
Dealer—Can he talk? Why, a woman's club sold him to me because all the members were jealous of him.

Three

# The CAMERA Views the CRANBERRY World



# GOOD WILL



- + "ESTABLISHED"... Founded in 1861, C. W. Wilkinson's Sons is the oldest commission house in Philadelphia.
- +"WELL-KNOWN"... Wherever fresh fruits and vegetables are produced, we believe this organization qualifies under the Supreme Court definition.
- +"WELL-CONDUCTED"... Three- quarters of a century of continuous successful business life is proof of sound management.

Shippers of Fresh Fruits and Vegetables will find that good will, which is the basis of all satisfactory business relations, working for them through every member of this organization. We'd like to serve you.

# C. WILKINSON'S SONS

(Ralph B. Clayberger)

134 DOCK ST., PHILADELPHIA

## SUCCESS TO

# "CRANBERRIES"

FORTUNATE ARE THE EDITORS TO HAVE CHOSEN THAT NAME; FORTUNATE ARE THE READERS TO HAVE A PUBLICATION DEVOTED TO THESE INTERESTS.

"SUCCESS TO CRANBERRIES"

A. D. MAKEPEACE CO.

Wareham, Mass.

<u>OBSERVED BEINGER BEING BEINGER BEING BEING BEINGE BEING BEIN BEING BEIN</u>

## Manufacturers of

BANNER METAL TOOTH SCOOPS
PYRETHRUM SPRAYS AND DUSTS

#### Distributors of

GROUND PYRETHRUM FLOWERS AND CARRIERS

FINE SOAP AND FISH OIL SOAP

BLACK LEAF 40; SULPHATE OF IRON

WEED KILLERS; ARSENATE OF LEAD

SODIUM CYANIDE (CYANEGG)

## FRESH FROM THE FIELDS

By C. J. H.

Sanding The past winter with its unusually prolonged severe spell of weather

gave cranberry bog owners of the country, with the exception of Oregon-Washington an opportunity to do more ice sanding than in a number of years past. And this opportunity was not neglected.

Ice sanding was done on many Massachusetts bogs last January and February on a large scale, both by wheelbarrow and truck. It isn't too often that trucks can get out on the bog ice, but this year was the exception, and a number of the larger growers operated small fleets of trucks for days on end. Daily payrolls in some instances ran from \$50.00 to \$100.00, and this money, expended at a time when general work was very scarce in the Cape Cod area, assuredly did Massachusetts com-munities at least a little good. One manufacturer of sand spreaders said he sold more spreaders than in the past four years combined.

New Jersey Growers enjoyed an exceptionally long period of steady sanding, and besides this more sanding on the vines was done last fall and will be this spring there than in the past ten years.

No one in Wisconsin seemed to remember when there was such a long spell of 25 below zero weather, with times when the glass hovered much lower, as low as 52 below. Hardly any work was possible in that state after the middle of January because of extreme cold and snow, but from December until that date growers were steadily sanding. The work was done largely with trucks, and some of these trucks were loaded with dredges. Winter sanding, which is the general practice in the northern part of that state, was handicapped by severe weather, but a very substantial amount was done even there.

While next fall's crop may be slightly cut down because of this unusual amount of sanding, it may be expected to make its influence felt in the crops for the next few years thereafter.

Spring Water With March Supplies bringing an exceptionally

heavy precipitation of rain, causing disastrous floods throughout the East, growers anticipate little chance of a water shortage for frost flowage, at least at the start of the spring season. Massachu-setts reservoirs are filled to overflowing, and the same is true in New Jersey. Happily, however, this excess of water caused comparatively little damage to dikes in general, although of course some growers suffered washouts. Wisconsin, which for the past few years has been suffering severely from drought, with its usually beautiful lakes and streams far below normal, has hopes of sufficient water this spring due to rains and last winter's heavy falls of snow

Mild in the While the rest of the nation suffered Northwest from cold. Oregon and Washington enjoyed a very mild winter, at least in the cranberry sections. In early March, while the Wisconsin bogs were piled deep with snow. daffodils were in full bloom and weeders were at work. D. J. Crowley, state expert, states there was no winter injury and spring conditions were about average. There were early fall frosts in Oregon which put the Coos County bogs into a dormant state much earlier than usual and it is expected to be of benefit in heavier production this fall. All fields were under winter flood there

State Aid to In Massachusetts the Growers plans have been long completed for the spring work by the state cranberry men. Bertram E. Tomlinson, Barnstable County Agricultural Agent, is to devote one half of his time to cranberry work, through having an assistant to aid with his other agricultural activities. He will largely co-operate with Dr. H. J. Franklin of the State bog in East Wareham in research and extension work. Joseph

Kelley of East Wareham, who needs no introduction to Massachusetts growers, will do most of the bog visiting to assist growers in their practical problems, both in Barnstable and Plymouth Counties.

A group of Cape growers held two or three meetings this spring with Dr. H. J. Franklin at the State Bog and Bertram Tomlinson. Barnstable County Agent to advise with the state men, as to how they might most assist the cranberry men this year. Among the subjects discussed were the preparation of a greater number of state and federal publications to aid the grower. These projects were to include insects, weather relations, cranberry variety studies fertilizers, pumping plants and weeds and their control. It is expected valuable new bulletins will be released on some of these subjects this year. Bog management in its practical year-round phases was taken up and it was decided there should be study of this fea-

A somewhat similar idea is being developed this spring and summer for the first time in Ocean County, New Jersey. A meeting was called by County Agent J. B. Fawcett at Tom's River, recently when a group of growers decided upon a program they would like to see carried out, in connection with the agricultural extension service. A committee of five men was nominated to serve as a special committee to work with the County Agent. These are James D. Holman, Whitesville; Charles Allen, Cassville; Walter Bell, New Egypt; John L. Patterson, Laurelton, and Sabine Otis, Tuckerton, who will confer with Agent Fawcett and Daniel McEwan Crabbe, Edward Larrabee and George Kelley of West Creek of the Ocean County Board

In Wisconsin, L. M. Rogers will make his headquarters at Wisconsin Rapids as usual and will be available to all growers on call and will make his regular visits; and H. F. Bain of the U. S. Dept. of Agriculture will be in Wisconsin from early June until September.

(Continue don Page 18)

## OUR CRANBERRY SCHOOL

But Does Oregon With 120 Bushels to the Acre Need a School?

By ETHEL M. KRANICK

Secretary, Coos County Cooperative

Did you ever get a real thrill, in learning about some new and outstanding achievement of your own state, county or town? I did, and I must tell you about it!

The State of Oregon has called for an Economic Conference, to make a survey of its agricultural products and their possibilities, and make recommendations for the guidance of her farmers. This is being done by counties. Such a conference is called every ten years. This Economic Conference has been the inspiration of a "Cranberry School" to be held in the Bandon, Oregon High school, and conducted by the Smith-Hughes instructor, Mr. M. C. Buchanan. All growers and interested persons were invited.

My husband and I are associated together in the growing of cran-berries and, of course, were vitally interested. When we arrived at the school-house we were pleasant by surprised at the turn out for this meeting. Not only were there people who are growing berries but many who are planning on making plantings in the near future.

The meeting opened with the presentation of Government statistics in regard to the industry over the whole United States. And right here is where I began to feel pride in my own state and locality. Statistics as a rule are usually dry and uninteresting, but when I learned that Oregon could produce more cranberries to the acre than any other cranberry growing state, I began to wake up. As you probably already know, Massachusetts. New Jersey, Wisconsin, Washington and Oregon are chief cranberry growing states, in order of their acreage, with Massachusetts having 12,920 acres and Oregon only 150 acres. Yes, we are the smallest cranberry producing state, butlets follow the figures into the next column, which is headed "Yield per Acre" and here we find

that Massachusetts produces 73.5 bushels per acre. New Jersey comes next with 26.7 bushels per acre. (Please note that this is but one third of that produced in Massachusetts per acre). Reading on, we find Wisconsin with 109.5 bushels to the acre and Washington with 109.2, while Oregon holds the record with 120 bushels per acre average. The total average for the United States is 58.2. So you see Oregon has twice the average or all our cranberry producing states. These figures are for the year 1935. The proporation is about the same for the previous

Mr. Buchanan thought it would be interesting to make a check on local production as compared to national and state production. It was revealed from figures in the records of the local cranberry association files that the Langlois and Walstrom marsh, which is only 21/2 acres, has produced, at its peak of production 1100 bushels or 440 bushels per acre. This is outstanding! When the marsh was 20 years of age it had made an average of 240 bushels per acre. just twice as much as the state average. At present the marsh is 26 years old and still maintaining a high productivity. Other marshes were checked with like results. The Bandon area is producing more than three times the national average and twice the state average. Now isn't that something to be proud of? Of course it is only fair to state here, that part of this high average is due to new marshes coming into their best production.

You may ask "Why haven't we heard more about Bandon and Coos County berries?" That is easily answered. In the Economic Survey for Coos County in 1925, cranherries were not even mentioned. Figures compiled by myself, the association secretary, from information gleaned from in-

terviewing local growers, show that only 25 acres of berries were planted in all Coos County between the years 1885 and 1925, and that only 9 growers had made plantings. Between 1925 and 1930, nineteen acres more were planted with 23 men interested. Then between 1930 and 1936 about 25 acres more were planted or are being planted. There are about 40 men actively interested at this writing.

Now Coos County is beginning to recognize the importance of this growing industry. The same old "dry statistics" revealed that in 1935 this section of the country had produced approximately 8000 bushels of berries which sold for about \$4.00 per bushel and gave the industry a value of \$24,000 dollars to growers. This year has been a good year for price due to the fact that the total production has beer less than the five year average.

Many who attended the Pacific International Exposition in Portland were amazed at the size of the cranberries in the Coos County exhibit. Berries from new marshes are always larger than berries from old fields. But it so happens that new fields in this region have produced some exceptionally large berries, often measuring ¾ to 1 inch in diameter, due perhaps to climatic conditions which appear to be ideal.

Another interesting fact brought out to by round table discussion, was that there still remains considerable suitable land for further development. At a rough estimate, perhaps 200 acres. Cranberries will grow only on acid peat land. Mr. Buchanan made the soil test using a solution of 4% solution of pure potassium thiocyanate in pure grain alcohol, and some peat samples from a nearby marsh.

Varieties of berries best suited for this locality were also dis-

(Continue don Page 18)

# WISCONSIN MARSHES IN GOOD CONDITION TO PRODUCE WELL

BY VERNON GOLDSWORTHY

MGR., WISCONSIN CRANBERRY SALES CO.

Wisconsin had one of its most severe winters it has had in a long time. For over a month the temperature was never above zero and was usually in the twenties and thirties and we even had one recording of forty. With this extreme cold weather came lots of snow and most of the marshes were piled several feet deep.

The fact that Wisconsin cranberry growers had plenty of water last fall to cover the vines completely in every section of the State and lots of snow for additional protections should mean that the cranberry vines should have come through the winter in excellent shape. The only real cause for worry appears to be that we might have had too much snow in some places with the result that the vines did not freeze solid, and there might be some leaf-drop. At the present time it seems very likely that we will have some leaf drop in Wisconsin, but it should not be very extensive.

The vines last fall were budded up very well and Wisconsin could very easily have a 75,000 barrel crop according to the budding. However, there are so many things that can enter into the picture it really is very difficult to even forecast a reasonable guess at this time.

Fireworm has been increasing in Wisconsin and unquestionably will be a factor in Wisconsin's cranberry production unless controlled. However, as the growers will have plenty of water in all cases it does not seem that this pest will make much, if any, inroads this year.

False blossom has been increasing in Wisconsin, but not as fast as it has in the East. Wisconsin growers plan at the present to do more spraying than they have ever done in the past on a yearly basis, as they have begun to realize the real seriousness of the disease. Dusting has not been tried out in Wisconsin to date, but will be tried

this year in at least an experimental stage.

Because last summer was quite wet, fern increased on many of the marshes in the state. To combat the fern several growers will buy large quantities of iron sulphate and apply it in both the liquid and powder form.

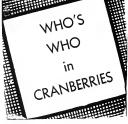
Due to the fact that Wisconsin has had two very successful years. growers have had more money to spend on the improvement of their property. Several new warehouses will be built this spring and summer, a number of new mills will be installed, and additional equipment around the warehouses will be installed to facilitate packing operations. The growers have not alone improved their packing houses, but in a large number of cases have made many improvements on the marshes so that at present the Wisconsin marshes are in better shape than they have ever been and should be set to produce berries consistently.

Considerable new acreage will be planted to cranberries this spring. The varieties planted will be Searls Jumbo, McFarlin and Howes in the order named. The present estimates are that about one hundred acres will be planted. Also several new marshes will be started in the spring.

State cranberry work in Wisconsin will again be under Mr. L. M. Rogers who has handled the work in the past several years in a very highly satisfactory manner.

Mr. H. F. Bain of the United States Department of Agriculture will be in Wisconsin early in June and stay until September. Mr. Bain has been working on the false blossom of cranberries and the storage of berries. His experiments have been very beneficial to the Wisconsin cranberry industry and we all hope to see it continued for many years. Another very important work of Mr. Bain is the development of new varieties by coss pollination.

Although the matter of fertilizers is not apparently so import-



## VERNON GOLDSWORTHY

While a comparative newcomer to the cranberry industry, Mr. Vernon Goldsworthy of Wisconsin Rapids is now recognized as one of the Wisconsin cranberry authorities. He has, for about two years, been the manager of the Wisconsin Cranberry Sales company, member of the American Cranberry Exchange, which before had no manager.

He attended the University of Wisconsin, and received both a B. S. and M. S. degree from that university. He majored in enotomology and plant pathology and minored in horticulture. After finishing his studies at Wisconsin university, he taught science in the high school at Prairie de Sac.

While teaching there and while attending Wisconsin university, he entered the cranberry field and acted as assistant state cranberry specialist and nursey inspector during the summer months. He wrote a master's thesis on "Cranberry False Blossom." He was interested in athletics while at school and coached the freshman track and cross country, as he was a letter man while at college.

He is now devoting his entire time to the cranberry industry, and will be a frequent contributor to this magazine.

ant to Wisconsin growers as it is to the New Jersey growers, there is still very much that can be learned about the fertilization of cranberies. In Wisconsin, Prof. Musback of the University of Wisconsin is doing considerable experimental work with fertilizers and will conduct a number of experiments in Wisconsin this summer on various marshes throughout the State.

# Editorials

## WE MAKE OUR BOW

Introducing ourselves with this issue, we present for your approval a monthly magazine devoted solely to the best interests of the cranberry industry. There are probably few businesses of the size of the cranberry industry which have not some representative publication. Workers of the cranberry world have not previously had such a periodical. It is our intent and

hope to fill this void.

This is not to imply that cranberry growers and others dealing with the fruit are unorganized or lacking in cooperative Indeed, we pay great respect to the growers' associations, the cooperatives for selling, which were among the earliest to unite agricultural workers in a single group and which have done so much to improve marketing conditions, or to the efficient federal or state workers engaged in full or part-time assistance to cranberry growers, or to individual leaders.

But there has been a segment missing to complete the circle. There has been no medium by which the individual growers could keep informed of new developments throughout the whole cranberry field; there was no medium through which research workers could address messages to growers everywhere, or medium by which growers themselves could get directly in touch with other growers. We expect

CRANBERRIES to fill this need.

It is not our purpose to work for the cranberry growers of Massachusetts alone against the growers of New Jersey or Wisconsin, or the reverse. We want to truly represent the growers of all the growing areas, whether on Cape Cod, which so far has led the industry, or in the smaller producing northwestern states of Oregon and Washington. We hope to promote ties which will bind all sections closer for mutual benefit.

It is not our purpose to represent cooperative associations as against "independents," or canners against those who grow only for the fresh fruit market. It is our earnest desire to work with all who have the best interests of the industry at heart. We confidently believe we may be able to play a part in uniting growers and all those who have interests in cranberry culture, and that eventually we may be able to help in increasing cranberry consumption, which after all is what we all most desire. We will try to make this unique and truly American industry of greater value to all.

With your support we believe we can do And we with to offer thanks to all who have assisted in any way in making And we wish to offer thanks to all who have contributed in any way to make this magazine possible.

## AND WASTE PILES GREW

The smoke of the battle of last season's marketing has drifted away now, and growers are looking forward to this year's prospects. But some who held for too high speculative prices on last year's crop find their vision obscured by piles of dumped berries held far too late in the year, and these heaps of rotting fruit represent real dollars.

With one of the smallest crops in prospect last fall, the market opened at \$9.60 a barrel, higher than for several years past and the same speculative spirit which finally broke the stock exchange was awakened in some growers and buyers. The cranberry market was good last fall. Some hoped it would get very much better. Rather than sell at a fair price, netting a fair profit, cranberries were stored away in screenhouses, and there was unusually heavy buying for speculative pur-Growers were known to refuse \$10.00 a barrel; they wanted \$16.00—or

Cranberries could be sold in the retail market at fiftten cents a quart. higher price demanded by speculators was forcing the retail price up to 20 cents or more. With general conditions not too prosperous the country over, consumers decided they didn't want cranberries that

Cranberry Canners, Inc., and others cautioned growers against demanding an excessive price. This advice was not taken in general by those who had speculated. Sales fell off for the Christmas market.

There followed a rapid dumping, a drastic drop in price, but there were too many barrels left and too few buyers.

The unwise holder who wanted too much, was forced to carry his crop too long. A considerable quantity of fruit



was held over into this year. The grower who wouldn't take \$15.00 a barrel for cranberries in the late fall, found his holding had shrunk 50 or 60 percent, screening was slow and costly, and the final selling price about half what had previ-

ously been offered.

Like the colored man who bought young pigs for four dollars, fed them until maturity and then sold them for four dollars, the holders found there wasn't much profit in it. But unfortunate as this loss was to the individuals, a greater injury may have been done to the market. This matter of being too ambitious for large profits didn't leave a good impression. There has been some fear expressed that it may have an injurious effect on this year's buying.

The remedy lies in sellers of cranberries this fall being satisfied with a fair margin of profit. A stable price, as is consistent with the size of the crop, will bring greater benefits to the cranberry growers than a wildly fluctuating market, even though a beautiful profit may be made by a few individuals for a comparatively few bar-

rels of cranberries.

## **CULTIVATED BLUEBERRIES**

Readers will notice that, although this is a cranberry magazine, we have incorporated in it a section for the growers of blueberries. Blueberries seem to be about the only other agricultural product which has been developed profitably along with cranberries. Of course not all blueberry growers are also raisers of cranberries, but a great many are, and the two seem closely allied.

Blueberry culture, thanks to Miss Elizabeth C. White of Whitesbog, New Jersey, and others, has made considerable strides in that cranberry state. There are a number now cultivating this big, handsome berry in Massachusetts; some in Washing-

ton and in Oregon.

It would seem the growing of blueberries might be much more extensively gone into by cranberry growers as a side issue and by others. Therefore it is our ambition to make this pursuit of greater interest, and we hope this magazine will prove of worth to the growers of blueberries as well as cranberries. PUBLISHED MONTHLY

at the

WAREHAM COURIER OFFICE,
WAREHAM MASSACHUSETTS U. S. A.

Editor and Publisher LEMUEL C. HALL

Associate Editor
CLARENCE J. HALL
Business Manager

Subscription \$2.00 per year

Advertising rates upon application

## CORRESPONDENTS-ADVISORS

New Jersey

CHARLES S. BECKWITH
State Cranberry Specialist
Pembroke, N. J.

#### Wisconsin

VERNON GOLDSWORTHY Wisconsin Rapids, Wisconsin

## Washington-Oregon

J. D. CROWLEY
Cranberry Specialist
Pullman, Wash.
ETHEL M. KRANICK
Bandon, Oregon

#### Massachusetts

DR. HENRY J. FRANKLIN

Director Mass, State Cranberry Experiment Station
East Wareham, Mass,

BERTRAM E. TOMLINSON

Barnstable County Agricultural Agent
Barnstable, Mass.

## CRANBERRY GROWERS

A cordial invitation is extended to inspect our improved models of

# DUSTERS

and

# Fertilizer Spreaders

in various sizes to meet all requirements

# Hayden Cranberry Separator Mfg. Co.

367 Main St. Wareham, Mass. Telephone 497-W

# Easy-going Methods Outdated In New Jersey

Greater Care Now Being Taken

Ву

CHARLES S. BECKWITH

State Cranberry Specialist

Cranberry growing in New Jersey has often puzzled growers from other states. Visitors have been surprised to see stumps and weeds in valuable bogs. They have wondered how profitable production could continue with no sanding at all. They would almost invariably exclaim "Wouldn't it pay to take better care of these bogs?" They were also surprised to see the crop produced. There seemed to be very little assurance that careful work on a moderate sized bog would be more profitable than the seemingly easy going methods of the large properties. There was plenty of good land and available water so that new bogs could be

set out easily. The process was simple. A dam was built and water held for two years to kill off native vegetation, brush was burned and trees removed. Ditches were dug for drainage and the vines set out. Bogs varied in elevation as much as six feet. In the tof years the bogs started to bear. What weeding was done was selective in that only the worst weeds were removed.

These methods may seem crude but they were sufficient for success, It was possible to set out large areas with little capital and it took but a few crops to pay all costs. Of course, there was some chance involved and at times the crops did not come soon enough. However, there were some outstanding successful growers who followed this plan.

One grower felt that it was more profitable to set out new bogs than it was to take extra good care of those already in bearing. In 1922, another grower expressed the opinion that some day more intensive methods might become necessary but for the time, the best plan was to hold investment per acre at a minimum. The bogs lacked beauty but they did produce.

Today the requirements are somewhat different. False blossom has changed the picture considerably. No longer can bogs be set out with cheap vines and be allowed 4 to 6 years to fight grasses and other weeds with little attention except flooding. Such bogs are easy prey for false blossom and never do come into bearing. Neither can a grower exist on crops of 20 barrels to the acre on half his property, the rest producing nothing. It cost too much to fight leafhoppers if only a small crop per acre is harvested.

Recently set out and remade bogs are leveled, sanded, weeded and the vines rogued for false blossom two or three times. Leafhoppers are held under control and considerable care is exercised to bring the bog into bearing quickly. Some of the old bogs will be saved. Most of them are too rough for the use of ground dusters but air machines have been introduced and their use will be widespread in 1936. It is very possible that the new development will be attended by other improvements in some bogs so that eventually these will be more reliable in crop production.

Sanding is more common now than it ever was before. Continued cold weather and thick ice has furnished an exceptionally long period of work this past winter and it has been used to advantage. Not counting this, there was more sanding this year than has been usual in the last 10 years. Before that time, sanding was a rare occurrence.

It is too early yet to have any idea of the present condition of the bogs. We expect a general building up of bog properties during the next five years but the results any one year are problematical. We know there will be more dusting for leafhoppers, more spraying for rot, and more care in planting during 1936, and we hope for favorable results showing in the crop. I do not think that the reduced crop during the last 10 years indicates that New Jersey is going to stop growing cranberries. There has been an extended period of readjustment to a new situation and there is reason to think that with the aroused interest and additional effort, New Jersey will produce more cranberries than ever.

## BARNSTABLE COUNTY ACREAGE REDUCED 798 Cape Cod Growers Facing Serious Problems

By BERTRAM TOMLINSON
County Agricultural Agent, Barnstable County

A study of cranberry acreago from 1924 to 1934 shows the forlowing startling facts: In 1924 the cranberry acreage in Barnstable County was given as 4,331. Ten years later a special cranberry survey showed that the acreage has been reduced to 3,533, a reduction of 798 acres in the ten-year period. These statistics present food for scrious thought to all who are concerned about the cranberry industry. It is estimated that the average of bogs in the County would be about 40 to 50 years. Due to changes in ownership, programs for good bog management were neglected so that a large number reverted to wild swamp growth. At the present time many bog owners are faced with the problem of controlling false blossom disease, in addition to the many insect pests which appear annually to threaten the crop. It follows, then, that if the County is to retain its traditional position as a great cranberry-producing area, a great deal must be accomplished in encourage ing growers to apply up-to-date methods of bog management. If such a program is not carried out effectively, it requires little imagination to visualize the possible shrinkage in cranberry acreage.

Thus far the Extension program has focused attention on the prevention of further spread of the false blossom disease. It seems now, however, that the time has come for an approach along other lines. In short, cranberry growers are facing a great problem of renovating or remaking old bogs which cannot possibly pay for the expensive upkeep required in the production of high-quality cranberries. Bog renovation opens up a great field as to proper procedure. Comparatively little has been done at the present time in the way of research to determine which method or methods may prove to be the most economical. Only a short time ago the writer observed a cranberry bog compris-

ing over forty acres which was in the process of rebuilding. The owners, in their endeavor to find a practical method, were experimenting with three or four plans. It is evident that of the several to be tried out some methods will prove very satisfactory while others may prove expensive as well as unsatisfactory. Since many growers already face a similar problem, it would seem that immediate efforts should be made by research workers to determine proper methods of bog renovation. Such work would be of great help to the cranberry industry.

The seriousness of the weed problem can be appreciated by referring to the special report of the County Agricultural Agent for Barnstable County, which shows that 69 percent of the growers, by their own replies, indicated that weeds in the cranberry bog are a very serious factor in bog management. Comparatively little work has been done in research on this problem, though it is understood that a special investigator at the Cranberry Experiment Station, East Wareham, will concentrate on this work beginning in 1936.

From observations already made, it seems that the use of chemicals in combating the various weeds offers the most promising solution of weed difficulties. For the most part, hand work in combating weeds on a large scale is out of the question, due to excessive cost.

It is evident from the reports received from the growers that control measures for the fruit worm are not entirely satisfactorily. This year losses caused by this insect range all the way from practically nothing to many growers losing practically their whole crop.

We Have Listings of Cranberry Bogs, Large and Small FOR SALE

Geo. A. Cole Agency
WILDA HANEY
Decas Block
Wareham, Massachusetts



## THE BLUEBERRY GROWER



# The 25th Anniversary of the Beginning of Blueberry Culture at Whitesbog, New Jersey

BY ELIZABETH C. WHITE

It was November 15, 1910, that the Bureau of Plant Industry of the United States Department of Agriculture issued Bulletin No. 193. Its heading announces B. T. Galloway as Chief of the Bureau. The letter of transmittal to the Honorable James Wilson, then Secretary of Agriculture, was written by William A. Taylor, Acting Chief of the Bureau.

This bulletin carried the titie "Experiments in Blueberry Culture," and was written by Frederick V. Coville, Botanist in charge of Taxonomic and Range Investigations.

It came to my attention through the list of Government publications which at that date was monthly sent to any citizen who requested it

Very soon after it was issued a copy of "Experiments in Blueberry Culture" was in my hands. It thrilled me with its explanation of the cause of the brown color of our bog water, and it clicked with the idea father and I had often discussed of cultivating our wird swamp huckleberries as an auxiliary crop for cranberries. The bulletin gave a new slant to our discussions.

I was in a position to give much time to the developing of a new crop for Frank Chambers had recently joined us at Whitesbog and could easily carry some of the work to which I had been giving mucn time and strength. Association with the author of this bulletin would be of inestimable help in developing blueberry culture and the unknown experimenter in Washington certainly needed land such as

we had in abundance at Whitesbog, and co-operation such as father and I could give if his Chief's prophecy were to come true. This prophecy was expressed in the letter of transmittal in which William A. Taylor wrote of Dr. Coville's experiments, "There is good prospect that the application of the knowledge thus gained will establish the blueberry in field culture and that ultimately improved varieties of these plants will be grown successfully on a commercial scale."

The carbon copy of that first letter written twenty-five years ago and the succeeding correspondence have been carefully preserved in a fire-proof safe. When the first letter was written I was sure that it was of such importance in establishing a new branch of horticulture that the passage of time would give it historical value. This is the letter.

> New Lisbon, N. J. January 11, 1911

"B. T. Galloway, Chief, Bureau of Plant Industry, U. S. Dept. of Agriculture, Washington, D. C.

Dear Sir:

I recently received from Washington the report on "Experiments in Blueberry Culture," which I have read with great interest, and I write to make a suggestion in regard to future experiments.

My father, Joseph J. White, is one of the largest cranberry growers in the country, and on his property are considerable areas of land too high for cranberries but admirably suited to blueberries, judging by the way the wild ones flourish.

My father authorizes me to offer you the use of this land for further experiments in blueberry culture, and is willing to pay \$50.00 a year for 5 years for such labor as may be needed in the experiments, we to have the proceeds from any crop that might be produced.

I should be pleased to assist in the work by observation, reports, or in any way in my power.

If you should at all consider this proposition, Dr. Shear can perhaps give you some idea of our ability to assist the Dept. of Agriculture in this matter, as I had the pleasure of showing him and two of his assistants over a portion of our bogs last fall.

Trusting that this may receive favorable consideration, I am, Very respectfully yours,

ELIZABETH C. WHITE"
(signed)

January 28th, ten days later, William A. Taylor, Acting Chief of the Bureau, wrote that the Department would probably accept our offer of co-operation which had been turned over to the author of Bulletin 193. On February 4th, Frederick V. Coville wrote saying that he would like to visit Whitesbog to look into the possibilities. The visit was made on March 1st, 1911.

I am exceedingly sorry that Dr. Coville cannot be with us today. These first letters and his visit to New Lisbon and Whitesbog on March 1st, twenty-five years ago, marked the beginning of a period of co-operative experimentation of intense interest and remarkable results. This co-operation closed when the new responsibilities falling on me after my father's death and the growing claims of blueberries as a commercial crop made it impossible for me to give the close personal attention to co-operative experiments, which characterized the earlier years of the work.

## WHITESBOG BLUEBERRY NURSERIES

## The Conservation Nursery

BLUEBERRY PLANTS—All varieties in commerce were developed at Whitesbog. FRANKLINIA ALATAMAHA—A rare, exquisite, fall flowering tree.

PINE BARREN PLANTS—Including Magnolia glauca, Ilex glabra (Ink-berry); Clethra alnifolia, pink or white; Gentiana porphyrio (Pine Barren Gentian); Lygodium palmatum (Climbing Fern).

AMERICAN HOLLY (llex opaca)—The experience gained in cranberry development has been exercised in choosing extra fine types of Holly, superior in hardiness, beauty of foliage, and heavy production of berries. Matched plants from cuttings, well furnished and symmetrical up to 2-feet high suitable for developing into specimens, formal plantings, hedges, etc.

## Write for Catalogue

Miss Elizabeth C. White can be secured for a limited number of informal talks, liked by Garden Clubs and similar groups. Subjects: "Development of Blueberry Culture," "Picturesque Cranberry Culture," "An Acid Soil Garden," and "Lovely Native Holly."

JOSEPH H. WHITE, Inc.

WHITESBOG

NEW JERSEY

Those first blueberry years are a joyous memory. Encouraging developments came thick and fast. Dr. Coville and I gloated over them together, the enthusiasm of each faming to brighter flame that of the other.

Without his presence today there can be no fitting celebration of this Twenty-fifth Anniversary of the beginning of team work with blue-herries.

The first five years of co-operation covered the period of search for superior wild bushes in New Jersey. At the time Dr. Coville and I joined forces his stock of plants was represented chiefly by seedlings raised from berries resulting from natural pollination on a selected New Hampshire bush. In Bulletin 193 he says that this bush was "selected at Greenfield. New Hampshire, after three summers of cursory observation in the mountains of southern New Hampshire and three weeks of diligent search in the summer of 1908." Then after a detailed description of the bush and its foliage he states, "The berries were of large

## **Cultivated Blueberry Plants**

FOR SALE

Plants from one to five years old. All improved varieties.

Further Particulars

Mrs. Maybelle H. Kelley

Tyler Avenue, East Wareham, Mass. Telephone Wareham 112-2

size, reaching a diameter of over half an inch. The color was an unusually pale blue. In flavor the berry was exceptionally good."

Twenty-five years ago neither Dr. Coville nor I thought possible such larger blueberries than were represented by the fruit of this Brooks bush, but that very summer of 1911 the Sooy bush was found by Ezekel Sooy just north of the road passing his home between Browns Mills and Whitesbog. Its berries were as blue as those of Brooks, and were larger. Many of them were 7s of an inch in diameter as compared with ½ inch in diameter for the largest of the Brooks berries.

Thes two bushes were the parents of one of the first extensive crosses made by Dr. Coville. It was fortunate that these early parents possessed the hidden quality, which I have come to believe is rare in even the most carefully selected wild blueberry bushes, of producing a small percentage of offspring of a size and quality decidedly superior to either parent.

(Continued next month.)

\*Editor's Note: This is the first installment of a paper read by Miss White before the annual meeting of the Blueberry Co-operative Association at Pemberton, New Jersey, recently. Miss White (Continued on Page 20)

......

# OPPORTUNITY ADS.

Rates, five cents per word, no ad accepted for less than 50 cents. Count initials as single word. Advertiser may have mail sent to this office to be forwarded if desired. Cash in advance except to those with credit established. Copy should be sent at least two weeks prior to publication. Address, "CRANBERRIES," L. C. Hall, Wareham, Mass., U. S. A.

Reliable party will consider buying good bog seven or eight acres, near Wareham, Mass. Must have full winter and frost flowage. Address L. C. % Cranberries, Drawer C, Wareham, Mass.

WANTED-Subscribers to this magazine.

Do you want to buy or sell a bog, or some article or material used in cranberry culture. Try an ad in this column. It is the ONLY medium to reach those interested in cranberries anywhere in the United States.

POWER YOUR BOG PUMPS WITH A

## FORD

INDUSTRIAL MOTOR
LOW INSTALLATION COST
LOW OPERATING COST
LONG LIFE

LOWEST COST PER H. P. OF ANY IN-DUSTRIAL POWER PLANT 20-50 HORSE POWER

SEE IT AT THE SPRING MEETING OF THE CAPE COD CRANBERRY GROW-ERS, ASSOCIATION

## H. A. SUDDARD, INC.

FORD CARS & TRUCKS....LINCOLNS

ALSO FIRESTONE PNEUMATIC WHEELS SAND AND WHEEL SARROWS

## A Few Notes From the Grayland District In Washington State

By James O'Brien, Sec'y

The Grayland district is bounded by Grays Harbor on the north, Willapa Harbor on the south, the Pacific Ocean on the west, and low hills to the east, an area having about 1500 acres of suitable bog land, of which only about 200 acres are in cranberries.

The tracts are all small, probably five acres, with from onequarter to three acres in cranberries. The McFarlin variety and a few late Howes are grown here.

The predominating nationality of the growers is Finnish, with a colony of Swedish people and a sprinkling of Americans. Many of these people follow other occupations, such as logging, longshoring, fishing, and the building trades. With many of them cranberry growing is just a side line, as the men work out on their jobs most of the year and the women and children take care of the cranberry bog, weeding, spraying, etc.

There are a few bogs which have been in bearing about 20 years, but most of them are from five to ten years old. These bogs are kept in very fine condition; not a weed can be seen. Each year some additional acreage is nut in.

In general the growers here get a very good yield. In 1934 a quarter acre tract brought in 245 quarter bbl. boxes! A 2-acre bog in 1935 yielded over 1000 quarter bbl. boxes, besides some less by the freeze. There have been many other yields as good.

Ninety-eight percent of the growers here belong to the Grayland Cranberry Growers Association, Inc., giving it a membership of 84. (We ask if there is any better organized district than this?)

The growers suffered a severe loss last season due to the lack of pickers and an unprecedented early freeze, which cut the total yield to very little over two-thirds of the estimate. Nevertheless, the Association shipped 22,500 quarter bbl. boxes under the "lMist-Kissed" label.

The tips look favorable for a good crop this year. The winters are very mild here and winter damage is unknown. We are not able to flood our bogs and as yet do not have wind machines, so have to revert to peat fires to protect our crops during the spring frosts.

While the Finnish people deserve a world of credit for their industry and foresight in starting these bogs, we should not overlook our guiding hand, Mr. D. J. Crowley of the State Cranberry Experiment Station at Long Beach near here. Mr. Crowley is a very capable and hard worker, always ready and willing to help those of us who a few years ago had never seen a cranberry, except in the stores.

## Melville C. Beaton Now General Mgr. Of All Beaton Bogs

Announcement was made this month by the John J. Beaton company, cranberry growers, of the appointment of Melville C. Beaton as general manager over all the Beaton owned bogs. The Beaton company is and has been for a number of years, one of the largest producers of Massachusetts, cranberries, with a number of large bogs in the general Cape Cod district

This move leaves John J. Beaton with more time to devote to the increasing business of Beaton's Distributing Agency of Wareham, Mass., which is the largest independent distributor of Cape Cod cranberries, and a firm which is widely known in the cranberry trade. The elder Mr. Beaton will now devote his full time to distributing for the growers who distributing for the growers who discributing for the growers who discribed in the growth of the growers who will have complete charge of the management of the Beaton bogs.

# Weekly Pay Bill For Mass. Pickers Undergoes Defeat

A legislative bill to compel cranberry growers of Massachusetts, along with tobacco growers to pay weekly all persons temporarily engaged in harvesting was defeated recently in the Massachusetts legislature. The vote was turned down by a vote of 55 to 33, after several lengthly debates.

The bill was favored chiefly by Leo E. J. Carney of New Bedford, while Senator D. W. Nicholson of Wareham spoke against the measure, declaring it to be unnecessary and that it would be detrimental to the cranberry growers of his dis-

trict. Whil

While some Massachusetts bog owners do pay weekly, a great many do not for a variety of reasons pay until the end of the picking season, although it is customary for many growers to give pickers advances on their pay if they request it.

#### USE CRANBERRY BOG RAILWAY OUTFIT ON WPA GRADING PROJECT

A cranberry bog railroad outfit is now being used on a WPA project in Middleboro, Mass., where the local high school baseball field is being regraded. The outfit used is one owned by Russell A. Trufant of that town.

Progress previously was considered too slow with the old system of three men to a wheelbarrow, two shovellers and one wheeler. Trucks required a wide working area for turning at each end of the field.

The bog railroad, however, moved all the subsoil cut and fill over a working area not much wider than the track itself for the expense of a single truck. Mr. Trufant feels that perhaps cranberry men could be more alert to using their special equipment in other lines of work and thus reduce the overhead cost on this equipment.

# S.H. & E.H. FROST

FRUIT AND PRODUCE COMMISSION MERCHANTS

319 WASHINGTON STREET

NEW YORK, N. Y.

Esablished 1865

We extend our congratulations to the cranberry industry in now having its own publication, and wish this magazine every success.

# Decas Cranberry Co.

# Growers & Shippers

Wareham, Mass.

WE EXTEND OUR BEST WISHES TO THE CRANBERRY GROWERS

NATIONAL BANK OF BUZZARDS BAY

BUZZARDS RAY, MAS

#### Our Cranberry School

(Continued from Page 8)

cussed. The experienced growers in this infant industry wouched the opinion that the McFarlin and Stankavich berries were the most outstanding because of their color and size coupled with good keeping qualities. There is room for more plantings of both early and late Howes. These can be scooped and have excellent keeping qualities. One large marsh has a very successful planting of this variety.

It might be well to note here that the Coos County Cranberry growers have a successful Co-operative Marketing Association, which has been in operation since 1930 with Mr. A. T. Morrison of Bandon as its President.

There will be a total of ten meetings in our Cranberry School, and such topics as Co-operative Market ing, Establishing Bogs, Disease and Insects, Irrigation, etc., will be discussed. We are even going so far as to compile a bulletin of Cranberry recipes and try out some at our meetings. Just to make things jolly and sociable at our meeting we are going to make meet meeting we are going to make

some Cranberry Sherbet and feed our "tummies" as well as our minds.

We growers are heartily in favor of the "Cranberry School" and although we may not represent all of Oregon, we do represent 33% of this industry in Oregon and we believe that we can make our state proud of what we can do down here.

#### AAA Chaos

The agricultural legislative situation in the country is to put it mildly, in a chaotic state. The Supreme Court months ago found the AAA unconstitutional and the new "soil conservation" bill seemed to be understood not even by those who framed it.

#### Dutch Elm Disease

Vulnerable elm trees—nearly a million and a half of them in the area threatened by the Dutch chu disease, accidentally brought into this country in 1930, have been marked for destruction by Government crews. It would be very difficult to estimate in terms of dollars and cents the value of these beautiful trees endangered by this imported illness.

# BANK CREDIT For Business Needs

This Bank has money to loan for constructive business purposes. Loans to Cranberry Growers and other customers are one of the most effective ways this Bank has of serving the community. These loans are repaid ordinarily at the end of a season and the money reloaned to other enterprises—thus keeping at work the local reserve funds, to create employment and promote activity.

THE NATIONAL BANK OF WAREHAM Wareham, Mass.

#### Fresh From the Fields

(Continued from Page 7)

Soil Conservation A brief has been prepared by a

committee of New Jersey growers and offered to the State Committee on soil conservation, pointing out that the cranberry industry is very important to Ocean, Burlington and some other New Jersey counties and that any conservation measures that would enable the growers to maintain or build back the productive ability of their bogs would be considered of value to these counties. The brief stated that Jersey yields have been cut from 200,000 barrels annually to less than 100,000 at present. This committee included Charles S. Beckwith, state specialist, County Agent Fawcett, James D. Holman, Daniel M. E. Crabbe and Theodore Budd.

Frost Outlook are now drained of the winter flood, and the ottention of the growers will hordly be upon frosts. The spring has been somewhat below normal in temperature with a great excess of rain, especially in the months of January and March, and April has also brought heavy rains. The amount failing in January as recorded at the State Bog was 7.65 inches; February, 2.39, and March 6.97, so receivoirs are amply sup-

plied.

E. B. Rideout of the State Weather Bureau at Boston sometime ago predicted sub-normal temperatures for March and April, but starting about May 10, which coincides with the beginning of spring frosts, there will in all probability be a temperature rise. He forecast that the remainder of the month and June would be unusually warm.

This forecast checks with one made locally, that a very frosty spring will not materialize, at least after the first of May. One aspect that this is based upon is that sun spots are not numerous at this time. However, growers will know more about this later.

New Considerable new bog is being put in on the Cape area this spring. It is estimated at 60 or 70 acres. Among those adding to their acreage are John J. Beaton, Ruel Gibbs, Carl Urann and John Howes at Middleboro.

Winter
Kill Some winter kill has developed, it now appears, especially on the lower
Cape, where there was no snow during the long cold spell. But this does not begin to measure up

to last year's serious losses.

# THE CANNERS' PAGE

#### BENEFITS OF CANNING

The evidence tells the story, and this year's evidence of the benefits derived from canning is a pretty good example of its necessity to the industry. It has the support of growers producing 80% of the world's crop. It needs the support of all growers to be of the greatest possible value.

This year's record shows Cranberry Canners was worth \$1,000,000 to cranberry growers. Every grower received \$2.00 a barrel more for his berries because so many growers united in Cranberry Canners to sustain the market.

The total crop is now given as 479,800 bbls., of which 90,000 bbls. were canned, so 389,000 bbls. were sold fresh. According to statistics, 400,000 bbls. would sell for \$10.00 a bbl.

Knowing the canning company would remove enough berries to bring the total down to 400,000 bbls., an opening price of \$9.60 was named. Cranberry Canners bought heavily in September to stabilize the market and to pass over the usual warm spell and market slump which comes in October. But growers withheld their berries, which caused an advancing market to a dangerous level.

In December the price reached \$18.00 a bbl. Up to that time, Cranberry Canners had continued taking berries off the market to sustain the price. But by the 17th of December, with growers still persistent in selling at unsound prices, with canning factories supplied for the season, and with its canning members' crops sold, Cranberry Canners withdrew its support from the market. The next day the price dropped, and has continued to drop until now berries are selling below \$6.00 a barrel.

We want orderly distribution and a \$10.00 price. A higher price means 18c to 20c retail, and consumers will not buy at that price. Cranberry Canners, with grower support, will keep the price from going too low. The small grower and the big grower must all unite.

The advertising campaign for fresh cranberries promised to be of great benefit in moving the crop. Retailers were provided with attractive window strips, posters, and advertising literature. They had pledged their support in giving cranberries extra sales effort. They kept their word and pushed cranberries until the growers' prices made 20c retail necessary. At 20c, retailers met consumer resistance, and turned their efforts from cranberries to other products.

Many buyers were left with berries which spoiled. They lost money. This developed ill will toward growers which will not soon be forgotten.

The grower is dependent on the retailer to sell his crop. At \$10.00 a barrel, which means 15c a lb., a 400,000 bbl. crop can be sold. Above that price, it meets consumer resistance, and loses retailer support.

There is an active consumer demand for cranberries at a reasonable price. Now, with canned cranberry sauce being sold all the year. consumers are more cranberry minded than ever before, and ready for fresh cranberries when they appear on the market. But cranberries are not an absolute necessity, and can be sold only at a reasonable figure. Surveys show 15c is the popular price. This year it reached 30c, and caused consumers to stop buying.

It is the growers' duty, and sound business requires, we give consumers quality cranberries and keep a steady flow of berries to market.

Canning is the safety valve to insure both these desirable objects.

#### CANNING NOTES

Ocean Spray Cranberry Juice Cocktail sales for March reported 300% more than March a year ago. People are drinking as well as eating cranberries. When Cranberry Canners' research department brought out Cranberry Juice Cocktail and merchandised it so successfully, they did a real job for the cranberry growers.

In two years' time, sales for Pineapple Juice exceeded those of pineapple in all other forms. Cranberry Juice mixed half and half with pineapple, makes pineapple ten times as good.

Cranberry Canners, Inc., of South Hanson, Mass., grower-owned canning company, is carrying 10,000 barrels of frozen cranberries in storage to be made into Cranberry Sauce and Cranberry Juice Cocktail for spring and summer demand. Cool, tart flavor, and light digestibility of cranberry products makes them tremendously popular during hot weather.

So, the cranberry season is lengthened. Whereas the grower formerly had to sell all his cranberries fresh in a few weeks in the fall, and in only a part of the United States, now his cranberries are made into Sauce and Juice, sold every day in the year, all over the world.

There are 29,000,000 families in the United States. 13,000,000 of them have incomes of less than \$1000 a year. They do not and cannot buy fresh cranberries. In years of large crops, Cranberry Canners can sell canned cranberries to these families, thus helping remove a surplus crop and sustain the price of fresh cranberries to growers.

It is estimated it would require 100,000 bbls. of berries to supply the apartment house dwellers in the cities of the United States. They have no facilities for home cooking, but want a ready-to-serve Cranberry Sauce. This is a wonderful market which cranberry growers can reach only by canning a portion of their crop. It is insurance for a fair price on large crops.

#### WE ARE HEADQUARTERS FOR

# Grass Clipping Equipment

Whether you are in the market for a clipper, power plant, cable reel, or a length of cable, we have it.

We are manufacturers of the Cesco clipper. The clipper with 50% more power per blade than any other. Built in 3-4 6 blades sizes. Light in weight.

Write us for more details.

#### Central Electric Service Company

WISCONSIN RAPIDS

WISCONSIN

# CLAYS

The ideal diluent for dusting—Does not absorb moisture—Never becomes lumpy or hard. Does not "cake" or "arch" in dusting machine— Always remains fluffy and smooth.

Details, together with samples, furnished upon request.

#### UNITED CLAY MINES CORPORAITON

Trenton.

New Jersey

Rest Wishes for the success of The Cranberry Growers New Publication

PLYMOUTH COUNTY ELECTRIC CO.

Wareham Plymouth Buzzards Bav

#### EDITOR'S NOTE

(Continued from Page 15)

is the daughter of the late Joseph J. White, and both were leaders in

establishing cultivated blueberries. The importance of Whitesbog, distinguished by being a government post office to care for mail incident to blueberry development, is well attested to, by the fact that in 1916 21 bushels were raised, bringing in a gross of \$115.00 while in 1935 total gross receipts of the association had reached the sum of -180. 623 from 7,040 bushels of cultivated "Tru-Blu-Berries," as the production of the corporation is known.

Miss White is now vice president of Joseph J. White, Inc., her father having been head of these foremost having been head of these foremost cranberry bogs, begus in 1857 by James A. Fenwick, since 1882 until his death in Franklin S. Chambers, president of the Growers Cranberry Company. Inc., of New Jersey, has been president since that time.

# Verdict Against Cranberry Grower

As an aftermath of the great Cape Cod cranberry strike of 1933, court proceedings were brought in the Massachusetts courts at Plymouth recently against a Carver cranberry grower, which resulted in the awarding of damages against the grower. This was the case of Alfred Gomes of Onset against Herbert Stanley, veteran grower, the former having lost two fingers of his right hand in one of the riots which accompanied the strike

Gomes, a picker, was awarded the sum of \$1.500 by a jury in Plymouth Superior Court for the injuries which have prevented him from working, although the sum named was in the amount of \$50 .-000. An appeal against this verdict for a new trial was immediately entered in Mr. Stanley's behalf by his counsel, J. Frank Kiernan of Wareham

This was the case which aroused great interest and sympathy among growers at the time, as Mr. Stanley, a selectman of Carver and a rather elderly man, was badly "beaten up" by cranberry strikers while defending his property against the trespass of a large group of strikers.

The defense contended that Mr. Stanley was carrying a shotgun for intimidation purposes, and that he was attacked by several when he warned the men off his property and the gun was discharged accidentally. An argument used to prove this was that the wounds on the plaintiff's hand were such as would be caused by a gun being fired at close range. Mr. Gomes contended that he was fired upon as he stood among a group of 50 or 60 men some distance away. If this had been the case, the defense asserted, the shots would have scattered and Mr. Gomes would have been wounded in other places than the hand and others would probably have been hit also.

The plaintiff brought out that if Mr. Stanley had not intended to shoot the gun would not have been loaded and cocked.



Hardie horse drawn portable sprayers are built in a wide range of sizes. Interchangeable steel or wood tanks, steel or rubber wheels, with and without steel dust hoods. Roller bearings on axles make for light draft on any ground. Capacities from 6 to 50 gallons per minute at pressure from 300 to 800 lbs. per square inch.



Hardie stationary or "skid mounted" sprayers for fixed installation or for transporting on truck or wagon are supplied with pump engine and tank in all sizes and capacities, with and without steel dust hoods,

Hardie sprayers put money into the cranberry grower's pocket by increasing yield and quality at low cost. The Hardie today provides thoroughness in spray application with speed and economy never before equalled. Coil cooling system eliminates troublesome radiator. All pumps maintain rated capacity and pressure at low speed. Here is the really perfected, fully equipped sprayer.

See the Hardies before you buy. Write for catalog showing 40 sizes and styles of portable and stationary Hardies powered by truck, tractor, gasoline engine or electric motor, delivering 3 to 50 gallons per minute at 300 to 800 pounds pressure per square inch for every spraying job. Whatever the size of the bog or the spraying problem there is a Hardie to exactly meet the requirement. Improved, high-efficiency spray guns both single and multiple nozzle types. Hose, fittings, parts. Engineering counsel on special installations. Almost a half century of building and operating sprayers in the world's leading fruit centers is back of every Hardie.



Hardie spray pumps have an unqualled record for pressure, capacity,
low operating and upkeep cost. Every
moving part runs in a bath of filtered
oil—even the plungers are fully lubricated. Big over-size die cast replaceable
bearings. Porcelain-lined plunger tubes.
Positive pressure regulator. Special alloy valves. Every Hardie ever sold has
a long record of service without a cent
for replacements or repairs. By any test
the Hardie spray pump is the most efficient and economical in the market.

#### THE HARDIE MFG. COMPANY - HUDSON, MICH.

Branch Factories, Sales and Service Offices:

PORTLAND, ORE. - LOS ANGELES, CALIF. - KANSAS CITY, MO. - JACKSONVILLE, FLA. BROCKPORT, N. Y. - NEW YORK CITY - Export Department: DETROIT, MICH.

# HARDIE DEPENDABLE SPRAYERS

# The New England Cranberry Sales Company

secures for its members the benefits of cooperation without which the marketing of perishable crops,—especially those which are not classed as necessities,—is a hazardous undertaking.

Through its alliance with similar cooperative organizations in New Jersey and Wisconsin it is able to employ effective agencies for distributing the crops of the affiliated companies to the best advantage of all concerned.

Among these agencies *Advertising* is of high and proved importance, but its effectiveness is proportional to the effort expended.

Every cranberry grower who raises sound fruit and who packs it carefully can boost the advertising campaign by joining the appropriate Sales Company.

# New England Cranberry Sales Company

L. B. R. BARKER, President

A. D. BENSON, Treasurer

Headquarters at 9 Station St., Middleborough, Mass.

Office 295-2222 REATON'S

K. Beaton 295-2207



WAREHAM.

P. Beaton 947-3601

D. Beaton 888-1288

Specializing in



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes

#### (continued from page 8)

the decline symptoms contain twice the aluminum content in their leaves and

stems as healthy tissue.

Water related research is still in the initial stages. Last year's mild growing season didn't produce the intense heat that would fairly test the value of sprinkler irrigation in preventing sun scald while enhancing yield; consequently, further testing is planned on bogs when the temperature is in excess of 100 degrees F.

Often a New Jersey summer can be a very dry experience and July and August of 1985 were no exception. Rainfall fell 50 percent short of the amount required to make up the evaporation loss. Eck's testing indicated the average daily water loss due to evaporation from a free water surface located in a cranberry bog ranged from .17 inches to .23 inches per day on clear days, increasing as the daily mean temperature increased. Mathematical models will have to be developed that incorporate parameters such as relative humidity at the canopy, soil moisture, and water potential of the plant in order to determine the relationship between evaporation from a free water surface and water loss from the cranberry canopy.

Below freezing temperatures have peen recorded in every month of the year n New Jersey's cranberry country. Eck's objective was to determine the emperatures at which tissue injury "We're Best on Farth" One vd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching

- 8-9 Barrel Capacity
  Cost Efficient
  - - · Easy to Handle · No Wheel-Off Rigs
      - · No Bulk Bins
        - · No Fork Lifts

~ Custom Made ~

Allow 4-6 weeks for delivery.
• CONTACT •

866-4429

RFD 5 PLYMOUTH ST. CARVER.



# Serving Massachusetts cranberry growers

CONTACT

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST. Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

burs in the cranberry plant and fruit at Ferent stages of development. Under atrolled conditions, he found the bud's dy elongation stage was the most sative to sub-freezing temperatures in 50 percent of the sample being ured at 31 degrees F. As he blossom relops, its ability to tolerate low neratures increases with open wers being able to tolerate aperatures dipping to 26 degrees F. Midditionally, Eck has found there is

significant difference between nberry varieties or the stages of berry relopment with respect to low uperature tolerance. Overall, fruit did begin to soften until temperatures to 22 degrees F, or below.

TRETCH'S RESEARCH continto underline the value of
propriately timed fungicide
dications in controlling Phomopsis,
reasing crop yield, and reducing rot.
explained that Phomopsis upright
sack is a fungal incited disease of the
nberry which causes isolated
somic loss in New Jersey. An
eximent to determine the fungicide
t suitable for control of Phomopsis
cated that eight applications (early
through August) of Difolatan 80
lls gave the best results of five
ficides tested. Vine growth was also
anced by Difolaten producing 176
ns of vine tissue per square foot as
pared to 74 grams per square foot as
pared to 74 grams per square foot in
unsprayed checks.

retch also made a practical uation of the use of fungicide on



newly planted cranberry bogs. Difolatan was applied to newly planted Stevens vines in 1983, 1984, and again in 1985 by sprinklers. Areas covered with polyethylene tarps prior to fungicide application served as checks. In 1985, the first harvest was made. Fungicide treated Stevens produced 79 barrels per acre and averaged 5 percent rot as compared to 17 barrels per acre and 66

percent rot in the checks.

Cranberry fruit receiving a late application of Bravo 500 fungicide, in addition to the regular four application schedule through the sprinklers, was compared to cranberries receiving the normal four fungicide application program with Difolatan. In one location, there was a 1.1 percent drop in rot and a 1.3 percent reduction was experienced in

another location where Bravo was used. Laboratory examination of fruit from Bravo treated areas indicated that the fungus Sporonema oxycocci occured less frequently than it did from areas receiving the normal program.

DATA GATHÉRED FROM Marucci's pruning experiments during 1984 and 1985 appeared to confirm what Franklin S. Chambers discovered at Whitesbog from 1915-1917 and what other fruit growers have long considered an integral part of their cultural practices: pruning is essential if crop yield is to be increased.

Pruning of Stevens uprights in October 1984 with the Furford picker resulted in enhanced pollination, larger size of berries, and a larger crop. Severe hand pruning of Ben Lears in 1983 followed by varying degrees of pruning in 1984 gave widely varying results. Severe pruning in two successive years or moderate pruning in the second year caused crop reductions but severe pruning followed by light pruning was not harmful. Pruning Pilgrims and LeMunyons down to the ground in March 1984 resulted in the production of enormous crops in 1985.

Degree of bee pollination is increased, in part, by pruning. Easy access to blossoms encourages honey bee and bumble bee activity; however, cranberry pollination on early drawn bogs continues to be challenged by competition from numerous early blossoming wild Pinelands plants and shrubs like inkberry, blue huckleberry, and dewberry. As Marucci has frequently explained, the nectar from this wild vegetation is extremely attractive to bees.

In recent years, the question of chemical sprays' impact on honey bee pollination in early drawn bogs has arisen. Marucci's evaluation of bee activity on bogs before and after spraying showed a decrease in pollination on early drawn bogs in 1984 but not in 1985. Difolatan had no effect on bee activity on cranberry bogs drawn on the traditional May 10 date in both vears. Decreased activity reflects nonpreference rather than repellence and occurs only on early drawn bogs because the more attractive wildflowers finish flowering by the time cranberries bloom on May 10 bogs. Marucci again reminded growers that "the contribution of bees (to pollination) is the most important phase in the culture of cranberries

EDWARD V. LIPMAN, the ACGA delegate to the N.J. Agricultural Convention, reported on the highlights of the organization's annual meeting held in Atlantic City in January. A symposium on water usage within the state is of particular significance to growers who have been told that water is going to the people of New Jersey. Dirk Hoffman, deputy director of the Division of Water Resources for the N.J. Department of Environmental Protection, reminded farmers that water is currently being drawn from the Cohansey aquifer in Monmouth County.



# Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946



Pinelands cranberry industry depends upon. The same use of water by a predominately non-agricultural area may soon occur in Camden County where overused aquifers like the Raritan-Magothy that supply communities along the Delaware River are decreasing in quantity and suffering from contamination.

SEVERAL RESOLUTIONS adopt-

# 

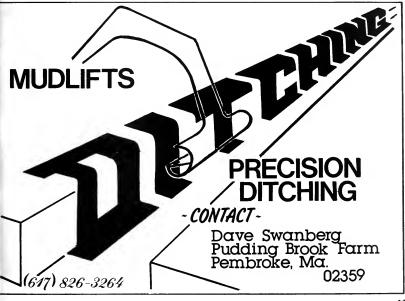
890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

# STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM
- REINFORCEMENT ROD WIRE MESH

\*\*\*\*\*\*\*\*\*





A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

# LARCHMONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

#### FOR EXAMPLE: -

Gorman-Rupp Self Priming Electric Sprinkler Pumps

Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

#### Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact.
Stearns Irrigation, Inc.
790 Federal Furnace Rd.
Plymouth MA 02360
(617) 746-6048



Yareham Masa R.D.GRASSI Cranberry

Mass.

**SERVICES** 

Rick 5158

SANDING WIPING Applied Applied REPLACED

CLIPPING MOWING

HARVESTING WET

Mowing Includes Hydraulic Arm Mower

ed by those attending the convention that are of significance to cranberry growers deal with issues such as the use of the Cohansey aquifer by non-Pinelands communities, farmland assessment, trespass and vandalism, and biological control of insect pests. Lipman also said he and William S. Haines Sr. continue to serve on the governor's Pinelands Study Commission, a body delegated the responsibility of determining the impact the Pinelands Comprehensive Management Plan has on agricultural activity in the region.

The N.J. Department of Agriculture's "Jersey Fresh" advertising campaign, soon to begin its third year, anticipates a million dollar budget for 1986. Consumers in the New York City and Philadelphia metropolitan areas as well as those throughout N.J. are increasing their purchases of Jersey fresh produce thanks to this aggressive advertising campaign.

Finally, Lipman recapped the efforts of the recently formed N.J. blueberry/cranberry research council. N.J. Ocean Spray growers have agreed to check off ten cents per barrel for their entire crop. Yearly, a portion of the revenue accrued from the investment of this sum will be turned over to the research center in order to strengthen on-

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue

North Dighton, Mass Phone 824-5607

AMES

Irrigation Systems

RAIN BIRD

Sprinklers

HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

\*\*\*\*\*\*\*\*\*\*\*\* CRANBERRY GROWERS

REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass. 02537

(617) 888-1288 \*\*\*\*\*\*



# Crane for Hire

Three quarter yard crane with matts, clam and dragline. Have had years of experience in digging ponds, stumping and general bog work.

GEORGE R. NAVA CO.

11 Maple Avenue

Kingston, Mass. 02364

Call 585-4514

#### Massachusetts Growers

Financial assistance is available for SCHOLARSHIPS and MEDICAL ASSISTANCE for Cranberry Growers, their Employees and the families of both when financial need can be shown. For information contact:

> URANN FOUNDATION P.O. Box 1788

Brockton MA 02403

Telephone 588-7744

+++++++++++++++++++++++++++++++++++

# Big Wheel Truck Sales 42 Quanapoag

E. Freetown, Mass.

All types of medium and heavy duty tracks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow true's on the E.s. Coast.

Call Bob or Joe

(617) 763-5927

(617) 763-8745

# VINES AVAILABLE FOR SPRING DELIVERY

STEVENS — \$3,500 per ton

BEN LEAR — \$3,750 per ton

Terms: 100% payment before vines are mowed



TREGO CRANBERRY FARM, INC.

Eric Jonjak P.O. Box 120 Trego, WI 54888 715-635-7611



ing research efforts.

SAMIR ELRASHEDY of the N.J. partment of Environmental otection's Division of Pesticide autor reviewed the extensive state sticide control regulations with wers. This spring a summary of these rulations will be available. Private plicators may obtain copies of this m county agents. Also, Ray Samulis, rington County agricultural agent, I gladly answer growers' questions ated to pesticide application in New sey. He can be contacted at (609) 261-160.

Aichele Byers of the N.J. Conserion Foundation showed slides of Old
itesbog, former home of Elizabeth
ite, who assisted Dr. Frederick
itelie in research that has given us
lay's cultivated blueberries.
undant cranberry crops were also
vested on this plantation. Unforately, the once prosperous company
n has fallen into disrepair, and
sough the state currently owns the
sufficient money is unavailable for
iding restoration.

yers explained that through creation he Whitesbog Preservation Trust the . Conservation Foundation hopes to 1 support needed to revitalize this oric hamlet. ACGA members agreed dopt a resolution proposed by Byers is states they support the continuing its of the Trust "to restore and sance Whitesbog."

ne day-long meeting ended on a light with Ted Gordon — photographer,

# Niemi Electric Co.

ROBERT NIEMI

# ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.



tea-her, and Pinelands enthusiast—sharing his superb slides of Nantucket's cranberry bogs and historic sites with growers. Gordon also gave an update on last year's successful cranberry festival held in Chetsworth. Additionally, he noted the new brochure about Pinelands cranberry growing primarily addresses water-related issues and would be most helpful in describing the industry's water requirements to the state's decision makers.

Named ACGA officers for 1986-87 were: Abbott Lee, president; Joseph Darlington, senior vice-president; Dr. Alvan Rogers Brick Jr., junior vice-president; Philip E. Marucci, secretary, Dr. Paul Eck, treasurer; Edward V. Lipman, ACGA delegate to the N.J. Agricultural Convention; and Joseph Darlington, alternate delegate to the convention.

# Paul's Machine & Tool

...............

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

# Pump Repairs

.............

All Types

Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake St. Plympton MA 02367

> Bruce Sunnerberg (617) 585-2394



#### Serving Massachusetts Cranberry Growers

- Integrated Pest Management (IPM) Pheromone traps and baits insect and weed scouting cranberry girdler
- Scout training
- Insect and weed identification
- Pheromone traps and bait cranberry girdler sparganothis fruitworm blackheaded fireworm
   Consulting services

307 West Grove Street (Rte 28) Middleborough MA 02346

# KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp. Compact Excavators  $1\frac{1}{2}$  to 6 ton

Wheel Leaders 1/2 to 3/4 yd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers
Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

# Now there's Bravo 500. A better way to control fruit rot.

That's what eight years of testing clearly showed--Bravo 500 fungicide is more effective on fruit rot diseases than captafol.

What's more, cranberry growers will get exceptional control of leaf and twig blight with Bravo 500.

Yet, Bravo does not adversely affect fruit color like other fungicides are known to do. Nor does Bravo leave any lingering odor.

It's this kind of first-rate performance that's made Bravo 500 America's preferred food crop fungicide. And now you can use it too.

Bravo 500 fungicide. Because better disease control means bigger yields of higher quality cranberries come harvest.



A Biotech ®

Agricultural Chemicals Business SDS Biotech Corporation 7528 Auburn Road, PO Box 348 Painesville, Ohio 44077

Always follow label directions carefully when using agricultural chemicals.



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

June 1986 Volume 50, No. 6

Our 50th Year of Publication



Spur for Bloom - 3 Ponds for Profit - 16 Not far from here, in the middle of a cornfield, cranberry marsh or bog is an ARAXTM and a Micropod both hard at work. In fact, ARAXs are hard at work all over the world. In sugarcane, cranberry, citrus, grape, fruit and vegetable fields.

ARAX (Automatic Reporting Agricultural Weather System) is an agricultural tool, much like your tractor and harvester. Located in your specific area, ARAX's hardy instruments measure soil and weather conditions. These are the two most important elements affecting the growth of your crops. And this is important, because "THE MORE YOU KNOW, THE MORE YOU GROW." This means lower production cost and greater productivity.

Is ARAX affordable? You bet. Benefits begin the very first day as ARAX gathers important data and historically files this information in memory. Current reports are used to alert you of frost and freeze trends, helping you to protect your harvest. When the sun shines, ARAX is assimilating data relating to evapo-transportation, accumulating four separate levels of Degree Days or Chill Days and measuring irrigation levels. You watch as rainfall converts to soil moisture and humidity to the propagation of diseases. And when the sun doesn't shine, ARAX will advise you of approaching storms.

Yes, ARAX gives you peace of mind. The freedom to relax and enjoy yourself...because ARAX is just a phone call away. ARAX is watching over your cranberries and when conditions turn for the worst, ARAX will phone you. So this year, take a little break and call Bob or Tina Hawk, your ARAX dealers.



Robert E. Hawk of WildHawk, Inc., specializes in the Cranberry Industry. His company services include equipment, cranberry research and applications of fluid-suspended fertilizers. Consulting and fertility recommendations are also provided. For a demonstration of ARAX functions, capabilities and services, please feel free to call or visit Bob Hawk.

# PUR: A PROMISING INSECTICIDE OR USE DURING CRANBERRY BLOOM

By CHARLES F. BRODEL Cranberry Experiment Station East Wareham, Mass. ABSTRACT

Fluvalinate, a synthetic pyrethroid insecticide, is known to be relatively nontoxic to honey bees. One formulation of fluvalinate, Spur<sup>TM</sup> 22EW, was applied at 95 percent bloom to control the cranberry fruitworm and brown cranberry spanworm, pests which ordinarily ire not treated then due to the lazard to pollinators. Regardng the fruitworm, Spur at 0.14 b. of active ingredient per acre educed losses of early-set Howes' berries by 80 percent. About 58 percent more untreated han treated berries were ntered by young fruitworm arvae. Of those entered, about wice as many untreated berries ontained larval feces. Fieldollected brown spanworm irvae suffered mortalities of 98 nd 100 percent when exposed or 3.5 days to 'Early Black' vine prights that had been treated ith 0.14 and 0.28 lb of active gredient per acre, respectively. Cranberry insect pest utbreaks during bloom istorically have been difficult manage. In such situations. a insecticide application fectively reduces pest

**COVER PHOTO** 

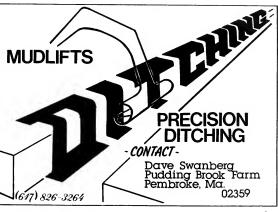
HE PHOTO shows brown anberry spanworm larvae.

n article on Spur, a promiing insecticide for control the pest, begins on this page. population levels but, at the same time, causes marked losses of pollinators or repels pollinators for varying numbers of days. Reduced pollinator activity in turn leads to reduced percentages of fruit set. For these reasons, the labels of all insecticides currently recommended for use on cranberry warn against applications during bloom.

During the past few years. Zoecon Corporation has developed and tested an insecticide, Spur<sup>TM</sup> 22EW<sup>1</sup> (active ingredient = fluvalinate), whose residues are claimed to be nontoxic and nonrepellent to honey bees (Anonymous, 1984a). Topically applied it takes as much as 18 micrograms of the insecticide to kill half the bees in each experiment (Anonymous. 1984a). In laboratory tests with treated foliage, half of the honey bees in each experiment died when the residue level of fluvalinate (in a similar formulation named Mayrik<sup>TM</sup>) was about 66 micrograms. This value compares with 0.11 for Lorsban®, 0.175 for parathion. 0.372 for diazinon, and 26.53 for Sevin® SLR (Atkins et al., 1981). Spur has been found to be one of the safest pesticides for use on crops pollinated by honey bees (Anonymous, 1984b). Field tests conducted by Dr. Larry Atkins at the University of California, Riverside and Dr. Carl Johansen at Washington State University, Pullman demonstrated that the toxicity of Spur to honey bees is essentially nil. Nil means that fewer than 50 honey bees in a colony of 30,000 perish after foraging in a blooming alfalfa seed field (Anonymous, 1984b).

Given these facts, it was decided to test Spur for efficacy against the cranberry fruitworm and brown cranberry spanworm, pests which are known to cause economic injury on Massachusetts bogs during bloom. Two preliminary trials

Mention of a brand name does not imply endorsement of the product or discrimination against similar products containing the eame active ingredient.



were performed in the summer of 1985, and the results are reported here.

#### **METHODS & MATERIALS**

Cranberry Fruitworm Study

The field trial was conducted on a uniformly vined, 13 year old section of 'Howes' cranberry on State Bog in East Wareham. Four pairs of 5 x 5 ft plots were arranged end-to-end and each pair was separated from the next by a 3 ft pathway. Two treatments were randomly assigned to the plots within each pair. The treatments were (1) a single application of Spur 22EW at the rate of 9 fluid oz of formulated product per acre. equivalent to 0.14 lb of active ingredient per acre, and (2) no insecticide application.

Applications of Spur were made from 6:15 to 6:45 AM on July 17, when vines were approximately 95 percent in bloom. This date preceded by 2 to 4 days the time when growers were to apply the first insecticide treatment to control cranberry fruitworm larvae. Applications were made with a 2 gal, polyethylene compressed air sprayer with a cone nozzle. A rate of 400 gal of water per acre was used to simulate conditions achieved commercially with overhead sprinkler systems.

overhead sprinker systems. On July 25, five randomly selected, 1 ft² areas of vine were sheared in each plot. Samples were stored in plastic bags in a freezer. All berries of every size were inspected externally for larval entry holes and internally for larval feces. Percentage data were statistically analyzed using the arcsine transformation, analysis of variance, and the t-test for paired comparisons at P ≤ 0.05.

Brown Spanworm Study

The field portion of the trial was carried out on a 45 year old section of 'Early Black' cranberry on State Bog in East Wareham. Four blocks were staked out, each composed of five  $5 \times 5$  ft plots separated by 2 ft pathways. Five treatments were randomly assigned to the plots in each block. Two of the treatments do not pertain to the topic under discussion and will not be considered further. (Refer to Brodel 1986a for a complete description of the trial.) The remaining three treatments were (1) Spur at 18 fluid oz per acre, (2) Spur at 9 fluid oz per acre, and (3) no insecticide treatment. The respective equivalents in lb of active ingredient per acre for the first two treatments are 0.28 and 0.14.

Applications were made on July 9 at 95 percent bloom using a 2gal, polyethylene compressed air sprayer. Treatments were diluted to the rate of 400 gal of water per acre to approximate conditions achieved commercially with overhead sprinkler systems. After the foliage dried, randomly selected vine uprights in each plot were severed and placed in plastic bags in a cooler.

In the laboratory, 20 undamaged uprights per plot were inserted into moistened sand within two ventilated 8 oz styrofoam cups. There were

about 30 blossoms and berr per cup. Fourteen hours af Spur was applied in the field, t field-collected larvae ranging length from 0.125 to 0.75 in. we introduced into each pair cups. Cups were held at 21°C, 90 percent relative humidi and 15 hours of daylight per hour period. After 3.5 days exposure, cups were inspect for dead larvae. The data we analyzed using analysis variance and Gabriel's sum squares simultaneous te procedure at  $P \leq 0.05$ .

#### RESULTS & DISCUSSIO

Cranberry Fruitworm StuResults of the field trial a
presented in Table 1. Th
represent the examination
4,739 treated and 3,9
untreated berries. The de
indicate that a single ap
cation of Spur during early be
set reduced the percentage
berries with a larval entry ho
Of those berries exhibiting
entry hole, only about half
many treated as untreated or
contained fecal material fr
young fruitworm larvae.

The presence of an entry ho does not mean that a berry w ultimately be lost via shrinka

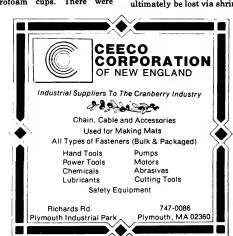


Table 1. Efficacy of Spur 22EW in reducing losses to cranberry fruitworm larvae during early berry set on State Bog, East Wareham, Mass. 1985.

Treatment & amo	ount (fl oz/acre)	% berries with entry hole*	% entered berries with feces*
Spur 22EW	9.0	1.7a	41.8a
Untreated		4.0b	83.4b

Each number represents the average of four plot values. Plot values were derived from total berry counts of 595 to 1,527. Averages followed by the same letter are not significantly different according to the t-test for paired comparisons at  $P \leq 0.05$ .

or larval feeding. Only if a larva survives long enough to consume the pulp and seeds will

#### CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR WARKETING DIRECTOR: CAROLYN LABAN DESIGN DIRECTOR: R.J. SHEMKOVITZ ASSOCIATE EDITOR: CAROLYN GILMORE (617) 783-5206

# DVISORS & CORRESPONDENTS MASSACHUSETTS — Irving E. Demorenville, rector, Cranberry Experimant Station. NEW JERSEY — Phillip E. Merucci, Cranberry & Bluerry Specialist, Cranberry & Blueberry Laboratory.

rry Specialist. Cranbarry & Blueberry Laboratory, letsworth: Elizabeth G. Carpenter, Chatsworth. NOVA SCOTIA — I. V. Hall, Botenist, Rasearch ation, Kentville. DREGON — Arthur Poole, Coos County Extension

ent, Coquille.

WASHINGTON — Azmi Y Shawa, Horticulturist and

lansion Agent in Horticulture. Coastal Washington search & Extension Unit, Long Beach. VISCONSIN — Tod. D. Planar, Ferm Management ent, Wood County

ANBERRIES is published monthly by Divarilities didicals, Wellwyn Drivs, Portland CT 08480. Second is postage is paid at the Portland, Conn. Post Office. De 18 10 a year, \$18 for two years, \$1 a copy in this \_\$12 a year in Caneda; \$15 a year in all other mirles. Back copies: \$2, including postage. Copyright \$9 brewritted Pariodicals.

ISSN: 0011-0787 contraster, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414 the berry stop growing and eventually die. With this as a given, approximate eventual losses of berries can be calculated from the averages in Table 1.

Firstly, about half as many

Spur-treated as untreated berries were entered by larvae. Secondly, of the berries entered by larvae, about half as many treated as untreated ones were successfully utilized. Multiplving the percentage figures for each treatment (for example, 4.0  $\times 83.4 - 100$ ) gives the berry loss that occurred during the period of early berry set. These are 0.7 percent for Spur-treated berries and 3.3 percent for untreated berries. Thus, in this trial, an application of Spur reduced probable losses by 80 percent. As opposed to percentages, the actual number of berries that would be saved on commecial bogs at specific sites in given vears would depend on the average number of fruitworm eggs deposited per ft2.

In response to this data, one might argue that an insecticide treatment at the recommended timing of 7 to 9 days after '50 percent out of bloom' should preclude losses of early-set berries. (For a discussion of '50 percent out of bloom,' refer to Brodel and Roberts 1984.)

Several field trials by the author (unpublished data) indicated that well-timed, post-bloom treatments of such materials as parathion, diazinon, and chlorpyrifos resulted in losses ranging from less than a percentage point up to 3 percent. In the present study, the application of Spur 5 days after '50 percent out of bloom,' despite optimal coverage, resulted in a 0.7 percent loss. Unpublished survey data by the author have shown that small numbers of fruit are set as many as 10 days prior to '50 percent out of bloom' and that early-deposited eggs can be found on or before the date of this growth parameter. Eggs require 5 to 6 days to hatch in the field (Franklin, 1948; Maxwell and Morgan, 1951). Logically, if a berry has not been



Table 2. Efficacy of Spur 22EW against brown cranberry spanworm larva in a field and laboratory trial at East Wareham, Mass. 1985.

Treatment & amount (fl oz/acre)	Avg no. <u>dead larvae</u> *	% control
Spur 22EW 18.0	10.0a	100
Spur 22EW 9.0	9.8a	98
Untreated	0.2b	

<sup>\*</sup>Each number derived from four sample values. Averages followed by th same letter are not significantly different according to Gabriel's sum of squares simultaneous test procedure at  $P \leq 0.05$ .

treated by the time a newly emerged larva travels over its surface and tunnels into the seed chamber, it is likely to be destroyed. An insecticide treatment at '50 percent out of bloom' or within 3 days thereafter helps to prevent this occurrence and reduces losses.

Another beneficial use of Spur can be envisioned for bogs planted in both 'Early Black' and 'Howes' varieties. In most years, marked numbers of 'Early Black' berries are destroyed by fruitworm larvae while the grower waits for bloom to end on 'Howes' sections. To overcome this problem, Spur could be applied 7 to 9 days after '50 percent out of bloom' occurs on sections of 'Early Black.' The application would be made at a time of day when honey bees are not visiting 'Howes' flowers. Satisfactory control of fruitworm larvae would result on 'Early Black' sections, as shown in a field trial by the author (1986b), and honey bee activity on 'Howes' sections would not be disturbed. Additionally, early-set 'Howes' berries would receive protection from larvae emerging from early deposited fruitworm eggs.

Brown Spanworm Study Results of the field and laboratory trial are presented in Table 2. The data indicate that an application of Spur during bloom resulted in excellent control of brown spanworm larvae. It is probable that rates lower than 9 fluid oz per acre would provide acceptable levels of control. It is also conceivable that percentages of mortality. regardless of rate, would be greater in trials conducted solely in the field because larvae would be impacted by spray droplets in addition to encountering spray deposits.

# LITERATURE CITED Anonymous. 1984s. SpurTM 22EW, Insecticide / Acaricide. Zoecon Corp. Tech. Bull. 8 pp. Anonymous. 1984b. New insecticide found harmless to

honey bees. Amer. Bee J. 124:358-359.
Atkins, E.L., D. Kellum, and K.W. Atkins. 1981.
Reducing pesticide hazards to honey bees: mortality
prediction techniques and integrated management tertategies. Univ. Calif., Div. Agr. Sci. Laffet 2883.
23 pp.
Brodel, C.F. 1986s. Control of geometrid larvae on

Brodel, C.F. 1986a. Control of geometrid larvae on cranberry, 1985. Insecticide & Acaricide Tests 11 (in press).
Brodel, C.F. 1986b. Cranberry fruitworm control, 1985.

Insecticide & Acaricide Tests 11 (in press).

Brodel, C.F., and S.L. Roberts. 1984. The cranberry
fruitworm. Univ. of Mass., Cranberry Exp. Sts. Fact

Franklin, H.J. 1948. Cranberry insects in Massachusetts. Mass. Agr. Exp. Sta. Bull. No. 445: 51.56

Maxwell, C.W., and G.T. Morgan. 1951. Life-history studies of the cranberry fruitworm, Mineola vaccinii (Riley), in New Brunswick (Lepidoptera: Pyralidae). Entomol. Soc. Ontario, 82nd Annu. Rep.: 21-25.

ARE YOU INVOLVED WITH
CRANBERRY GROWING,
PROCESSING, MARKETING
ETC.?
Then you ought to read
CRANBERRIES, the national
cranberry magazine. Each
monthly issue contains
informative news and feature
articles about the industry.
Keep informed. Read
CRANBERRIES.
Mail your check or
money order to:

CRANBERRIES

Cobalt CT 06414

P.O. Box 249

#### OBITS

#### Elmer E. Raymond Jr.

Elmer E. Raymond Jr., a prominent Cedarville, Massachusetts cranberry grower and athletic director, died Sunday, March 23, at Barnstable County Hospital in Pocasset. He was 75.

Anative of Plymouth, Raymond was a third-generation cranberry grower and former director of the Ocean Spray Cranberry Co. He also served as the supervisor of the Plymouth County Soil and Conser-

vation Commission.

In addition to his work in the cranberry industry, Raymond was a charter member of the Plymouth Villages Chapter of the American Association of Retired Persons (AARP). Town officials cited Raymond as one of three members of AARP whose efforts led to the awarding of over \$450,000 in state grants to develop a 17acre recreation park in Cedarville.

Raymond was born August 22, 1910, the son of the late Elmer E. and Annie (Morrison) Raymond. He graduated from Plymouth High School in 1928 and from

Springfield College in 1932.

He was coach and director of athletics in Georgetown, Del., and later director of athletics of the Cranbrook School for Boys in Bloomfield Hills, Mich.

For 28 years, Mr. Raymond served as the director of health and athletics in the Braintree school system. He was also a member of the board of directors of the Plymouth Boys Club. A member of both the Church of the Pilgrimage and the Faunce Memorial Church of Cedarville, Raymond was a 32nd degree Mason of the Masonic Lodge of Georgetown,

He is survived by his wife, Jane (McClellan) Raymond of Cedarville, a son, two daughters, a sister, three grand-

children, and two nephews.

Raymond was laid to rest among his ancestors in the private family burial ground, the Newcomb Cemetery, in Cedarville, following services March 26th at the Church of the Pilgrimage.

At the family's request, memorial donations may be made to the Cedarville Playground Fund, in care of the Plymouth Villages Chapter 3529 AARP account, Plymouth Federal Savings Bank, Plymouth MA 02360.

#### CONVENIENCE STORE NEWS

Snapple Juice Products has announced the addition of Wild Cranberry Soda to its national line of all-natural juices and soft drinks. The new product, marketed in 16-ounce glass bottles, is reported to be the only cranberry-flavored soda in distri-

bution. The soft drink has a dry, semi-sweet and tangy flavor developed to appeal to adults and consumers with "gourmet-priented palates," the company reports. Like all of Snapple's ten other sodas, he cranberry beverage is clear because t contains no artificial colorings, preserva-

ives, salt, added sugar or caffeine.



#### Serving Massachusetts Cranberry Growers

- Integrated Pest Management (IPM) Pheromone traps and baits insect and weed scouting
- Scout training R-2-Know training
- Insect and weed identification
- cranberry girdler sparganothis fruitworm blackheaded fireworm
- Consulting services

307 West Grove Street (Rte 28) Middleborough MA 02346

# Diesel Equipt.

2 & 4 wheel drive - 12-90 hp.

**Compact Excavators** 11/2 to 6 ton Wheel Leaders 1/2 to 3/4 yd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements

**Tractors** 

Polymark Beaver-Mowers

Ø Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

**₹0~. ₹0**€ ₽**₹0** ₹0 ₹0 ₹0 €

# **Since 1903**

MORTON Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436

# Now there's Bravo 500. A better way to control fruit rot.

That's what eight years of testing clearly showed--Bravo 500 fungicide is more effective on fruit rot diseases than captafol.

What's more, cranberry growers will get exceptional control of leaf and twig blight with Bravo 500.

Yet, Bravo does not adversely affect fruit color like other fungicides are known to do. Nor does Bravo leave any lingering odor.

It's this kind of first-rate performance that's made Bravo 500 America's preferred food crop fungicide. And now you can use it too.

Bravo 500 fungicide. Because better disease control means bigger yields of higher quality cranberries come harvest.





Agricultural Chemicals Business SDS Biotech Corporation 7528 Auburn Road, PO Box 348 Painesville, Ohio 44077

Always follow label directions carefully when using agricultural chemicals.

# LON BERRY BA

- \* 8-9 Barrel Capacity Cost Efficient
  - - · Easy to Handle
      - · No Wheel-Off Rigs
        - · No Bulk Bins
- · No Fork Lifts

- Custom Made Allow 4-6 weeks for delivery.

866-4429



RFD 5 PLYMOUTH ST. CARVER, MASS, 02330



### Serving Massachusetts cranberry growers

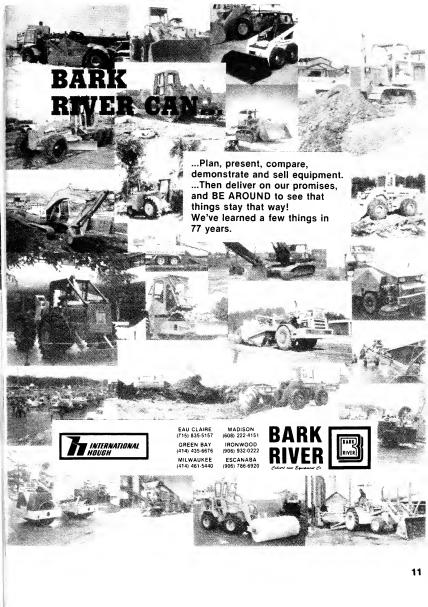
CONTACT

\*

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST. Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)





# Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

FELKER PROS. CORP.

Plymouth MA 02360.

22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846

### RECORD EARNINGS FOR 10th STRAIGHT YEAR

Ocean Spray enjoyed its tenth onsecutive year of record earnings nd record revenues in 1985, accordig to company president Hal Thor-

Delivering his winter "State of the usiness" address to company excutives recently at Ocean Spray's farkham, Washington plant, Thorilsen said the firm earned its 500illionth sales dollar in the middle flast August, and predicted a simarly successful year in 1986.

The report focused on the existing nned and bottled beverage busess, shelf-stable concentrates, the nilled juice segment and fresh

apefruit.
"The big news continues to be the verage business, and all of it is in cellent shape," said Thorkilsen. t is moving well, and over the last ur or five years, the business has own rapidly."

The president cited the company's our on the Pink" advertising camign as one of the factors in rising

sales of grapefruit juice. However, he expressed concern that Ocean Spray's raspberry-cranberry drink has not yet approached its full sales potential, saying only 31 percent of U.S. consumers are aware of the product. To remedy the situation, Thorkilsen reported the introduction of "dedicated consumer marketing pressure.

We can't rest on our laurels," he

ONE OF THE FIRST jobs for fiscal 1986 is to continue to expand the company's dominant franchise in the canned and bottled segment of the total fruit and vegetable juice category while increasing footholds in the concentrate and chilled segments, the president announced.

Among the new products to be marketed soon in an effort to achieve increased visibility, are MAUNA LA'ITM Hawaiian guava fruit drink. a joint venture between Ocean Spray and C. Brewer Company of Hawaii.

"When we have established a solid

franchise, we have sons and daughters of MAUNA LA'I on the drawing board," Thorkilsen reported. "I think we will continue to use those unique and exotic flavors in the next five to seven years.'

In another area of the cooperative's business, shelf-stable concentrate has been in test markets for two years, and based on its success, could become a bigger opportunity than the single-serving PAPER BOTTLE business, the president told the Markham group. Cost efficiency, curiosity and convenience are drawing consumers, according to Thorkilsen.

In reviewing the figures for the company's blended juice drinks, the Ocean Spray president characterized distribution as "reasonable." As for fresh grapefruits now available under the Ocean Spray label, Thorkilsen projected a target of 700,000 cartons for fiscal 1986.

"In 1985 we made our numbers and established some new plateaus,' Thorkilsen summarized. "We are now looking forward to the challenge this year of reaching \$615 million in revenues."

CRANBERRIES gives you news and views of the industry.





# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial Services is committed to helping you build a secure financial future. As a Freedom client, you work with seasoned financial planners and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning im



#### **COMMISSION URGES** ASTER TOXIC CLEANUPS

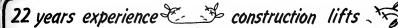
Officials at military bases and other deral installations in the Pinelands rould recognize the region's ecological aportance and accelerate cleanups of xic waste sites on the bases, according a report recently issued by the Pine-nds Commission.

The report, adopted by the Commission Feb. 14, contains various findings nd 11 recommendations for improving ie monitoring and cleaning up of toxic aste sites at the four federal installaons in the New Jersey Pinelands: Fort ix, McGuire Air Force Base, Lakehurst aval Air Engineering Center, and the ederal Aviation Administration Techical Center in Galloway. The report's ndings and recommendations resulted om testimony offered at a Commission consored public hearing last October, ttended by representatives of the instaltions, the Environmental Protection gency, the New Jersey Department of nvironmental Protection, environmenal groups, and several private citizens. The report urges officials of the miliry bases to serve as "role models" for ther government agencies with responsiility for toxic waste cleanups. The report

lso recommends that federal installaons in the Pinelands receive special riority when Defense Department funds re allocated for toxic cleanup measures.

"We're Best on Earth" One yd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching





· MUD LIFTING ·

# **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags

bulk bins

JOE BRIGHAM INC

lightweight durable

contact PETER ~ CHUCK 617-295-2222



BEATON'S

mat rentals & sales

# ADD YOUR POND TO YOUR PROFIT SHEET

#### By SANDY HUFF

If you have a pond or lake on your property, you should be growing more than cranberries.

Even a small-sized pond can support a population of food fish—bass, brim, catfish, chum, etc.—fish that thrive in small ponds, usually require no feeding, and are delicious on the table. If you don't want to fish them yourself, you can open your pond to the public—for a fee.

And the best part is, you can get your own farm pond stocked, or restocked, with game or edible fish at little or no cost.

Almost all states have a fish stocking program. Some states charge a minimal amount, while others supply 2-inch-long fingerlings for free.

In Florida, where I live, the Federal Soil Conservation Department stocks ponds a quarter acre and up in size, while the state Freshwater Fish and Game Commission stocks up to 20 acre ponds. The usual supply is figured on the size of the pond; for each acre of water, you get 50 catfish, 500 brim and 100 bass.

In the Soil Conservation program, the fish are free to ponds that meet certain qualifications: at least one-quarter acre in area, 6 to 8 feet deep, and with no larger fish already in place that might eat the new fingerlings.

If there already are fish in your pond, you might have to sterilize it to protect the new fingerlings

Farm and feed supply stores stock a natural poison called Rottenone, made from a ground up root. Similar poisons were used by South American Indians for centuries to harvest fish.

The poison works by suffocation, stopping diffusion of gases past the gills. Rottenone-killed fish are still perfectly edible, although livestock should be kept away from the pond for a day or two. Restocking is generally done for two to three weeks after sterilization.

Ponds that have an overflow, or natural springs, are harder to sterilize. The fish simply swim to the clean water and are not affected by the poison. The agency you contact about stocking will be able to determine if your pond is sterilizable.

Management of a stocked pond is simple. You can rely on natural forage to feed your fish or speed the process by supplying a staple fish food, such as catfish pellets.

Be careful with table scraps, as the fats, oils, preservatives and spices in most human food will pollute the water. Even bread does more harm than good by clouding water. And most gam fish are meat eaters anyway.

Even commercially processe foods for other animals can b used. Not counting gooey swee food or silage, the rolled oat bran and chicken feed product are good for fish. One farme reports his catfish relish dry do food.

While you can try harvestin the smaller fish, like brim, i only 6 to 8 months, it usuall takes a good year or so to brin the fingerlings up to pan size. Then, the experts agree, the pon stays optimum for fishing for the next 5 to 7 years.

As tempting as it is to brin home ALL the whopper bass you'll have to leave at least som of the big fish in the water t keep your pond balanced.

Tom Champeau, biologist with the Florida FWFGC, says: "Yo have to be good about putting

#### The scoop of the year!

Cranberry Flavor, Fact and Folklore in

THE CRANBERRY CONNECTION, by Beatrice Buszek. Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry. Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries . . . you'll find this book a treasure."—Des Moines Register. Paperback, \$8, 95.



Zip



			copies TION,		CRAN- h.
i	Name.				

Add \$1.50 for postage; Conn. residents add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

bass back after you catch m or the blue gill population l explode. Figure for every spound of bass you take out of ond, you have to put back 10 unds of brim.

Most people that harvest their regularly restock their pond ry five years or so. If you are ching bluegills only 2 or 3 hes long and really thin, it's eto restock. As long as you're ching nice fat bluegills, your d is healthy."

ou can order just one kind of tor a combination. The fingerics arrive on a schedule. In the othern states, catfish are stocked in July—August, bluegill is shell crackers in October—
tember, and large mouth bass in bernary. If you want bass, oneed to stock the smaller if irst, so the bass have a sty food source when they rive.

livery varies from area to Usually, pond owners meet







P. Beaton 947-3601



#### Also

#### 15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes

a hatchery truck at a central location. Fingerlings are carried home in aged pond water, in large containers, such as clean garbage cans. Aeration of the water is recommended so the fragile babies don't suffocated uring the drive home.

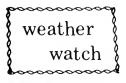
Some farmers who don't care to stock their ponds with game fish have even put in tropical fish. Live-bearers, likered or golden swordtails, can populate a pond fast. They add a touch of bright color to a dark pond, though the egrets and herons do find them easy to catch.

Contrary to popular belief, tropicals can withstand very cold water. Goldfish, for instance, prefer to spawn when a sheet of ice has formed over a pond. They and koi, a larger relative, are good scavengers and keep algae and excess vegetation cleaned out of a pond. They're decorative and one lady even swears her gold-

fish have personalities.

Since catfish and goldfish, if they're the same size, coexist peacefully, you might even be able to keep both—one for food, the other for decoration.

For information on which fish are available in your area and how to apply for stocking, call your farmagent, soil conservation officeorgame management department. It may be the best phone call you make all day.



#### MASSACHUSETTS

February was cool, averaging 1.4 degrees a day below normal. Maximum temperature was 48 degrees on the 2nd and minimum was 8 degrees recorded on the 9th. The only warmer than average

days were the 2nd and 21st. Cooler the average days were the 1st, 6th—8t 11th—16th, and 26th.

Precipitation totalled 3.12 inches about 0.4 inch below normal. There w measurable precipitation on 10 day with 0.88 inch on the 18th as the greate storm. We are 3 inches above normal if the two month period but 8 inches abo 1985. Snowfall totalled 14 inches whi is above normal, but all of the storr were light and did not amount to mue

March was warm, averaging 1.2 (
grees above normal, but was not neal
as warm as last year. Maximum tempeture was 70 degrees on the 31st an mimum was 7 degrees on the 8th. Warm
than average days were the 11th, 1516th, 18th—20th, 24th, and 26th—31
The only cooler than average periowere from the 7th—10th and 21st—22th

Precipitation totalled 3.73 inches just over an inch below normal. This was measurable precipitation on 10 de with 1.76 inches on the 15th as tracted to the strength of the strength of the strength of the monthly total came in the perform the 13th—16th. We are about inches above normal for the three morperiod and more than 8% inches ahead: 1985. There was only two inches of sn recorded.

I.E.I

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

## LARCH MONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



#### IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

FOR EXAMPLE:

Gorman-Rupp Self Priming Electric Sprinkler Pumps

Proven Quick Couple Riser Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect) Contact:

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 (617) 746-6048



#### C.R. LEONARD & SONS INC.

\*

890 MIDDLE ROAD ACUSHNET, MASS. 02743

TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM

## We don't ignore \$99,999.

Many large brokerage firms really aren't very interested in you unless you have \$100,000 to invest. Too often the small investor ends up getting pushed aside.

We don't have that attitude at Gage-Wiley and Company. For more than 50 years, we have been serving investors throughout New England and we give each the same careful attention. We take time to learn about your personal financial goals, and then use our experience to select investments which will best fit your needs and resources.

Whatever the size of your portfolio, even if you're just getting started, call us at Gage-Wiley and make an appointment to talk with one of our experienced investment counselors. Small investors have always been important to our company. We don't ignore them. After all, at Gage-Wiley we want to help small investors reach their own \$100,000 goal.



## Gage-Wiley & Company Incorporated

Village Landing • P.O. Box 3507 • Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m./Sat. 9:30 a.m. to Noon Member of the Securities Investor Protection Corporation

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our hutf fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

#### Farrell Equipment Repair

FULLY EQUIPPED ROAD SERVICE & PORTABLE WELDING

AFFORDABLE HEAVY EQUIPMENT SERVICE

IRRIGATION PUMP REPAIR, L P GAS WORK, ETC.

QUALITY WORK AT LOW RATES
REFERENCES AVAILABLE

(617) 748-0394

MIKE FARRELL COUNTY ROAD MARION MA 02738

Congratulations, CRANBERRIES MAGAZINE for 50 years of service to our industry from:

Roger H. Parent, jr.

ACCOUNTANT / ENROLLED AGENT 59 North Main Street

Middleboro, MA 02346

a true copy attest

Harold T. Braddock

Constable No. 9

Dealers in Cranberry Industry

for over 50 years CARVER, MASS Cranberry King of the World (617) 866-4597 (617) 866-3369

#### WASHINGTON

February continued mild with a maimum temperature of 66 degrees on th 27th and 28th and minimum of 27 degree on the 10th.

Precipitation totalled 10.80 inches which is about 1 inch above norma There was precipitation on 20 days, wit the greatest storm 3.08 inches on the 23rd.

March brought a maximum temperature of 71 degrees on the 3rd, and thre

## PYRENONE Crop Spray Insecticide

- Quick kills
- Controls:
  - cranberry fruitwarms
  - cranberry airdlers
  - cranberry tipworms
  - weevils

- Use as an exciter
  - cutwormsmites
  - firewarms
  - avpsy moths
- Low in mammailian toxicity may be used alone up to, and including, day of harvest
- Use as a tank mix with guthion, parathion and other insecticides to enhance results

#### Contact your local supplier.

Pyrenane is a registered trademark of Fairfield American Corporation



238 WILSON AVENUE • NEWARK NJ 07105

with 65 degrees making it necessary ranberry growers to attend to their alker systems and activate for frost ection. The minimum of 33 degrees e on the 2nd and 22nd. A bog low 31 ees came on the 16th and 22nd.

ecipitation for March totalled 8.11 es. There was precipitation on 26 , with the greatest storm 1.80 inches he 12th. We are about 3½ inches renormal and 18.27 inches ahead of 19th precipitation total through the storm of the s

A.Y.S.

## regional news notes

#### assachusetts

Y IRVING DEMORANVILLE

Robert Devlin attended the annual eng of the Weed Science Society of ica in Houston, Texas, February th. He presented a paper and was an of one of the sessions.

Frank Caruso participated in a

meeting concerned with cranberry diseases in New Jersey at Bordentown and Chatsworth, Feb. 2nd—4th.

As of April 1st there are 8 points of a possible 10 that favor keeping quality in the 1986 Massachusetts cranberry crop. This has occurred only twice before in 38 years and the keeping quality was exceptional both times. The forecast at this time is for excellent keeping quality in the 1986 Massachusetts crop. Growers should be cautioned, however, that even with this outstanding quality forecast, some current cultural practices can adversely affect quality and a warm, wet spring can also be detrimental. Quality control is always a good investment. Growers are advised to consider either late water or fungicide treatments later in the summer

#### Washington

By AZMI Y. SHAWA

Washington State University's Coastal Washington Research and Extension Unit, Long Beach, Washington, extends an invitation to the 1986 Cranberry Field Day, Friday, June 27, beginning at 9:30 a.m. with coffee and cranberry juice, followed by a program starting at 10:00 a.m.

The Coastal Washington Research and Extension Center, located on Pioneer Road, Long Beach, and operated for research in cranberry production, presents guided tours Mondays through Fridays, 8:00 — 4:30. Tours are free and include a photo exhibit, visits to a warehouse, greenhouse and cranberry bog, and a display of early picking equipment. Peak bloom season is June; harvest in October. For more information call (206) 642:2031.

## Harrison Now Perkins Dealer

Harrison Engine & Machine has been named a dealer for Perkins Engine Works of Peterborough, England, according to Clint Harrison, president.

Harrison Engine, located in Green Bay and Menomone Falls, Wisconsin, will be a full service dealer carrying a complete line of high speed diesel engines for construction, agricultural, trucking, material handling and marine application.

Perkins, which acquired the Rolls Royce Diesel Engine Works in 1984, is the world's largest manufacturer of high speed diesel engines.

Harrison Engine & Machine special izes in the rebuilding and overhauling for truck, marine, agricultural and industrial diesel engines, as well as custom machining. Clint Harrison started the business in Green Bay in 1979, and notes that the area it serves has grown to include all of eastern Wisconsin as well as the upper peninsula of Michigan.

## Factors Influencing Fruit Set Addressed at Growers' School

Editor's Note: The following progress report to the Wisconsin Cranberry Board was presented at the 1986 Wisconsin Cranberry School—held Jan. 23-24—by Elden J. Stang, professor, Department of Horticulture, University of Wisconsin Extention/Madison, and Brian A. Birrenkott, graduate research assistant. The Dubay Cranberry Co. Inc. of Knowlton, Wisc., cooperated with the study.

#### INTRODUCTION

Many factors may influence cranberry fruit set and subsequent development. These may include plant shading as a result of high upright density, temperature, humidity, effectiveness of pollinating insects, plant nutrition, environmental effects on pollen tube growth and seed set, insect and disease infestations.

The typical cranberry upright produces four to five flowers. Previous work has demonstrated fruit loss or failure of fruit to set and subsequently developranges from 40-60 percent of the potential for the principal cranberry cultivars in Wisconsin. These losses are noted to have been consistent for two seasons. Under controlled conditions in the greenhouse or phytotron with hand pollination, fruit set and satisfactory fruit development may attain 90-100 percent of potential.

The objectives of this project are to: 1) systematically assess factors which may influence fruit set in the field; 2) determine major controllable factors which may enhance fruit set; 3) where feasible, determine modification(s) in cranberry culture and management to increase fruit set and development.

#### **PROGRESS**

Work was initiated in June 1985. Some of the field studies begun in July and August were not terminated until early October, hence neither data tabulation nor analysis has been completed. Results and discussion in this report are thus of necessity observational and inconclusive.

### A. Upright density/intra plant shading

To determine field effects of upright density 40.9 cm² plots each of Searles cultivar were selectively thinned at hook stage to 1) 15 flowering uprights, 2) 50 flowering uprights, and 3) natural density (150+ flowering uprights).

Results suggest a lower density of flowering uprights during pollination and subsequent fruit development had little or no effect on percentage of fruit set. Fruits developed primarily on early flowers. Deviations from this observation suggest the order in which flowers are receptive to pollination may not determine total fruit set. Rather, the relationship of time of fertilization of the ovary may be critical in determining set. Other data to be submitted include fruit weight and upright growth as a function of plant density.

#### **B.** Pollination

In a detailed study of field pollination, four treatments were established as follows: 1) natural pollination; 2) screening out of pollenizers (bees) with hand pollination; 3) natural pollination + hand pollination; 4) screen shading without hand pollination.

Despite the importance of bees and other insects in the pollina-

tion of cranberries, hand pollination either alone or supplemental to insect pollination did not increase fruit set. This is ir contrast to similar treatments under controlled environmen conditions where high levels (90 100 percent) of fruit set and development are attainable Results suggest factors other thar pollination are limiting to fruit set and develop fruit may be a response to field stresses not yel determined.

#### C. Fruit set for major cultivars

Fruit set determined in 1985 for four replicates each of Ber Lear, Searles, Stevens and McFarlin varied little fron percentages observed in 1984 This suggests fruit set it consistent within reasonably ranges for each cultivar and tha field limitations on fruit set affect all cultivars.

### D. Controlled conditions o light and temperature

To determine gross influence of high and low temperature prio

## Used Aluminum Sprinkler Pipe

All Standard Sizes

A.D. Makepeace Company P.O. Box 151 Wareham MA 02571

(617) 295-1000

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

#### **BOB ALBERGHINI — SPRAYING**

For further information, call 866-4429 evenings after 5:30.

866-4429 RFD 5
PLYMOUTH ST.
CARVER,
MASS. 02330

and during bloom, a series of inform tests were established the University of Wisconsin otron in August 1985. Light tensity and temperature tests II be completed in February 36. These tests are to be followed a controlled test of low and oderate levels of plant nutrition in fruit set and development.

Further research on critical rods for pollination and fruit, field pollen viability and llen tube development has been posed for 1986.

## STAY INFORMED

SIO a year-S18 two years

Send check or money order to:

CRANBERRIES P.O. Box 249 COBALT CT 06414



The recipe below is taken from The Cranberry Connection by Beatrice Ross Buszek.

#### CRANBERRY PEACH PIE

1 can (29 oz) peach slices 3 cups cramberries 1½ cups sugar 3 tablespoons cornstarch ¼ cup chopped toasted almonds Pastry for 2-crust, lattice-type pie Drain peaches, keeping 1 cup syrup. Cut up peaches and set aside. Combine cranberries and syrup. Cook till berries burst. (You may wish to remove some berries for garnish.)

Combine sugar and cornstarch. Add to hot cranberries. Cook quickly. Remove. Stirin peaches and almonds. Turn into 9-inch pie plate, pastry lined. Add lattice top. Seal and crimp edges. Bake 35-40 minutes at 400 degrees.

#### **CHICKEN MANURE, ANYONE?**

John Ricca's new Westminster Egg Farm is giving away all the fresh, high nitrogen, low moisture chicken manure you can truck away, according to This Week In Farm Bureau. All you have to do is pay a nominal fee to have the manure loaded on your truck, unless you can arrange to be there when the chicken houses are being cleaned, in which case it will be moved from the houses right onto your truck. Minimum order is one truck load. Westminster Egg Farm will deliver a minimum of 12 to 14 loads within a limited radius at a pre-arranged trucking charge. In any event, you must make arrangements in advance with Tom Shea at (617) 874-5228. No unannounced pickups, please!



#### Crane for Hire

Three quarter yard crane with matts, clans and dragline. Have had years of experience in digging ponds, stumping and general bog work.

GEORGE R. NAVA CO.

11 Maple Avenue

Kingston, Mass. 02364

Call 585-4514

### WISCONSIN CRANBERRY HEADQUARTERS FOR



SEVIN XLR

DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581

### CRANBERRY GROWERS

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass. 02537

(617) 888-1288

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass.

Phone 824-5607

AMES

Irrigation Systems

RAIN BIRD

HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

## Letters

#### WANTS MORE ON BERRY CULTURE

I find your publication lacking a articles pertaining to cranberries at the culture of them. Something more this line would make it a much me interesting publication. Some of your correspondents have or

a few lines in an article.

Also, more from other states would welcome. Thank you.

Wilho E. Hau Carver, Ma

Editor's Note: Thank you fr your comments. Your letter, like is letters of all readers, will be give a great deal of thought and considation.

## New Scientist At Bay State Cranberry La

Dr. Joan Lasota joined the Massacs setts Cranberry Experiment Station Ny 1 as assistant integrated pest managem specialist.

Dr. Lasota was most recently involventh broccoli and cabbage IPM at Virgi Polytechnic Institute in Blacksburg,

"I urge you to all welcome Joan it our fold," said Dr. Frank L. Caruso, exfision plant pathologist. "We are very git to have her join our team.

"Thus far, we have nearly 100 acreen this year's IPM program. This menthat we still have a place for 100 men acres on the program. Please give no call (295-2212 or 295-2213) if you interested in adding more acreage."

He added: "Last but not least: as o monitor your plants and something lo 'rotten in Denmark' and you suspee pathogen may be involved, please br a specimen(s) into me or contact 's Diseases need to be dealt with be't they get out of hand. We will try to m a diagnosis as soon as possible so we's make the quickest recommendation 'control."

#### Sandoz Acquire Velsicol Chemic

Sandoz, Ltd., the \$4 billion Swiss bas chemical company, has completed acquisition of Velsicol Chemi Company's agrichemical business f Chicago's Farley/Northwest Industr forming a new company named VSC Protection Corp., according to 1 filler, president and chief executive fficer of the new company.

VS Crop Protection Corp. will be headuartered in Chicago, according to Miller, nd will employ approximately 300 people 1 Chicago and 850 worldwide.

"The new company's name reveals our enterpolice of the Miller said, "because St Crop Protection Corp. is totally and olely focused on improving crop yields. We see our company not (only) as an grichemical producer but as a marketriven, close-to-the-customer problem jover for farmers worldwide."

Miller cited the financial strength of andoz, a 100-year-old company, as a ctor providing for the expansion of arketing, development, and sales apabilities. Sandoz's expenditures for search and development as a percent fsales currently are the third highest of ny ag chemical company in the world,

ccording to Miller.

The company president said new orporate strategies will stress new roduct development and stronger cusmer ties.

mer ties. Miller, 39, was formerly Vice President f Velsicol's Agricultural Business Group.

#### FED CONTROL NOTES

Sethoxydim (Poast) is now labelled for rass control in cranberries not closer an one year before harvest. This herbide must be used with crop oil or nonnic surfactant to be effective. It does ot control sedges nor does it work on entucky bluegrass or Canada blueass. New plantings with barn vardgrass. klegrass, sicklegrass, crab grass id/or other seedling grasses are the oper place to use this herbicide. The te for best results is 0.5 lbs of active gredient per acre (approximately 1.5 arts of the formulated material per re.) The material is very effective for ass control but may not be used closer an one year before harvest of a crop of it. Read and follow label directions.

White violets (lance leaved white lets, Viola lanceolata, may be supused with dichlobenil (Casoron or reasc) at 4 lbs active ingredient per e. This rate of herbicide will cause mage to the cranberry vines. Be pared to fertilize the cranberries in treated area with extra ammonium rogen in early June to minimize the ount ofinjury to the vines. Applications ranules for white violet control should restricted to those areas where the lets have become competitive. Do not in jury to an entire section in the stok on a small area of violets.

hite clover (Trifolium repens) may be ted with norflurazon (Evital) in the ty spring. A rate of 4 lbs active redient per acre should be used (80 lbs acre of 5% Evital granules). This rate lerbicide may cause cranberry vine lage that will reduce the crop for this

he above report furnished by M.N. a of the Department of Horticulture, versity of Wisconsin.)



#### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

#### Niemi Electric Co.

ROBERT NIEMI

## ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehurst Dr.

Wareham, Mass.



# Big Wheel Truck Sales 42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

\*\*\*\*\*\*\*\*\*\*\*

(617) 763-5927

Call Bob or Joe

(617) 763-8745

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917 Marsh Number

(715) 593-2285

#### Pump Repairs

All Types

Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St. Plympton MA 02367

> Bruce Sunnerberg (617) 585-2394

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

### PINELANDS SPEAKERS DIRECTORY AVAILABLE

The New Jersey "Pine Barrens" are anything but barren and there's a lot more to the region than pine trees and the Jersey Devil. To make state residents aware of this, the Pinelands Commission is offering a free directory of speakers who are available to give slide presentations and talks on the Pinelands to schools, civic clubs, and service organizations.

The directory can be obtained by writing to the Pinelands Commission, Public Programs Office, P.O. Box 7, New Lisbon. New Jersev 08064.

Thirty-three speakers are listed in the directory and address topics including ranberry farming, rare plants and animals, Indian settlements, canoeing opportunities, traditional folklore, and 'lost' towns of the Pines. The speakers reside throughout New Jersey and in Philadelphia and include Pinelands bot anists, archaeologists, naturalists, and biologists. Some of the speakers also lead field trips to the Pinelands.

The New Jersey Pinelands cover over a million acres in the southeastern part of the state. Its vast unbroken forests of pine, oak and cedar make the Pineland the largest tract of open space on the mid-Atlantic coast. In 1978 and 1978 Congress and the State of New Jersey passed legislation to protect the Pine lands and its valuable water resource which include the 17-trillion gallor Cohansey aquifer.



The scoop of the year!

Cranberry Flavor, Fact and Folklore in THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries... you'll find this book a treasure."—Des Moines Register, Paperback, \$8, 95

Please send c BERRY CONNECT	opies of THE CRAI ION, \$8.95 each.
Name	
Address	
	Zip
Add \$1.50 for pos	tage; Conn. residents

add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414

## TWO WAY RADIO Service of Kingston



## IT CAN CHOP WASTED TIME AND MONEY RIGHT OUT OF YOUR BUSY SCHEDULE

If you believe that time is money, call TWO WAY RADIO SERVICE Today. We'll help you find out how much money you will save with a truly efficient corporate communication system. Clear, instantaneous communications for your fleet, or service personnel, your salesmen and your office—you can even make & receive telephone calls from your mobile units!

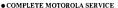
Motorola Trunked Radio Systems Are Big News and They're As Easy As 1-2-3.

When one of your radios transmits on a channel, your radios-and only your radios-are directed to that channel. Other users talk simultaneously on adjaceent channels, but they can't hear your messages. All other talkers are locked off your channel as long as you talk. They can't cut in and overpower your signal. There are also other privacy options. Privacy Subfleets-Within your radio fleet, you can designate subfleets. This way you can talk to some of your drivers and keep messages private from others. Only those designate members to the subfleet receive the message. This subfleet option permits you to distinguish between all-vehicle call and messages meant only for supervisors, or it lets you zone your drivers by territory or job function. Besides giving you privacy of speech, it gives the drivers a silent radio when they aren't part of the conversation.

Motorola has gone to great detail to make these trunked radios the easiest you've ever operated. Ease of Channel Access. Now there are up to 20 channels to accommodate your communications needs each time you initiate a call request. And initiating a call is easier than on a one or two-channel radio. There's no searching for a channel, no listening to make sure it's clear-the system does it for you automatically. All radios in your fleet or subfleet are automatically programmed to the frequency the system assigns to you. Just depress the Push-To-Talk (PTT) button and communications can begin. Automatic Call Back-An open channel is usually available to you within 1/3 second of depressing the PTT button. If all radio channels should be momentarily busy, your radio operator hears a "Talk Prohibit Tone." The request to talk is automatically placed in an ordered, waiting line (queue) so there's no need to wait and monitor for a clear channel. Waiting callers are selected on a first-in, first-out basis. When a clear channel is available, the operator is alerted by a short audible tone that a channel has been assigned, and he-she can begin to talk.

Easy Modification for Growth-Motorola's trunked radio gives you the capability to expand or modify your fleet and subfleet structure as your needs change. Easy, inexpensive modifications can be made simply by exchanging a code plug. This code plug holds all fleet and subfleet identities. It enables you to add new units to your fleet, divide your fleet into new subfleets, or add a new fleet. If the number of frequencies in the fixed equipment of your trunked radio system increases, additional frequencies are automatically incorporated into your mobile, without returning radios to the service shop.

100 Marion Drive . Kingston, MA 02364 . Phone (617) 746-9100



- TOWER ERECTION AND CONSTRUCTION
- ♦ 800 MHz TRUNKING
   ♦ COMMUNITY REPEATERS
- ANTENNA SITES
- ELECTRICAL CONTRACTOR





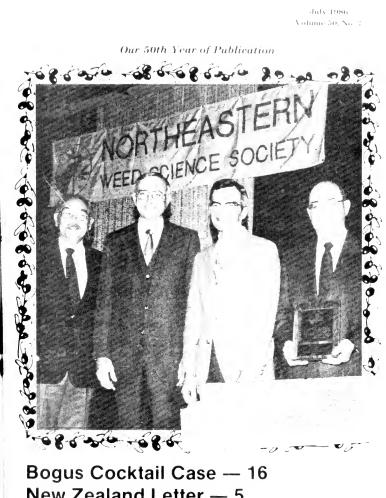


The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

July 1986 Volume 50, No. 7

Our 50th Year of Publication



Bogus Cocktail Case — 16 New Zealand Letter — 5

#### **Since 1903**

MORTON Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800/447-7436

## Role of Scientists, Crisis n Insurance Speech Topics

ocusing on the theme, "The snce of Weeds Serves North-tern Needs," nearly 400 weed entists, other professionals a students attended the 40th qual meeting of the Northeast-Weed Science Society (NEWSS) I recently in Boston.

he group was welcomed to seachusetts by Lewis F. Wells, director of the Division of gulatory Services for the seachusetts Department of d & Agriculture. Saying that iculture "is not dead," Wells, is opening remarks, told the group the role of the weed scientist is to tip the balance in favor of crops. The measure of success will be keeping farmers in business, he added.

Two speakers discussed the organization and function of the Council for Agricultural Science and Technology (CAST). William W. Marion, executive vice president of CAST, explained the organization's role in advancing the understanding of food and agricultural science technology. His speech was entitled "CAST, As I See It."

Marion noted that CAST has established itself as a reliable resource for the public, the government, and the news media, providing information on public issues related to use of science and technology in food and fiber production.

In his speech entitled "CAST

— The Washington Scene," Cecil
E. Howes, Washington representative for CAST, addressed how
theorganization provides legislators and regulatory officials with
current and accurate information
on national agricultural issues.

In his Presidential Address. NEWSSpresident Russell R. Hahn. Department of Agronomy, Cornell University, discussed the importance of individual involvement in achieving goals stated in the NEWSS Constitution. He said the society has been successful in achieving goals related to professional development and the advancement of weed science, and encouraged the members to continually review the Society's objectives to be sure NEWSS is serving the membership and the discipline of weed science. Hahn also explained the relationship between NEWSS and CAST and emphasized the distrability of cooperation where goals of the two groups meet.

Title of a special symposium held at the annual meeting was "Trends in Liability and Insurance - Elimination of Pesticide Application?" Moderator was Max L. McCormack, Jr., of the University of Maine, Orono. Participants explored the current crisis in liability insurance coverage and allied problems affecting pesticide users. They reviewed theories and types of liability, kinds of damages and means to avoid exposure to lawsuits resulting from use of pesticides. Suggestions included scrupulously following pesticide label instructions, documenting application activities, and observing local requirements

#### IANBERRIES



SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

FUBLISHER & EDITOR: BOB TAYLOR ISKETING DIRECTOR: CAROLYN LABAN ESIGN DIRECTOR: R.J. SHEMKOVITZ

OCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

#### I/ISORS & CORRESPONDENTS SSACHUSETTS — Irving E. Demoranville,

or, Cranberry Experiment Station.

VJERSEY — Phillip E. Merucci, Cranberry & BlueISpecialiat, Cranberry & Blueberry Laboratory,
worth, Elizabeth G. Carpenter, Chataworth.

/ A SCOTIA — I. V. Hall, Botaniat, Research

GON — Arthur Poole, Coos County Extension

SHINGTON — Azmi Y. Shewa, Horticulturiat and ilon Agent in Horticulture, Coastal Washington rch & Extension Unit, Long Beach.

CONSIN — Tod. D. Planer, Farm Management Wood County.

BERRIES is published monthly by Diversified tools, Welheyn Drive, Portland CT 04480. Second costage is paid at the Portland, Corn. Post Office. a 510 a year, 318 for two years, 31 a copy in the 112 a year in Canada; 315 a year in all other less Eact copies: 32, including postage. Copyright y Diversified Periodicals.

ISSN: 0011-0787
Postmaster, send Form 2749 to:
CRAMBERRIES
P.O. BOX 248
COBALT CT 06414

#### COVER PHOTO

THE NORTHEASTERN Weed Science Society has honored four men for their contributions to weed science. Receiving Distinguished Member honors, NEWSS' highest award, were Dr. Chiko Haramaki of Pennsylvania State University (left) and Dr. Dean L. Linscott of Cornell University (right). The society's Award of Merit was presented to Dr. John R. Havis (second from right), recently retired from the University of Massachusetts. Named Innovator of the Year was Dr. Nathan Hartwig of Pennsylvania State University.



relating to pesticide applica-

A highlight of the annual meeting was the presentation of awards in which individuals were recognized for outstanding contributions to weed science. The 1986 Award of Merit went to John R. Havis, retired faculty member at the University of Massachusetts, Amherst, Nathan L. Hartwig, an associate professor at Pennsylvania State University, received the Innovator of the Year Award. Receiving Distinguished Member Awards, the highest honor NEWSS presents, were Chiko Haramaki, professor of ornamental horticulture at Pennsylvania State University and Dean L. Linscott, lead scientist with the USDA-ARS and a professor at Cornell University.

Richard J. Cooper of the University of Massachusetts, Amherst, received first place in the Best Paper competition. The first place award in the Best Poster competi-

THE NORTHEASTERN Weed Science Society (NEWSS) selected new officers and a new executive committee for 1986-87 att recent annual meeting in Boston. Front row, left to right, in Russell R. Hahn, Cornell University, past president; Royl Johnson, R.J. Services Co., Ambler, Penn., vice president; Higgins, CIBA-GEIGY Corp., Seneca Falls, NY, president Max L. McCormack, Jr., University of Maine, president-elot and Richard A. Ashley, University of Connecticut, secretay treasurer. Back row, left to right, are Frank J. Himmelsten University of Massachusetts, graduate student representatie Prasanta C. Bhowmik, University of Massachusetts, resead coordinator; Betty H. Marose, University of Maryland, edim David Crosson, Monsanto Company, public relations; Stanley W. Pruss, CIBA-GEIGY Corp., representative to he Weed Science Society of America. Other executive commits: members are sustaining membership chairman Stepher Crane, Rohm & Haas; and the representative to the Council Agricultural Science and Technology, Robert D. Sweet, Cor University.

tion was won by Stanley F. Gorski of Ohio State University, Columbus. Elizabeth Hirsh of the University of Maryland, College Park, won first place in the Outstanding Graduate Student Presentation competition.

In other action, the society elected its 1986 slate of officers during the business meens

NEWSS is a professional so a of weed scientists from una sities, government agencies private industry in more that dozen Eastern Seaboard and and England states.

## etter From New Zealand

Editor's note: Azmi Y. Shawa, sector of the Coastal Washington search & Extension Unit, Long ach, Wash., is currently on batical seave in New Zealand. low he gives some of his seriences and observations to se.)

reetings from "Down Under" New Zealand, land of majestic nic beauty, spectacular coaste and magnificent glacial untains.

New Zealand's two main islands print and South Islands) extend ut 1,000 miles along a diagofault line. To the west lies the man Sea; to the east the South ific Ocean. Narrow Cook Strait arates the two islands.

oth Auckland, its largest city. Wellington, its capital, are ated on North Island. Import South Island cities are istchurch and Dunedin, I am ioned at Lincoln College, 13 s southwest of Christchurch. luch of the land is sparsely ulated (3.2 million total) and i mainly for farming and zing (about 6 million sheep). it, wool and dairy products the country's principal orts. Fruits such as Kiwi, nny Smith apples, stone fruits blueberries are also exported. oples are in abundance and l as a base for juice mix with cots, oranges, and mangos. I ed all over for cranberry juice, it is unknown in this part of world. We were delighted to cranberry sauce in a grostore and we bought all stock - one can!

you know, I am taking a patical leave at Lincoln Colfor six months (Jan. 1— 30, 1986) and working on harvest physiology of blueies. In September 1985, blueberry bushes were sprayed with nutritional foliar sprays at berry development stage in three locations, and a second spray one month later through the assistance of personnel from the Dept. of Horticulture, Lincoln College.

The purpose of this study is to prolong the shelf life of blueberries in cold storage for four to six weeks, enabling New Zealand blueberry farmers to export their berries via surface shipping rather than relying completely on uncertain available space in expensive aircraft. This will reduce their shipping expenses significantly and increase their profit. The New Zealand crop is ready for harvest in January and February. This information can be adapted and applied to cranberry storage and increase the cranberry shelf life during the holiday fresh market use. A complete report on my research work will be published on my return for your information.

Lincoln College is the Agricultural College in South Island where teaching, research and extension is performed similar to WSU. Cooperative Extension is known here as "Farm Advisory Service" and the Extension Agent is called a Consultant. Whenever a farmer calls on the consultant for consultation, the farmer is charged for that visit and a fee is payed to the college — lucky cranberry growers!

There are two Agricultural Government Agencies equivalent to USDA competing with each other, and sometimes duplicating their work. The first one, known as the Ministry of Agriculture and Fisheries (MAF), conducts general research. The second agency is known as the

Department of Scientific and Industrial Research (DSIR) and conducts research on certain aspects of agriculture requested by industry interest.

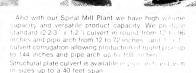
THE PEOPLE of this country are warm, hospitable and pleased to help in any way they can. There are a lot of things just the opposite of what we are accustomed to. The seasons here are reversed from those in the Northern Hemisphere. We arrived in summer - January - and now, in the fall, we are on standard time, making New Zealand 20 hours ahead of the U.S. Western coast. Driving is on the left side of the road which takes some time to get adjusted to without causing an accident. New Zealand operates on the metric system, with distances expressed in kilometers, elevations in meters. rainfall in millimeters, weight in grams and kilograms, and temperature in Celsius, Electric current is 230 volts which means that you need to have a transformer adjuster if you bring electrical gadgets with you that run on 110 volts!

Just prior to landing at Christchurch airport, I was shocked to see a couple of stewards spraying over the heads of passengers. I requested to look at the can but was refused, and the answer was they were spraying for insects. I learned later from a visiting professor that it was DDT. It is a matter of fact that all pesticides including the ones banned in the USA are available in the market for usage in horticultural crops. They claim that you have to sign for its use when it is purchased in large



Since we began producing cut est pipe in 1906, we've produced enough to ca the country from Atlantic to Pacific

IT'S A FACT!



We've come a long way in 77 years.

CAN WE HELP YOU THIS YEAR?

**BARK** 



GREEN 8A) (414) 435 6670 MILWAUKEE (414) 461 5410

MADISON IRONWOOD ESCANABA (906) 785 6920







LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

#### **BOB ALBERGHINI - SPRAYING**

For further information, call 866-4429 evenings after 5:30.

866-4429

RFD 5

PLYMOUTH ST.

CARVER,

MASS. 02330

## ranberry Marketing Office o Be Moved to Massachusetts

y CAROLYN GILMORE

five year old joint agreement ween the cranberry and tart rry marketing orders will be panded this year.

1 a management reorganiza-1 move, the Cranberry Marng Committee is calling its zeback to Massachusetts from higan. Its sister marketing er for tart cherries has been ninated.

rom the Michigan office, bert D. Rasmussen, general nager, hs directed the imvement of record keeping and rices to growers in both intries. Field staff in growing as, a Watts line for growers, periodic meetings and visits growing areas augmented rds supplied by handlers and wers.

The enthusiastic, friendly voice of Chris Vonderheid, bookkeeper/clerk, has also become a familiar link between growers and marketing records.

Spurred by an approaching regulation year, a subcommittee was appointed at the 1986 annual winter meeting to explore the possibilities of "improving the efficiency of the management of the order." At a special followup meeting April 21, in Grand Rapids, Mich., a motion was unanimously carried by the committee to relocate its office to Massachusetts at the end of the fiscal year, Aug. 31.

The committee advertised in major cranberry growing areas for a general manager in May and received some 35 replies. The first interview was held May 23 in Wareham, Mass. Some six other candidates were to have been interviewed in Pittsburgh, Pa., by mid-June. A decision is expected by early July. The new manager will train at the Watervliet office under the present general manager before opening the Massachusetts office.

Office space is also being sought by the committee. A strong possibility is a cooperative arrangement with the Plymouth County ASCS Office in Wareham. Field staff has already been closely associated with the USDA facility.

The annual summer meeting of the Cranberry Marketing Committee is slated for August 20-21, starting at 9 a.m. each day at the Plymouth Sheraton Inn, Plymouth, Mass.

## Big Wheel Truck Sales 42 Quanapoag

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

E. Freetown, Mass.

All types of medium and heavy duty trucks on hand

from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

(617) 763-5927

Call Bob or Joe

(617) 763-8745

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

#### Pump Repairs

All Types

Sales

Field Service & Shop 20 years experience

AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St.

Plympton MA 02367

Bruce Sunnerberg (617) 585-2394

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

#### Letter...

(continued from page

quantities.

Time is flying and your boy are moving again. I wish you prosperous spring season. Taling about bogs, if a New Zelander (Kiwi) asks for "the bog be aware — he is asking for the toilet! There are different meaings for familiar words!.

My thanks to all growers paticipating for the funding of the projects.

- AZMI Y. SHAW



The recipe below is taken from The Cranberry Connection y Beatrice Ross Buszek.

#### CRANBERRY MINCO COFFEE CIRCLE

2 cups flour <sup>3</sup>/<sub>4</sub> cup sugar <sup>2</sup>/<sub>2</sub> teaspoons baking powdr

½ teaspoon salt

½ teaspoon salt % cup shortening

% cup shorten ½ cup milk

½ cup milk ½ cup mincemeat

½ cup ground cranberries 1 egg, slightly beaten Confectioner's Icing

Sift together dry ingrediers Cut in shortening -coarse crums Combine egg, milk, mincemand cranberries. Add to cy ingredients, mixing until flows moistened. Spoon into a wlgreased 8-inch ring mold. Be 30 to 35 minutes at 375 degres While still warm, drizzle whooffectioner's icing.

#### REGIONAL **NEWS** NOTES

#### MASSACHUSETTS

By IRVING DEMORANVILLE

r. Robert Devlin was Chairman for the Anniversary Meeting of the Northeastern tion of the American Society of Plant siologists held at the Marine Biologiaboratory in Woods Hole, Mass., April

#### WASHINGTON

By EDITH A. SHIRE

his 1986 Field Day will mark 63 years the Coastal Washington Research & ension Unit, established in 1923 when State Legislature appropriated \$9,000 cranberry investigations under the sices of Mr. Jim Crowley.

"We're Best on Earth" One vd. CAT backhoe Bog Construction

Land Clearing Canal Work Flume Setting Pond Construction Ditchina

a contrat sirallable

22 years experience 🛬 🍮 construction lifts 🦮



· MUD LIFTING ·



## **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags bulk bins

+ BEATON'S

JOE BRIGHAM INC

lightweight durable

contact PETER ~ CHUCK 617-295-2222

mat rentals & sales

## LON BERRY BAG

- · 8-9 Barrel Capacity · Cost Efficient
  - - · Easy to Handle · No Wheel-Off Rigs
      - · No Bulk Bins
        - · No Fork Lifts

~ Custom Made · Allow 4-6 weeks for delivery.



RFD 5 PLYMOUTH ST. CARVER. MASS, 02330



#### Serving Massachusetts cranberry growers

CONTACT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST. Wareham MA 02571

office: 295-0147 evening: 763-8956 (William Chamberlain)



## When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in he real world, you're going to need all the help you can get.

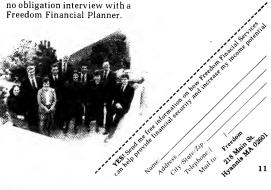
Freedom Financial Services is committed to nelping you build a secure inancial future. As a Freedom lient, you work with seasoned financial planners and investment analysts.

Freedom Planners are ndependent professionals whose expertise and understanding are the keys to leveloping the one plan that s right for you. Your planner stays with you, offering juidance over the rough spots and opportunities for greater ncome and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free. no obligation interview with a Freedom Financial Planner



The South Shore's Leading Independent Financial Planning Firm





#### Crane for Hire

Three quarter yard crane with matts, clam and dragline. Have had years of experience in digging ponds, stumping and general bog work.

GEORGE R. NAVA CO.

11 Maple Avenue

Kingston, Mass. 02364

Call 585-4514

### WISCONSIN CRANBERRY HEADQUARTERS FOR



SEVIN XLR

DEVRINOL 10G • EVITAL • GUTHION

DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-271-1581

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607

Irrigation Systems
RAIN BIRD

Sprinklers HALE Pumps

Highest Quality Products with Satisfaction Guaranteed CRANBERRY GROWERS

REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

**Appraisals** 

DOUGLAS R. BEATON E. Sandwich, Mass. 02537 (617) 888-1288

## WEATHER WATCH

#### MASSACHUSETTS

April was warm, averaging 1.2 degree day above normal. Maximum temperat was 70 degrees on the 2nd and minim; 29 degrees on the 12th. Warmer than avage days were the 1st, 2nd, 14th, 15, 22nd and 29th. Cooler than average d, were the 5th, 6th, 11th, 12th, 18th at 23rd.

Rainfall totaled 3.25 inches, about (a inch below normal. There was measura precipitation on 15 days with 0.82 inci, on the 22nd as the greatest storm. Most the rain came as light showers or driz We are about one inch above normal, the year and 10½ inches ahead of 1981.

#### WASHINGTON

Mild weather continued in April with maximum temperature of 61 degrees the 21st and minimum 31 degrees on 6 30th.

Precipitation for April totaled 5.21 incl slightly below average, and the tota date of 39.27 inches is just 3.19 incr above normal. 1986 precipitation so fal 18.38 inches above the same period 1985.

A.Y.S. / E

#### NOVA SCOTIA

Our weather during the second full way of May was characterized by frosty nit and sunny days. Since then the nit temperatures have improved. Plant deropment at this date (May 22) is clost normal.

CRANBERRIES give you the news and views the industry.

CRANBERRIES is re by more than two-thi of the growers in the U

No matter how sm your business, you c afford to place an ad in a magazine that serves w industry: CRANBERRIS

## C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743

TEL. 763-2712

# Detrashers · Flumes Conveyors (steel or aluminum) Shearing · Shop Welding Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM
- REINFORCEMENT ROD WIRE MESH

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

## LARCHMONT

P.O. Box 66, 11 Larchmont Lanc, Lexington, MA 02173 (617) 862-25502





Gorman-Rupp Self Priming Electric Sprinkler Pumps Proven Ouick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact:
Stearns Irrigation, Inc.
790 Federal Furnace Rd.
Plymouth MA 02360
(617) 746-6048



#### How an Insurance Consultant Can Help You

## Be a Better Manager Through The Use of Overview Audits

By JOSEPH ARKIN

By reading articles on insurance which appear in professional and trade publications, you become aware that business insurance today is a complex subject. This is so not only because of the changing needs of your business, but also because of the major changes in the manner of marketing insurance and in the types of coverage available.

Despite steps taken to put your insurance portfolio in order, the chances are that you can (1) reduce your business insurance costs significantly, (2) uncover dangerous loopholes in your insurance program, (3) improve your present coverage — and you can probably do all three at once.

Because you are busy and your days are hectic you will find that even when you strive to review your insurance coverage and costs, you're not well versed or posted. But the costs can be high when you take insurance for granted, due to losses when you are not properly covered and in terms of premiums needlessly paid.

These conditions have created a need for a relatively new advisor on the business scene: the true insurance consulting firm. Such an organization is in a unique position to counsel management on the coverages available, on the reduction or elimination of risks themselves, and on the minimizing of insurance costs.

True insurance consultants do not sell insurance. Their compensation is based solely on the time they spend in a client's behalf. And, although reduction of total insurance costs is not

always secondary to the assurance of adequate protection, nevertheless the consulting fee is usually more than offset by savings accrued in the first year alone.

Part of this is brought about by some common misconceptions about insurance, such as:

Policy forms and rates are uniform. This is not true. There are many ways to cover the hazards of business operations, and insurance companies can offer many different plans. It depends, in part, on how interested the insurance company is in acquiring the business, and on how astutely the negotiations are carried out.

Insurance is a fixed expense of doing business. A creative approach to risk analysis can frequently result in considerable savings. Business insurance costs need not be accepted as a fixed expense, and policies should not be renewed automatically. Even the best program should be audited at least once a year by a competent outsider to whom creeping changes are more readily apparent.

Agents and brokers offer free insurance advice. Some agents and brokers use the title "consultant" as a sales strategem. Although most such sellers of insurance try to be objective in their recommendations, it is too much to expect truly unbiased advice from a person or firm whose income depends on the amount of insurance sold.

An interview with insurance consultant John Liner of Boston, Mass., elicited some examples of how businessmen could have deficient insuran programs:

1. Overlapping coverage merchant purchased a Boiler at Machinery policy to protect he in the event that his boil exploded and damaged his nei bor's property as well as his ov Liability coverage protecting h against damage to his neighbo property is included with additional cost under the Pri erty Damage clause of his Co prehensive General Liabil policy. While the mercha probably needs the Boiler Machinery policy to protect he self against the possibility: damage to his own property could eliminate the Proper Damage Liability section fro and save considerable premin

dollars. 2. Dangerous omission business owner used his compa owned auto as a family car. Wa asked to drive a local merchat truck for a Boy Scout paper lection, he agreed, Unfortuna a Scout was injured on the tr and it was not until after the was brought by the family of injured Scout that he lear that the truck owner's cover had expired and that the in ance on his company-owned did not extend to protect his this situation. This type of erage could have been include under his company's automo policy for a relatively st increase in premium.

Do not presume any cover and remember that omission can cause a considerable local income. Check your exposuloss and keep abreast of types of policies.







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications . Lift Work . Executive Charters . Aerial Photography

3. Human error: While on an cended buying trip a merchant erlooked authorizing payment nvoices for his fire insurance emiums. As his agent was cationing at the time, a canation notice was automatically iled to the merchant. As his retary did not recognize the portance of the notice, no action s taken, coverage was termied, and the merchant returned find his property destroyed ile no insurance was in effect. . Improper design: A mernt owned a small building in ch he conducted business and ted space to two tenants. Title in the name of a realty coration. He carried a public liaty policy for his "rented" nises, as did the realty cortation, on the entire building. subsequent check showed



(continued on page 17)

# The Case Of The Bogus Cranberry Cocktail

Oregon State University scientists, with the help of a New York detective agency, have uncovered a bogus cranberry juice cocktail distributor in their latest attempt to convince the Food and Drug Administration to prosecute food adulterators

Graduate students at OSU's food science and technology department, working with researcher Ron Wrolstad, have become experts at detecting food adulteration — the practice of adding impurities to food so it can be sold more profitably.

According to a report in Oregon's Agricultural Progress, the cranberry investigation began when a small New Jersey company, Minot Food Packers, Inc., asked for OSU's help.

"They were certain that some of their competitors couldn't produce cranberry juice cocktail, with the de facto industry standard for the drink of 25 percent cranberry juice, at their selling price and make a profit," Wrolstad said. "The Minot firm knew its competitors' products did not look, smell and taste like 25 percent cranberry juice cocktail."

According to Wrolstad, the company was in a situation in which they would either have to start adulterating their own product, something they refused to do, or lose a great deal of business.

The firm hired a New York detective agency to provide "blind samples" of the suspected pro-

ducts for Wrolstad in order to put the testing procedures on solid legal ground.

"The detectives would purchase the samples in supermarkets back East and send them to me by UPS," Wrolstad recalls. At that point, the products were subjected to OSU's analysis procedures, which confirmed the Minot company's suspicions.

The OSU researchers found that 17 of the 31 samples they analyzed were adulterated. Chemical profiles suggested the adulterants were malic and/or citric acid and grape skin extract (probably used as a colorant).

"Some samples had as little as three percent cranberry juice and many had only 15 percent," Wrolstad said. "We calculate that the advantage to the criminals could be as much as \$2 a case (12 one-quart bottles) if they used 10 percent cranberry juice instead of 25 percent. I feel there are three groups being ripped off: consumers, cranberry growers and legitimate processors."

But a major frustration for the OSU team is that the FDA rarely takes action in such cases, including this one.

Most adulteration, Wrolstad explained, are not a public health hazard. The adulterators are committing "economic fraud" — misrepresenting the contents of their product. Because there is no public health hazard, Wrolstad says, economic fraud cases have a very low priority for the

FDA.

Also, many large companie that make cranberry juice cor centrate and use it in cockta drinks they make and mark themselves, are not eager t prosecute food adulterator. They're afraid consumers wi hold them guilty by association even though they would new risk their own good reputatior by cheating on ingredients.

Nevertheless, some firms has successfully used OSU finding to win court cases against corpetitors who adulterated the products. In 1982, an organiz tion called the Processed App Institute won their litigatic against a company that wanking adulterated apple juiand selling it as 100 percent appice. And the FDA itself recent initiated legal action against large firm that was buying tadulterated apple juice and using it in a beverage for babies.

"I think the FDA should bud some cases and make sort examples," Wrolstad said. Oth wise, economic incentives al minimal risk to adulterators wl promote even more cheating the food industry. Analytical procedures at experiment statics like the one at OSU, usi hydrometers, isotopic carba tests, high pressure liquid che matography and other ne methods of chemical analysis hopefully will provide bet evidence to aid private firms at the FDA in catching and procuting food adulterators.



## PYRENONE Crop Spray Insecticide

Quick kills

Use as an exciter

- Controls:
  - cranberry fruitworms
- cutworms
- cranberry airdlers
- --- mites
- cranberry tipworms
- fireworms

— weevils

- gypsy moths
- Low in mammalian toxicity may be used alone up to, and including, day of harvest
- Use as a tank mix with guthion, parathion and other insecticides to enhance results

#### Contact your local supplier.

Pyrenane is a registered trademark of Fairfield American Corporation



#### Insurance...

(continued from page 15)

that the realty corporation's interest could be protected by adding its title to the merchant's own policy, resulting in reduced overall premium cost.

5. Using deductible clauses: The busy businessman may find it more of a nuisance than it is worth to file small claims for minor damages or losses. If this is the case, why pay for full coverage when policies with reasonable deductible clauses cost so much less?

WHEN YOU BECOME interested in the potential benefits of objective insurance counsel, the consultant often initially suggests an exploration survey of the entire insurance program—or an important phase of it.

Such a study, for which the fee is modest, points out areas in which costs can probably be reduced, uncovers any glaring omissions, uncovers duplications of coverage, and is illustrated with specific examples. It is, in effect, a general review of the type of counsel which can be expected if an analysis in depth is subsequently undertaken.

If the exploratory survey discloses weaknesses that must be corrected, or areas where substantial reductions in cost can be negotiated, then follows an exhaustive analysis of not merely the businessman's existing policies but, more basically, of all the risks which he faces.

The approach is to analyze the risks themselves, then suggest the type and extent of insurance needed to cover all or part of the risk. Recommendations are also made for elimination and reduction of risks, and for minizing insurance costs consistent with fully adequate protection.

The merchant who decides to avail himself of the services of an insurance consultant can expect these advantages:

Peace of mind. Assured

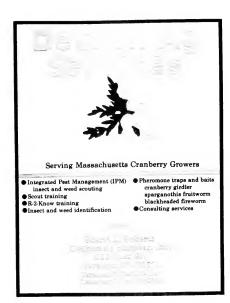
knowledge that the insurance program is in the best possible condition both as to coverage and costs.

Full protection. Adequate coverage of all risks, without costly overlapping, dangerous omissions or improper design. Elimination of unnecessary policies. Less liklihood of uninsured losses or uncollectible insurance.

Objective approach. Guaranteed conduct of all insurance matters to the best long-range benefit without any conflict of interest. Eventual extrication, if desired, from personal or family relationships which may have crept into the insurance picture.

Low cost. Through skillful negotiations with all dependable sources of insurance. Through combination of policies, where feasible, to reduce administrative expense. Through artful application of deductible clauses and

(continued on page 20)





#### REGIONAL NEWS NOTES

#### NOVA SCOTIA

By IVAN HALL

The biennial meeting of the North American cranberry workers will be held at the Kentville Research Station in Kentville, Nova Scotia on Sept. 15 and 16. Advanced registration indicates that an excellent array of speakers covering all aspects of cranberry growing will be on hand. In addition, representatives from all the principal cranberry growing areas in North America have indicated a desire to attend. One of the features during the second day will be a tour of a local cranberry bog where management decisions under Nova Scotian conditions will be discussed with local growers. A tour of local points of interest and a banquet at the Old Orchard Inn in nearby Greenich, Kings County, will also be on the agenda.

Previous meetings of this group have been held in New Jersey, Massachusetts, Wisconsin and the Pacific coastal region. This is the first time the meeting will be held in Eastern Canada. Persons interested in attending the meeting should write to the Kentville Research Station, Kentville, Nova Scotia. Canada, B4N 1J5, requesting further information.

### Used Aluminum Sprinkler Pipe

All Standard Sizes

A.D. Makepeace Company P.O. Box 151 Wareham MA 02571

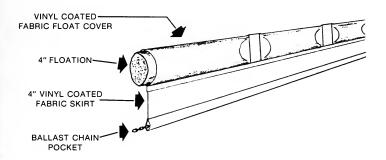
(617) 295-1000

## BogBoom!!

To harvest your cranberries with less labor and more efficiency, DAMCO Sales and Service Inc. (formerly McCarthy & Associates) offers our new BOG BOOM.

#### **Bog Boom**

#### CRANBERRY HARVESTING FLOATING BOOM



Bog Boom is tough. With a shorter skirt designed for the shallower bogs. The solid PVC skirt improves the strength and durability of our boom.

**DAMCO** Sales and Service is now taking orders for the 1986 harvest season.

To order call or write: DAMCO Sales and Service Inc. 128 23rd St. Pittsburgh PA 15215 (412) 782-2987

#### ARE YOU INVOLVED WITH CRANBERRY GROWING, PROCESSING, MARKETING, FTC 2

Then you ought to read CRANBERRIES, the national cranberry magazine. Each monthly issue contains informative news and feature articles about the industry. Keep informed. Read CRANBERRIES.

Mail your check or money order to:

CRANBERRIES P.O. Box 249 Cobalt CT 06414

NAME

\$10 one year; \$18 two years

ADDRESS	

CITY

STATE ZIP

#### Insurance...

(continued from page 17)

self-insurance, where applicable. Through maintenance of a loss-prevention program.

LIKE SO MANY other aspects of the business community, there are the unscrupulous who try to "cash in" on the reputation made by sincere, devoted and honest insurance counselors.

Management Methods Magazine (now Business Management) printed this warning to its readers with respect to the insurance consultant:

"Small and medium sized firms have been at a disadvantage in buying insurance. They cannot afford the full-time services of an insurance manager, and they cannot expect insurance companies or the average broker to be completely objective. This is why a

## editorial



#### No Time For Cranberries

Meetings, meetings, meetings. Is it possible — even theoretically — for a grower to attend so many meetings he doesn't have time to raise cranberries?

Growers, you have plenty of options besides growing a crop: you can attend chemical company "open houses" (coined 'dog and pony shows' by one of your own); learn IPM at the Experiment Station; speak your mind at urgent legislative hearings in DC, the State House or at DEQE Headquarters. There are training sessions, certification sessions informational sessions and blood sampling sessions. No grower is on his bogs the day of the Extension Station's picnic. There are meetings for Farm Bureau, County Committee, the Conservation District, the Federal Land Bank, the Marketing Committee, Growers Association, Ocean Spray and Extension. You can be a director, a member, an alternate or on the subcommittee. You can meet indoors; you can meet at the bogs; you can meet in another state. You can even plan your family vacation around a meeting.

When it comes to meetings, there's a plethora of service professionals ready to greet you; your favorite agricultural supply will gladly sell you biological controls or a consultant along with the chemicals. (Who knows, you may never actually use the chemicals.) One grower, groggy from frost nights, explained he had seen at least one Ocean Spray technical advisor every day for two weeks after the buds moved. The specialists appeared at his bogs, the company office, the station, and on the phone early in the a.m.

Some growers just can't stop. In New England, where local government is jealously guarded, growers typically fill the seats of selectmen, board of health, conservation commission, school committee, assessor and tax collector. And they somehow manage to fit in a town meeting before flowing frost.

- CAROLYN GILMORE

new kind of consultant is entering the management scene.

"Beware of brokers or insurance salesmen who hide behind the title 'consultant.' State laws vary and legal requirements for the use of the term 'insurance consultant' or 'insurance advisor' vary so much as to be almost meaningless. Some brokers claim that they can be as objective as true consultants. Some perhaps are. But one of the best ways to be sure you are talking to a true insurance consultant is to ask

one question: Do you also selinsurance? If the answer is no chances are good that you've god someone who will act 100 per cent on your behalf."

(Joseph Arkin holds a BBA degree in accounting from St John's University and an MBA in taxation from Pace College, and is licensed by the states of New York ant Florida as a CPA. He has has more than 8,000 articles published in leading trade newspapers and magazines.)



### Felker Flow Gates

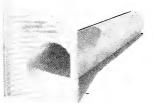
are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846





## Preventive Maintenance On Machinery, Equipment

By HENRY C. DAVIS

The machines used in cranberry production, as well as in distribution and office work, can often represent a sizeable investment. Yet, all too often, your budget may reflect a reluctance to spend the necessary funds to keep these machines in A-1 working condition. Perhaps you, like so many other owner-managers, consider preventive maintenance an unwelcome expense, necessary, but far down on the list of priorities.

This is shortsighted. The money saved by failing to perform proper preventive maintenance will not begin to pay for the cost of the inevitable major breakdown that must occur when machines are run without proper maintenance and adjustments. Furthermore, ifmanagement takes into account the hidden costs of a breakdown, it becomes clear that preventive maintenance, far from being a costly expense, actually returns more than it costs.

Those who have the responsibility for a company's machinery know most times that preventive maintenance pays for itself but they have difficulty in getting across the message to those who control the budget. They tend to be doers, not advocates, and they are often reluctant to argue with management over matters in which they have no real say. If they could argue with management in a persuasive manner, this is what they might say:

"The billing machine broke down and was out of operation for three days. Not sending out bills will give all customers another three days in which to pay their bills and still take discounts, thus our cash flow is disturbed and will be reflected in our inability to possibly take advantage of all our purchase discounts." Or:

"A key machine in our production process broke down and was out for a three-day period. The problem was a burned-out bearing. The bearing costs us only \$73.42. It took two men to disassemble the machine, replace the bearing and get the machine back into operation. They worked 48 hours at regular wages of \$12.50 per hour each, plus 20 hours of overtime at \$18.75. That is a total of \$1,350 for labor, plus the cost of the bearing. True, they would have been paid regular wages of \$600, but they would be doing their regular work which is far more productive than taking apart a machine to replace a bearing. This was only the tip of the iceberg in total costs.

"At the time the machine broke down we were in the middle of an important job for a very demanding customer. The job of his had priority and it disrupted our entire working schedule. And on top of this we had to pay for production workers for whom we had to find work — 'make work'.

"The overtime pay for fixing the machine, the loss of productive time, and the loss of payroll for 'make work' added up to quite a bundle, all because there wasn't a schedule calling for that particular machine to be greased and oiled after a certain number of hours of use." Or:

"There were several minor breakdowns in shipping room equipment, nothing serious, but enough trouble to put us in a position of losing customer good will for inability to ship their orders on time. Here again, a few dollars worth of lubricants could have prevented the problems created."

#### THE AFOREMENTIONED

examples are not exagerations. They happen every day to businesses too busy to establish and maintain preventive maintenance schedules for machinery used in day-to-day operations.

Agood preventive maintenance program need not be expensive, The actual requirements may vary according to the type of business operations, machines used, and hours logged for the machinery.

Your company has two options:

- 1. You can select from your own employees and establish a program and, working with the manuals supplied at the time of purchasing the machine, come up with a scheduled plan of maintenance; or.
- 2. In the case of certain machines, you can purchase a monthly maintenance contract from one of a host of companies engaged offering such services.

Where you elect to do your own maintenance (possibly you are working with a conglomeration of many machines with no chance to get an outside contract) the first step is to inventory all machinery, establishing a carc file showing type of machine manufacturer, serial number, date of purchase, availability of manual, availability of parts

(continued on page 24

Office 295-2222 REATON'S

K. Beaton 295-2207



P. Beaton 947-3601

D. Beaton 888-1288

r SCNIPINITY BOG

Specializing in

5 DITCHING

PLICATION



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes

\* \* \* \* \* \* \* \* \* \* \* No one is more qualified to serve your × \* Crop Insurance needs than × THE BUTLER × \* GROUP ¥ \* 1. Crop Hail Policies on any × commercial crops - Hail, Fire, Vandalism and Transit. × × 2. Federal Crop Insurance 뽜 \* Policies for Apples, Potatoes, Tobacco, Corn, Cranberries × z.

Call us for a quote or details 쏴 BUTLER ¥ Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512 \* \* \* \* \* \* \* \* \* \* \* \* \*

\*

and others.

\*

차

\*



#### STAY INFORMED

Stay up-to-date on all the news and views of the cranberry industry. Keep in touch with reports on new pesticides and herbicides, new equipment and services, new growing procedures and upcoming legislation that will impact on growers like yourself.

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics. recipes, humor, and more.

So don't miss a single issue of CRANBERRIES. The National Cranberry Magazine, Subscribe today!

\$10 a year - \$18 two years

Send check or money order to:

#### CRANBERRIES P.O. BOX 249 COBALT CT 06414

#### Maintenance...

(continued from page 22) recommendations of the manufacturer, etc. Varying dates will mean setting up a "reminder" calendar.

Once a system is established it is quite easy to follow the advance dates entered onto the calendar. But, someone has to take the responsibility to watch for the time maintenance is due, then follow-up to see that the job was in fact done, marked on the file card and rescheduled again on the advance calendar.

Preventive maintenance covers three principal items:

- 1. It assures that each machine is properly lubricated.
  - 2. It provides a means of

## **50** and still growing

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.

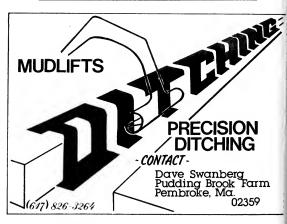


#### **Gage-Wiley & Company** Incorporated

Village Landing ◆ P.O. Box 3507 ◆ Plymouth, MA 02361 617-746-3322 • 800-242-0263

Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation



#### Farrell Equipment Repair

FULLY EQUIPPED ROAD SERVICE & PORTABLE WELDING

> AFFORDABLE HEAVY EQUIPMENT SERVICE

IRRIGATION PUMP REPAIR, L P GAS WORK, ETC.

QUALITY WORK AT LOW RATES

REFERENCES AVAILABLE

(617) 748-0394

MIKE FARRELL COUNTY ROAD MARION MA 02738

#### The scoop of the year!

Cranberry Flavor, Fact and Folklore in

THE CRANBERRY CONNECTION, by Beatrice Buszek. Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry Bog and Cranberry Bog and Countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries . . . you'll find this book a treasure."—Des Moines Register. Paperback, \$8, 95



Zip.



Please send \_\_\_\_\_ copies of THE CRAN-BERRY CONNECTION, \$8.95 each.

Address

55 \_\_\_\_\_

Add \$1.50 for postage; Conn. residents add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414

checking for loose belts, loose bolts, worn parts, frayed wires, etc.

3. It allows for predicting trouble and calling in a repairman to avoid future breakdowns.

ONCE A PREVENTIVE maintenance program has been in effect for a few months a pattern will be revealed. Which machines are most likely to need particular care? Particular watching? Periodic replacement of minor parts? Tightening of screws and bolts to insure accurate measurements?

Once this pattern is discernable it is an easy task to have the necessary work done at times when there will be no interference with the office, production, or shipping room schedules.

It is important to realize that no business is immune to breakdowns of equipment. A retail store with no bookkeeping machines, no production machinery, and no shipping machinery of any consequence can still be struck with serious problems. Just how would a retailer operate if the cash registers working on electricity suddenly jam and sales could not be rung up?

Management can measure the need for a good preventive maintenance program by keeping records of periodic breakdowns and trying to compute direct costs involved, plus the intangible costs of losing customer confidence. It can thus become crystal clear that the system of preventive maintenance does not really cost anything — it more than pays for itself.

Have a piece of equipment-you want to sell? Write or call: CRANBERRIES P.O. Box 249 Cobalt CT 06414 (203) 342-4730

#### Niemi Electric Co.

ROBERT NIEMI

## ELECTRICAL CONTRACTORS HEAT. LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.

#### STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years

Send check or money order to:

CRANBERRIES P.O. Box 249 COBALT CT 06414 Enjoy Reasonable Rates
NEW ARM FLAIL
Call Brook Holmes
(617) 293-5353

(617) 293-5353

\* \* \* \* \* \* \* \* \* \*

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Best the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

#### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

# Now there's Bravo 500. A better way to control fruit rot.

That's what eight years of testing clearly showed--Bravo 500 fungicide is more effective on fruit rot diseases than captafol.

What's more, cranberry growers will get exceptional control of leaf and twig blight with Bravo 500.

Yet, Bravo does not adversely affect fruit color like other fungicides are known to do. Nor does Bravo leave any lingering odor.

It's this kind of first-rate performance that's made Bravo 500 America's preferred food crop fungicide. And now you can use it too.

Bravo 500 fungicide. Because better disease control means bigger yields of higher quality cranberries come harvest.



Biotech ®

Agricultural Chemicals Business SDS Biotech Corporation 7528 Auburn Road, PO Box 348 Painesville, Ohio 44077

Always follow label directions carefully when using agricultural chemicals.



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

August 1986 Volume 50, No. 8

Our 50th Year of Publication



Cover Photo Note and Story on Page 6

#### **Since 1903**

**MORTON** Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800-447-7436

### ranberry Science Study

## ranberry Vine Injury Caused y Aerial Applications Of Some ifolatan-Insecticide Mixtures

CHARLES F. BRODEL Cranberry Experiment Station last Wareham, Mass.

olatan, a brand name for fol, is a fungicide known to nt infection of cranberry rs and fruits by several nhabiting fruit rot orms. Ever since its registran cranberry in 1973, it has used by growers to reduce icidence of field rot, espeon dry-harvested bogs. factured by Chevron Chemompany, the fungicide was eted in a flowable formula-(4F) until 1983 and in a dispersible granular forion (80 Sprills) thereafter. 983, an aerial application olatan and a formulation zinon, at low gallonage per vas reported to cause spotfleaves and berries. These toxicity symptoms were ent reason to conduct field s the next two years. In trials were performed to ustrate (1) that Difolatan ills is an effective fungihether applied by helicopby sprinkler, and (2) that bserved phytotoxicity to and berries induced by utan-insecticide mixes more to gallonage of mix I per acre than to the active tients themselves. For the rial, a liquid formulation athion was selected to mix with Difolatan. Parathion was chosen overother insecticides because, at that time, it was the preferred insecticide for controlling early-deposited eggs of the cranberry fruitworm.

The 1985 trial focused on the aerial application of Difolatan and parathion at a higher gallonage mix per acre. It was designed to determine whether Difolatan must be applied alone to avoid phytotoxicity symptoms.

The results of all trials are reported here. They support the decision of the Chevron Chemical Company to prohibit the mixing of Difolatan 80 Sprills with any other pesticide or fertilizer, and to require that at least 5 gals of mix per acre be used when applying Difolatan by air.

#### 1984 Studies

Methods and Materials. Seven field trials were conducted on four bogs in southeastern Massachusetts. In six of the trials. Difolatan 80 SP was applied either by air at the rate of 5 lbs of formulation per acre in water at the rate of 5 gals per acre, or by sprinkler at the rate of 4 lbs of formulation per acre in water at the rate of about 400 gals per acre. Sprinkler applications were made at sunset or sunrise on July 14 to July 21. Aerial applications occurred just after sunrise on July 17 through the 21st. All applications were made at 60-75 percent fruit set, regardless

of cranberry variety. Controls consisted either of 9 x 9 ft areas covered by tarpaulins or sections of the same variety adjacent to treated sections. Treated and untreated areas were randomly sampled with a hand scoop on September 13, except for Betty's Neck Bog, which was sampled on October 11. Berries were inspected for symptoms of field rot within seven days after being collected.

The trial involving phytotoxicity effects of parathion-Difolatan mixtures was conducted on three sections of 'Howes' cranberry on Mattapoisett Bog. Three treatments were applied by helicopter at sunrise on July 21 using conventional nozzles: (1) parathion 8E (0.75 pt) in 2 gals of mix per acre: (2) parathion 8E (0.75 pt) plus Difolatan 80 SP (5 lbs) in 2 gals of mix per acre; and (3) parathion 8E (0.75 pt) plus Difolatan 80 SP (5 lbs) in 5 gals of mix per acre. (All sections had previously been fungigated with Difolatan 80 SP at 4 lbs per acre on June 21.) Five days after treatment, eight large handfuls of vines were severed from random locations on each section and returned to the laboratory. Berries and foliage were inspected for symptoms of phytotoxicity. Observed symptoms consisted of tan or red spots on berries and black spots on new foliage not yet protected by a waxy layer. The presence of even a single spot was deemed sufficient to classify an upright or berry as 'spotted'.

Analysis of variance (model I) and the Student-Newman-Keuls test were used to analyze the data. All percentage data were subjected to arcsine transformation prior to analysis.

Results and Discussion. Results of six efficacy trials are shown in Table 1. Overall, the percentages of field rot were very low, even on varieties known to be more susceptible to infection. At Stuart Bog, treated areas had lower percentages of rotted fruit than did the untreated area. Applications by helicopter and sprinkler seemed to be equally effective there. At Betty's Neck Bog, a helicopter treatment led to about 86 percent less rot than in the control area. A sprinkler

application at Carver Bog did not lead to a lower incidence of rot on a section of the extremely vulnerable 'Stanley' variety. Percentages of rot varied very little at Mattapoisett Bog. It might be surmised that the level of spore inoculum was low there and conditions for infection were unfavorable. Phytotoxic injury to foliage and berries was not observed at any treatment site.

The results of the phytotoxicity trial are presented in Table 2. Qualitatively, parathion and parathion-Difolatan mixtures all induced phytotoxicity symptoms. Generally, parathion caused less noticeable spotting than did the parathion-Difolatan mixtures. Parathion-induced spots were red or tan on berries and black on foliage. Spots caused by the mixtures were usually red on both berries and foliage. Quantitatively, parath induced spotting on about percent of the berries and al 46 percent of the uprights (T. 2). Adding Difolatan to parath resulted in statistically gre percentages of spotting on liberries and uprights. parathion-Difolatan mixi produced the same amoun phytotoxicity regardless whether it was applied in at of 2 or 5 gals of mix per acre

1985 Study

Methods and Materials. following treatments were apply helicopter to one section of Mattapoisett Bog just a sunrise on July 23: (1) Difol 80SP at 5 lbs of formulation acre; (2) parathion 8E at 0. per acre; and (3) Difolatan plus parathion 8E in the a

TABLE 1. Efficacy of Difolatan 80 Sprills applied at end of bloom in reducing incidence of field rot. Massachusetts, 1984.

		Method of	% rotted
Bog	Variety	application	berries*
<u>504</u>	Vallecy	application	Dellies
Mattapoisett	Early Black	Helicopter	0.55a
_	-	Sprinkler	0.77a
		Control	0.69a
		Concroi	0.034
	Howes	Helicopter	0.56a
		Sprinkler	0.03b
		Sprinkier	0.035
	Early Black	Helicopter	0.08a
	-	Sprinkler	0.34a
		Control	0.69a
		Control	0.69a
Stuart	Early Black	Helicopter	0.03a
		Sprinkler	0.31a
		Control	
		Control	2.28b
Betty's Neck	Centennial	Helicopter	0.34a
seasy s meen	00110011111111	Control	2.35b
		COLLEGE	2.330
Carver	Stanley	Sprinkler	3.20a
		Control	2.36a
		CONCLOT	2.30a

<sup>\*</sup> Averages followed by a similar letter are not significantly different according the Student-Newman-Keuls test at  $P \stackrel{<}{=} 0.05$ .

BLE 2. Phytotoxicity to 'Howes' cranberry fruits and foliage induced by aerially died paration and paration-Difolatan mixtures. Massachusetts, 1984.

Treatment	% injured berries*	% injured uprights
Parathion 0.75 pt/A (2 gals mix/A)	24.7a	46.5a
Parathion 0.75 pt/A + Difolatan 5 lbs/i (2 gals mix/A)	38.6ab	71.4b
Parathion 0.75 pt/A + Difolatan 5 lbs/i (5 gals mix/A)	51.7b	68.2b

verages followed by a similar letter are not significantly different according to Student-Newman-Keuls test at P  $\leq$  0.05.





ATIONAL CRANBERRY MAGAZINE END CORRESPONDENCE TO:

P.O. BOX 249 OBALT CT 06414 (203) 342-4730

BLISHER & EDITOR: BOB TAYLOR ETING DIRECTOR: CAROLYN LABAN IGN DIRECTOR: R.J. SHEMKOVITZ CIATE EDITOR: CAROLYN GILMORE

#### (617) 763-5206 SORS & CORRESPONDENTS

ACHUSETTS — Irving E. Demoranville, Cranberry Experiment Station. ERSEY — Phillip E. Merucci, Cranberry & Bluelecialist, Cranberry & Bluaberry Laboratory,

ieclalist, Cranberry & Bluaberry Laboratory, th; Elizabath G. Carpentar, Chataworth. SCOTIA — I. V. Hall, Botanist, Research (entville. DN — Arthur Pools, Coos County Extension

oquille.

NGTON — Azmi Y. Shawa, Horticulturist and I Agent in Horticultura, Coastal Washington & Extension Unit, Long Baach.

Agent in Horiculture, Coastal Washington & Extension Unit, Long Beach, NSIN — Tod. D. Plener, Farm Management and County.

RRIES is published monthly by Diversified is, Welhayn Drive, Portland CT 05450. Second 2 age is paid at the Portland, Conn. Peof Office. 10 a year, \$18 for two years, \$1 a copy in the 3 year in Canada; \$15 a year in all other sack copies: \$2, including postage. Copyright hversified Periodicals.

ISSN: 0011-0767
Postmaster, send Form 3749 to:
CRANBERRIES
P.O. BOX 249
COBALT CT 06414

amounts. All treatments were diluted in water and applied at the rate of 5 gals of mix per acre. Vines were of the 'Howes' variety. The average stage of development was 75 percent fruit set.

On August 1, the author inspected the vines on all sections for phytotoxicity to leaves and berries. No quantitative data were obtained.

Results and Discussion, Bog sections treated with Difolatan alone exhibited no indications of phytotoxicity. In contrast, sections treated with parathion or parathion combined with Difolatan had a percentage of berries with maroon-colored spots or blotches. Some of the spots encompassed sunken areas. From the side, many of the affected berries were less rounded or convex where spots or blotches occurred. This appearance suggests that some tissue had been inhibited or killed and that growth of the pulp immediately surrounding spots had occurred more slowly than in other areas of the same berries. In general, leaves were not injured on any of the sections; however, gray deposits occurred on the underside of some of the new growth where parathion or parathion plus Difolatan

had been applied.

These observations indicated that Difolatan 80SP, when applied aerially in a mix of 5 gals per acre, was not phytotoxic to 'Howes' cranberry. Contrastingly, the paration formulation applied according to label instructions produced some spotting of berries and at least temporarily inhibited berry growth in the vicinity of spots. Combining Difolatan with parathion did not seem to increase the incidence or severity of berry spotting.

Acknowledgements

Thanks are extended to John C. Decas for allowing trials to be performed on his properties and to DeCran AG Supplies, Inc., for applying pesticides by helicopter and sprinkler when and where needed.

This project was made possible by a grant from Chevron Chemical Company.

#### OCEAN SPRAY ENDOWS NEW TALK SERIES

Ocean Spray recently announced endowment of the Endre Endresen Lecture Series in Food Science and Nutrition at the University of Massachusetts at Amherst.

Officials of the Plymouth-based cooperative said that the \$10,000 endowment will fund an annual lecture series in honor of Endre Endresen, a senior vice president of Ocean Spray who retired last year after 16 years of service. Endresen holds a BS in food technology from the University of Massachusetts.

The endowment will be used to fund annual lectures in food science and nutrition by recognized industry speakers. The lecture series will be featured during symposia held by the University of Massachusetts Food Science and Nutrition department each fall, and may be held in conjuntion with the annual meeting of the northeast section of the Institute of Food Technologists. Lectures will be open to students, faculty, professionals and the general public.

"We are delighted that Ocean Spray has pledged its support to our program," said Prof. R. Glenn Brown, head of the school's Food Science and Nutrition department. "The endowment of the Endre Endresen Lecture Series will help strengthen the university's ongoing commitment to excellence in food science and nutrition education."

Endresen was honored recently at a meeting of the Ocean Spray

#### COVER PHOTO

Prof. R. Glenn Brown, left, head of the University of Massachusetts Food Science and Nutrition department, and Endre Endresen, retired Ocean Spray senior vice president, hold a framed scroll that recognizes Endresen's contribution to the cooperative. Recently Ocean Spray established the Endre Endresen Lecture Series in Food Science and Nutrition at the University in honor of Endresen. See story above.

Board of Directors, where Chairman Stuart Pedersen presented him with a framed scroll. In recognition of his contributions to Ocean Spray and the food industry, the scroll acknowledges establishment of the Endre Endresen Lecture Series in Food Science and Nutrition at the University of Massachusetts in Amherst.

"The university's program has long been renowned for its leadership and innovation and has produced leaders in many areas of the food industry," said Pedersen, "The innovations which have fueled the growth of Ocean Spray have, in large part, been developed by people such as Endre educated by the university's food science and nutrition program. We are pleased to have this opportunity to thank the department for the role it has played in building Ocean Spray to a Fortune 500 company."

As senior vice president at Ocean Spray, Endresen has been responsible for the cooperative's Engineering, Logistics, Grower Relations and Manufacturing operations, and has been a principal in the growth of the co-op's citrus division. In addition, he has served as director of AgFoods of Columbus, Ohio; of Superior Pet Products of Quincy, Mass.; and of Contico Corporation of Costa Rica. He holds an MS degree in Industrial Management from the Massachusetts Institute of Technology.

"I am honored that the membership and board of Ocean Spray have endowed the university's food science and nutrition program in my name," said Endresen. "It is with a great sense of satisfaction that I enter retirement, knowing that students, faculty, and professionals in food science and nutrition will be expanding their horizons through this lecture series."

#### REGIONAL NEWS NOTES

#### MASSACHUSETT

By IRVING DEMORANVILLE We have two new people on the h chusetts Cranberry Station staff. Rosenberg is working with Frank ( on our various pathological pro Karen started work in early Marc received her training at the Univer Maine.

Dr. Joan Lasota is our new IPM onator, replacing Sherri Roberts wow working in the Massachusett, berry industry. Joan started work i May and comes to us from VPI whewas involved in the IPM program vegetables.

#### WISCONSIN

By DAN MAHR

The WCGA program committee, Spray staff and myself met rece review final plans for the upcominberry Field Day scheduled for W. day, August 6. Joint hosts for the Ocean Spray Cranberries, Inc., & John Rezin family, North Tomah C ries, Inc.

Ocean Spray's ultramodern receiving plant offers superb facil the meal, meeting and commercia its. The Rezin family's marsh ne excellent for the field tour.

Larry Rezin, 1986 WCGA presid Peterson, Ocean Spray, and Daw Monroe County Extension, will be nating the program, local arrang and tours. Plan to join us August Cranberry Field Day.

CRANBERRIES is you the news and view the industry.

CRANBERRIES in by more than twoof the growers in th

No matter how a your business, yo afford to place an admagazine that serve industry: CRANBER



## The Business Bank.

MTC offers you business banking built to your needs.

Personal attention to your special
financial requirements now and as you grow. Cooperation.
Flexibility. Complete business and personal banking.

Member FDIC

Main Office

10 John Glass, Jr. Square, Middleborough

Branch Offices
10 Centre Street, Middleborough • Middleboro Plaza, Middleborough

Cranberry Plaza, East Wareham Telephone all offices 947-1313 <sup>sh</sup> Griffou





Quick kills

Use as an exciter

Controls:

- cranberry fruitworms

— cutworms

cranberry girdlers

- mites

- cranberry tipworms

— fireworms

— gypsy moths

Low in mammalion toxicity — may be used alone up to, and including, day of harvest

Use as a tank mix with guthion, parathion and other insecticides to enhance results

ontact your local supplier.

FAIRFIELD

AMERICAN

CORPORATION

AN AOSI COMPANY

238 WILSON AVENUE • NEWARK NJ 07105

one is a registered trademark of Forfield American Corporation

## **50** and still growing

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

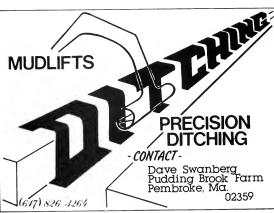
We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



#### **Gage-Wiley & Company** Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation



#### WEATHER WATCH

#### MASSACHUSETT

Average temperature for May wase normal; however, the final four days month were much above average in to compensate for the rest of the being guite cold. Maximum tempe was 86 degrees on the 30th and mir 34 degrees on the 4th. Cooler than age periods were the 3rd through 5 through 12th and 26th. Warmer thai age days were the 18th, 20th, 21st ar through 31st

Rainfall totaled 3.26 inches, abo inch below normal. Rain occurred days with 2.07 inches on the 22nd greatest storm. In fact, over 90 per the total rainfall occurred from th through the 25th. We are about 3. above normal for 1986 and nearly 9 ahead of 1985.

There were a total of 10 frost wa on 8 days in May plus 4 warnings or in early June. In addition to the night warnings, there was the night of M; when temperatures dropped bel danger point without a warning sent. Fortunately, our growers we and escaped being injured. It would that dew points dropped sharp midnight on, causing a resulting temperature. I.E.C

#### NOVA SCOTIA

Our weather remains cool. I not monthly weather summary that the perature for May was nearly equit 30-year average, but rainfall was erably greater. On the night of Jul had near frost conditions, espe low lying areas. I.V.



Have a piece of equipment yo want to sell? Write or call: CRANBERRIE P.O. Box 249 Cobalt CT 0641 (203) 342-473(

## e A Better Manager Through he Use of Overview Audits

#### y JOSEPH ARKIN

· accountant's regular or caudit is designed to keep loks and records in accorwith generally accepted ting principles so that lor unaudited statements<sup>1</sup> saningful to both mantand creditors/lending tions.

auditing, while usually to a company's finances, be broader in perspective. inancial phase of an audit to safeguard a company's and, to some extent, to costs.

be overlooked are some echniques of internal

coming cash should be red and recorded so that kow how much must be sed in each deposit, best e laily. This will avoid kting" of currency by dees, or diversion of checks wing such defalcations by tg a customer's account rurns" or "price adjust-

fou're conducting a busiwh more than a one-person , reak up duties so that no it ividual has complete over incoming currency heks.

up a chain or flow of or y. Who is supposed to shipments and prepare ssary documents for billnoses?

ablish a system of conwincoming goods. A sysbluld require checking se of goods received, moure that the goods were in fact ordered, and at what price and terms. There should be a follow-up to see that proper notations are made onto whatever inventory records are being kept.

5. Control outgoing cash flow and provide a petty cash fund by setting guidelines as to what is to be paid by cash, limits of cash disbursements, whose signature is authorized and what documentation is required for attachment to the petty cash voucher.

6. Bank statements should be reconciled within the time limits set by the Uniform Commercial Code and the agreement signed with the bank at the time of opening the account. Only the owner-manager, or in larger businesses, a key employee, should open the statement envelope. This will prevent tampering or altering the statement sheet(s) or destroying certain checks issued by dishonest employees.

7. Check books should be kept in a safe place and not available to all employees and even vistiors to your office. Use of a checkwriter will prevent altering name of payee or amount of check.

8. All checks prepared for payment of bills should have the actual bills attached so that the owner-manager or corporate officer can examine the bills beforesigning checks. Know what you are paying for! Lock the door against paying the same bill twice, paying companies from whom merchandise was not received, or paying employees' personal bills, unauthorized purchases, or bills at rigged prices.

The above are but a few things that can be done to prevent defalcations. Ask your accountant to furnish a more complete list or offer suggestions for your particular business. Many of the forms mentioned are readily available in preprinted form. An additional safeguard is to prenumber checks and many forms used in receiving, shipping, and in the office.

Auditing standards for the accounting profession require the examination of a mid-month or cut-off bank statement. You can do this once or twice a year. Ask the bank to hand-deliver to you, or mail to your home address, a mid-period bank statement. Open it and examine checks to ascertain if your signature has been forged, if checks seem to be raised as to amount, and very importantly, if the payee and endorser are one and the same.

UP TO NOW we've rehashed some of the key points of cash control, but the success of your business depends on more than that.

Here are some items of concern in your overview audit:

1. Are you carrying fixed assets on your books which have been abandoned, destroyed, or relegated to non-use? If so, you may want to call this to the attention of your accountant so that he might explore the possibility of a tax write-off in lieu of annual depreciation. You could conceivably pick up a big dollar in tax savings.

2. Do you take advantage of trade discounts offered to you? A 2/10, n/30 day discount (a 2 percent discount for payment within ten days, net payment within 30 days) can save you 24 percent per year as opposed to keeping excess funds in 7 to 9 percent

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

#### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

\*\*\* **DIKE MOWING** 

Enjoy Reasonable Rates **NEW ARM FLAIL** Call Brook Holmes (617) 293-5353

\* \* \* \* \* \* \* \* \* \*

#### \*\*\*\*\* STAY INFORMED

subscribe to CRANBERRIES \$10 a year - \$18 two years

Send check or money order to:

CRANBERRIES P.O. Box 249 COBALT CT 06414 \*\*\*\*\*

#### Niemi Electric Co.

ROBERT NIEMI

#### ELECTRICAL CONTRACTORS HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- **COMMERCIAL**
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.

interest-bearing paper. Or rowing for the short term v cash is tight, and paving vailing interest rates, might be a bargain.

3. Taxes should be paid time. When timely payment overlooked you are subject times to 5 percent per m penalty charges (not tax ductible) plus interest for payment. Keep a tax cale and make sure that local state taxes are paid on Federal tax deposits for F Withholding and Federal employment Insurance shou made when due.

4. In the area of labor you to make decisions during periods. Should you hire help or pay overtime to present work staff? Some the decision is not an easy make. The hiring of temp workers from an agency f short term (with all taxe fringe benefits paid) may costly than paying timehalf, but the temporary w may not have the know-l your operations and con less productive.

5. Are you watching your ing ratios? For instance, these:

Current Assets = Current Current Liabilities

Comment: Banks and other lendir tions look for 11/2 to 1, or 2 to 1 ratios

= Operatir Total Net Sales

Comment: A measure of varying efficiency.

Net Profit

Cost of Good Sold = Inventory Average Inventory

Comment: This tells you how ma your stock has turned over during Sluggish turnover is a danger si means you are overstocked and payi a higher inventory than required, t ing profit margins.

Other ratios will tell y of accounts receivable tu business capital turnove asset turnover, etc. It is us know these as they lead for corrective action. A change of record keeping be recommended by your or a professional manageconsultant after a survey. it costs money, but a few or the partial or complete aul of outmoded systems ore than pay for themselves. illustrate: A business we'll The Associates Company een having trouble in proing at a satisfactory rate of th. When the company was onths old, they decided they not making the progress had hoped for.

on the advice of their CPA, was experienced in their of business, they learned they could not operate a tess on "hope." Rather, t-planning requires the lishment of an approximate goal based on factors which bute to it.

accountant urged the

partners to use a profit-planning tool called Cost-Volume-Profit Analysis. It would help them to work with the four variable factors which contribute to profitmaking: (1) sales volume; (2) sales price; (3) sales mix; and (4) cost. The program worked out is shown as Figure 1.

In all five situations, variable costs are kept the same to make the example easier to follow. Notice that the best profit-making situation is "B," in which the number of units sold remains the same but the selling price is decreased by 10 percent.

Such a Cost-Volume-Profit Analysis chart allows the ownermanager to see what will happen to profits under certain conditions. Thus, realistic profit goals can be set with plans made to achieve them.

The principals of The Associates Company also adopted a budgetary system which helped

tighten control over revenue and expenses. Each month their accountant prepares a budget report which the partners use to isolate and correct trouble spots.

If you constantly face a cash crisis at regular intervals you can use the advice given to the aforementioned company by their accountant. He showed them how to use the budget to spell out cash requirements.

Their cash budget, which was prepared by their own accountant for November and December, is shown in Figure 2.

This helps them to determine the amount of cash they expect to flow into and out of the business each month. When the budget forecast indicates a cash deficiency, arrangements are

(Text continued on page 12)

Figure 1. Cost-Volume-Profit Analysis for The Associates Company

Situation A: Actual (normal) volume

Situation B: 10 percent increase in price; no change in volume
Situation C: 10 percent increase in volume; no change in price
Situation D: 10 percent decrease in volume; no change in price

Sales	Α	В	C	D	E
1,000 units @ \$4.00 1,000 units @ \$4.40 1,100 units @ \$4.00 900 units @ \$4.00 1,000 units @ \$3.60	\$4,000	\$4,400	\$4,400	\$3,600	\$3,600
Variable Costs					
1,000 units @ \$2.00 1,000 units @ \$2.00 1,100 units @ \$2.00 900 units @ \$2.00 1,000 units @ \$2.00	\$2,000	\$2,000	\$2,200	\$1,800	\$2,000
rinal Income i Costs	\$2,000 \$1,000	\$2,400 \$1,000	\$2,200 \$1,000	\$1,800 \$1,000	\$1,600 \$1,000
Income Profit Rate	\$1,000 25%	\$1,400 31.8%	\$1,200 27.3%	\$800 22.2%	\$600 16.6%
k-Even Sales xed costs divided by rginal income) x (sales)	\$2,000	\$1,833	\$2,000	\$2,000	\$2,25
t on Investment of ,000 in company	10%	14%	12%	8%	6%

Figure 2. Cash Budget for November and December for The Associates Company

	November	December
Cash sales	\$10,000	\$12,000
Collections on accounts receivable	20,000	25,000
Other cash receipts	2,000	2,000
Total	\$32,000	\$39,000
Payments for merchandise	\$10,000	\$12,000
Payments for expenses	15,000	16,000
Other cash payments	1,000	1,000
Total	\$26,000	\$29,000
Cash increase/decrease for month	+\$6,000	+\$10,000
Cash balance at start of month	4,000	10,000
Cash forwarded to succeeding month	\$10,000	\$20,000

(Continued from page 11)

made with the bank for a short-term loan.

AFTER GETTING the cash problem under control, the next step was to begin thinking about long-range possibilities. In conjunction with their accountant they came up with a plan to define the basic philosophy of the business, determine and rank objectives for profit goals, set up

programs to accomplish these goals, reorganize administrative functions to better carry out the aims, put into effect a training program for present employees and develop guidelines for future employees, furnish employees with better facilities to do their work, and find the means to obtain operating and capital funds required to achieve these objectives.

In thinking about how you might use the experiences you've just read about, keep in mind that an overview audit can be your starting point for provement of the operatior your business. Trouble spots be pinpointed and manager weaknesses revealed.

You will want to look be the figures to see what is inve in the everyday problems of business. When to start? No

(Joseph Arkin holds a degree from St. John's Un sity in accounting and an . from Pace University in tion and has written extens for trade and professi journals.)

# TED'S FARM EQUIPMENT

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel

#### Farrell Equipment Repair

FULLY EQUIPPED ROAD SER'
& PORTABLE WELDING
AFFORDABLE HEAVY
EQUIPMENT SERVICE
IRRIGATION PUMP REPAI
L P GAS WORK, ETC.
QUALITY WORK AT LOW R.
REFERENCES AVAILABLE

(617) 748-0394

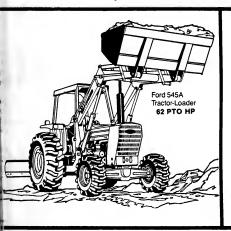
COUNTY MARION MA

## **Baker Tractor Corp.**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

190 G.A.R. Hwy. U.S. Rt-6 Swansea, Mass.

Ford Agricultural and Industrial Tractors
Other Lines: Bomford, Bush Hog, Woods, Mott,
Triumph, York, Brilhon, Hardy, Kelly



FINANCING
ARRANGED
THROUGH
FORD MOTOR
CREDIT
CORPORATION

ANNUAL PAYMENTS AVAILABLE

Introducing the *new* 545A Tractor Loader with FWD. Here is a versatile tractor to meet your sanding, pumping and mowing needs. Available with torque converter or 8 X 2 transmission with independent 540 RPM-PTO. Budget capacity 1 yd general purpose with 4,500 lb. lift capacity.

\*

Telephone Sales 678-5692

Parts & Service 678-5645

# Now there's Bravo 500. A better way to control fruit rot.

That's what eight years of testing clearly showed--Bravo 500 fungicide is more effective on fruit rot diseases than captafol.

What's more, cranberry growers will get exceptional control of leaf and twig blight with Brayo 500.

Yet, Bravo does not adversely affect fruit color like other fungicides are known to do. Nor does Bravo leave any lingering odor.

It's this kind of first-rate performance that's made Bravo 500 America's preferred food crop fungicide. And now you can use it too.

Bravo 500 fungicide. Because better disease control means bigger yields of higher quality cranberries come harvest.



A Blotech ®

Agricultural Chemicals Business SDS Biotech Corporation 7528 Auburn Road, PO Box 348 Painesville, Ohio 44077

Always follow label directions carefully when using agricultural chemicals.



#### Serving Massachusetts cranberry growers

CONTACT

John C. Decas DECRAN AG SUPPLIES INC. 219 MAIN ST. Wareham MA 02571

office: 295-0147 evening: 763-8956

(William Chamberlain)

- 8-9 Barrel Capacity
  Cost Efficient

  - · Easy to Handle
    - · No Wheel-Off Rigs
      - · No Bulk Bins
        - · No Fork Lifts

- Custom Made -
- Allow 4-6 weeks for delivery.
   CONTACT

866-4429



RFD 5 PLYMOUTH ST. CARVER. MASS. 02330



#### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusett contact Stearn Irrigation Inc., 79 Federal Furnace Rd Plymouth MA 0236



22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846



#### 

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I REAM

Office 295-2222 BEATON'S

K. Beaton 295-2207





Specializing in

P. Beaton 947-3601

TOMPLETE BOG MANAGEMENT

CHARVESTING (Wet & Dry)



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers



Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

307 West Grove Street (Rte 28) Middleborough MA 02346

#### KUBOTA

Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp.
Compact Excavators 1½ to 6 ton
Wheel Leaders ½ to ¾ yd.
Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements
Polymark Beaver-Mowers
Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

FOx. FON P PO FO 1 PO FO



#### A Facing for Every Season

By CHAS. H. METCALF

The old farmer was weatherwise, for weather was what he lived by. It played upon the tilts and patterns of his lands and determined how he might use them.

His pasturings mattered less than his plantings. The draw of the air in his crop lands and orchards was most important of all. He set out his trees on the hilltops and their long slopes, not in the "frost bottoms."

The old farmer built his house and barns from his own trees and the rocks of his pastures. He would have known such wisdom as this from Eric Sloan's Weather Book:

"For dry barns 'tis always best

to clear the trees that face the west." And:

"If stagnant air, don't build there." And:

"Slope your roof to the winter."

Which meant, of course, that the long roof would slope to the north, and the short roof and high face of the house look south to the sun. Of course, many farm houses just grew a little at a time, long and lean - dingles and breezeways and carriage sheds. But most all farm houses had a planting of maples in front. For shade. of course. For in maple trees, as in popples, there seems always a flow of air. As the old farmer knew, "leaves breathe."

W W e a f e h a m Mass

R.D.GRASSI Cranberry

**SERVICES** 

Rick 5158

SANDING WIPING



CLIPPING MOWING

HARVESTING WET

Mowing Includes Hydraulic Arm Mower

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

## LARCH MON

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



#### IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

- FOR EXAMPLE: -

Gorman-Rupp Self Priming Electric Sprinkler Pumps

Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

#### Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 (617) 746-6048







The scoop of the year!

Cranberry Flavor, Fact and Folklore in THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries... you'll find this book a treasure."—Des Moines Register, Paperback, \$8,95

	copies	of THE \$8.95 each	
Name	 		
Address	 		

Add \$1.50 for postage; Conn. residents add 7% sales tax. CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414



#### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4-3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

#### STAY INFORMED

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine, Subscribe today!

\$10 a year - \$18 two years

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414

#### Cranberry Originals

Ann Kurz Chambers

#### 1986 Exhibit Schedule

August 6

WI Cranberry Growers Meeting

August 19

MA Cranberry Growers Meeting +++++++++++++++++++

October 4-5

Cranberry Festival Warrens, WI

October 17-19

Grayland, WA; Walsh Motel, 9 A.M.-9 P.M. Cranberry Festival

October 22

Ilwaco, WA Bandon, OR; LaKris Motel, 9 A.M.-9 P.M.

Call 715-887-3755 or write for further information

1631 4th Street Port Edwards, WI 54469

# Big Wheel Truck Sales 42 Quanapoag

#### E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England

All types of diesel repair Largest tow trucks on the East Coast

(617) 763-5927

Call Bob or Joe

(617) 763-8745

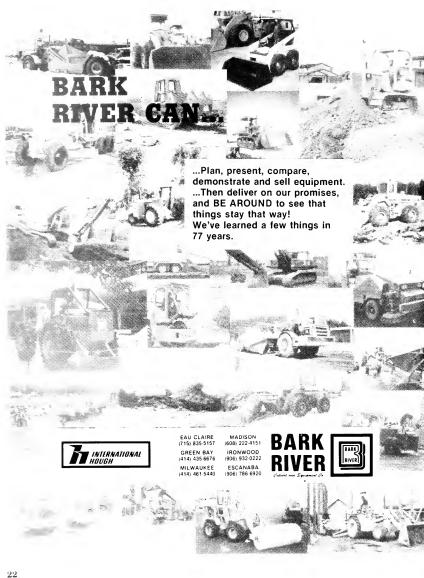






Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography



## **Used Aluminum** Sprinkler Pipe All Standard Sizes

A.D. Makepeace Company P.O. Box 151 Wareham MA 02571

(617) 295-1000



Screened Bog Sand Available

Vines for 1986 Early Black Howes Crowleys

Lawrence W. Pink Office 934-6076

Cordwood Road Duxbury, Mass. 02332 •

AGWAY

AUTHORIZED AGWAY REPRESENTATIVE

**AGWAY** 

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES . FUNGICIDES HERBICIDES . MITICIDES . and FERTILIZERS IN STOCK!

#### **BOB ALBERGHINI - SPRAYING**

For further information, call 866-4429 evenings after 5:30.

866-4429



RFD 5 PLYMOUTH ST. CARVER. MASS, 02330 "We're Best on Earth"
One vd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching

#### Paul's Machine & Tool

COMPLETE MACHINE

SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

22 years experience 🛬 🌫 construction lifts 🧺

## **AERIAL LIFTING**

• BERRY LIFTING • nylon berry bags bulk bins

AEATON'S

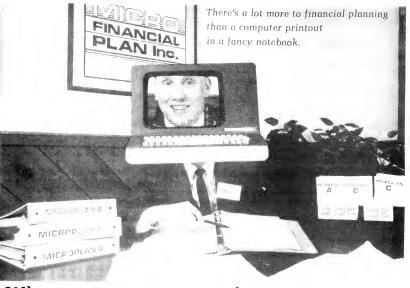
JOE BRIGHAM INC lightweight durable

· MUD LIFTING ·

contact
PETER → CHUCK
617-295-2222



mat rentals & sales



### When you're serious about money, talk to a planner who takes you seriously.

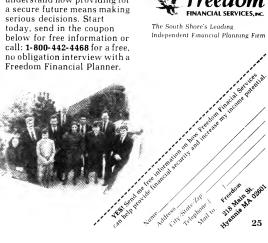
Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial Services is committed to helping you build a secure financial future. As a Freedom client, you work with seasoned financial planners and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for





# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft

with

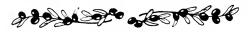
marine bearing

Phil Helmer 1060 3rd St. N.

Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number

(715) 593-2285





#### Crane for Hire

Three quarter yard crane with matts, clam and dragline. Have had years of experience in digging ponds, stumping and general bog work.

GEORGE R. NAVA CO.

11 Maple Avenue

Kingston, Mass. 02364

Call 585-4514

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607 AMFS

Irrigation Systems
RAIN BIRD
Sprinklers

HALE Pumps

Highest Quality Products with Satisfaction Guaranteed

## CRANBERRY GROWERS

Listings of buyers and sellers welcomed on cranberry acreage and upland.

**Appraisals** 

DOUGLAS R. BEATON E. Sandwich, Mass. 02537

(617) 888-1288

#### Pump Repairs

All Types

#### Sales

Field Service & Shop 20 years experience AAA INDUSTRIAL PUMP SERVICE INC. 66 Lake St.

Plympton MA 02367

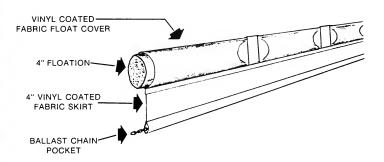
Bruce Sunnerberg (617) 585-2394

## BogBoom!!

To harvest your cranberries with less labor and more efficiency, DAMCO Sales and Service Inc. (formerly McCarthy & Associates) offers our new BOG BOOM.

#### **Bog Boom**

#### CRANBERRY HARVESTING FLOATING BOOM



Bog Boom is tough. With a shorter skirt designed for the shallower bogs. The solid PVC skirt improves the strength and durability of our boom.

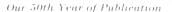
DAMCO Sales and Service is now taking orders for the 1986 harvest season.

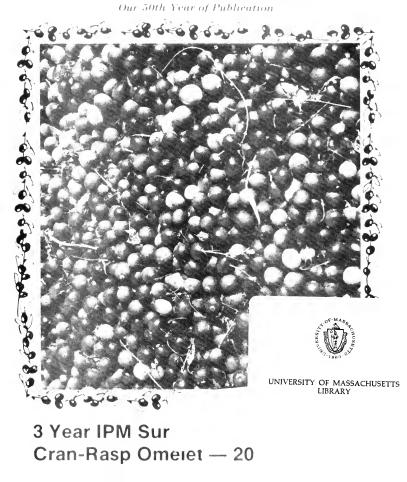
To order call or write: DAMCO Sales and Service Inc. 128 23rd St. Pittsburgh PA 15215 (412) 782-2987



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer





Cran-Rasp Omeiet — 20



Chances are, we're already there. Over the years, we've turned out thousands of cranberry boxes. So you see, we may have been at your annual picking for many years now.

But did you know that Sharon Box can help you long before the crop comes in? Besides special Boxes, Shooks, Skids, and Pallets, we can take care of your Utility Shed needs. No matter where on the bog, or what size. How about Portable or Stationary Pump Houses? Are they in your future plans? Then Sharon Box should be, too.

There are so many ways we can help you bring it all in. Why not give us a call.





## Sharon Box Co., Inc.

216 NORTH MAIN STREET • SHARON. MA 02067 (617) 784-2477. 2581. BOSTON (617) 361-6060

## A Three Year Summary of Integrated Pest Management For Cranberries in Massachusetts

By SHERRI L. ROBERTS

Integrated Pest Management, PM, for cranberries in Massathusetts was initiated in 1983. The major objectives of the program were to train and educate he grower to better understand he cranberry pest complex, ncluding appropriate monitoring nethods, in order to accomplish conomically and environmentaly sound pest management.

Information reported herein resulted from intensive weekly couting of commercial cranberry logs in Masachusetts. In-depth

#### CRANBERRIES



HE NATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN DESIGN DIRECTOR: R.J. SHEMKOVITZ ASSOCIATE EDITOR: CAROLYN GILMORE (617) 783-5206

#### DVISORS & CORRESPONDENTS

MASSACHUSETTS — Irving E. Demoranville, irector, Crenberry Experiment Station. NEW JERSEY — Phillip E. Marucci, Cranberry & Blueberry Spacialist, Cranberry & Blueberry Leboretory, rhatworth; Elizabeth G. Cerpenter, Chatsworth. NOVA SCOTIA — I. V. Hell, Botanist, Research

tation, Kentville.

OREGON — Arthur Poole, Coos County Extension ...
gent, Coquille.

WASHINGTON — Azml Y. Shawa, Horticulturist and

xtension Agent in Horticulture, Coastal Weshington iesearch & Extension Unit, Long Beach. WISCONSIN — Tod. D. Planer, Farm Menagement igent, Wood County.

RANBERRIES Is published monthly by Diversified eriodicals, Wellwyn Drive, Portland CT 08480. Second lass postage is paid at the Portland, Conn. Post Office. rice is \$10 e year, \$18 for two years, \$1 a copy in the 18.; \$12 e year in Caneds; \$15 e year in all other countries. Back copies: \$2, including postage. Copyright 98 by Dheralide Periodicals.

ISSN: 0011-0787
Postmaster, send Form 3749 to:
CRANBERRIES
P.O. BOX 249
COBALT CT 08414

scouting is the cornerstone of every IPM program, for it enables IPM personnel to advise growers as to the need for and optimal timing of control recommendations.

#### Financial Support

When the program began in 1983 it was funded by a USDA-Extension Service IPM grant with contributions from Ocean Spray Cranberries, Inc., the Cape Cod Cranberry Growers Association (CCCGA) and Chemapco, Inc. In 1984 funding was from: 74% USDA-IPM grant, 18% grower fees (\$20/acre) and 7% CCCGA. Ocean Spray, and Animal and Plant Health Inspection Service (APHIS). In 1985 funding was from: 40% grower fees (\$30/acre), 40% State IPM grant, 20% USDA-IPM grant and APHIS, Additional grant monies were obtained in 1985 from CCCGA, the Massachusetts Society for Promoting Agriculture, and Ocean Spray for the publication of four new IPM color fact sheets (available from Cranberry Experiment Station, P.O. Box 569, East Wareham, MA 02538).

#### Scouting of Cranberry Bogs

Scouting began in mid to late May and continued until late August to early September. IPM bogs were scouted once a week prior to and during bloom, with second visits paid as the need arose. After bloom, bogs were scouted every 3-4 days. Observations were made on insect populations, damage, and weed infestations. Suspected diseased vines were brought back to the lab for further identification. Growers

received a scouting report every time a visit was made to the individual bog. Growers were contacted by phone by the IPM Coordinator and advice was given as to the need for treatment, time for treatment, and materials to use for control.

Check bogs were also sampled periodically. In these bogs growers followed their own programs with no advice from the IPM Coordinator.

In 1983 the program started with 10 cooperating growers, five IPM and five Check growers with acres totaling 21 acres (range 1-4). In 1984 the program expanded to 35 participating growers totaling 334 acres (range 1-20). Expansion again in 1985 resulted in 44 growers totaling 632 acres (range 2-28) (Table 1).

#### Sampling Equipment

- 1. Pesticide report form
- 2. Pad and pencil
- 3. Sweep net 12" diameter
- 4. Scout report forms
- 5. 10 x lens
- Containers for samples
- 7. Pheromone baits and traps
- 8. ID manuals
- 9. Recommendation chart

#### Sampling Methods

Weekly intensive bog monitor-

#### COVER PHOTO

SOON field boxes from all over Massachusetts and New Jersey to Wisconsin to Oregon and Washington will be filled with ripened cranberries like those in this photograph taken by cameraman Robert B. Fitch.



## When you're serious about money, talk to a planner who takes you seriously

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The Sauth Shore's Leading Independent Financial Planning



ng provides the soundest basis or accurate pest management ecision-making and grower dvisement. Bogs were divided to sample sites: 1-10 acres received one sample site per acre; 1-20 acres received 10 total ample sites; 21 or more acres received one sample site per two cres.

In the spring and early summer rior to bloom at each sample te, one set of 25-180 sweeps ith a net, 4-5 inches deep in the anopy of vines, was taken. Insect ests counted included cranberry eevil, spanworm, cutworm, ypsy moth, fireworm, and parganothis fruitworm.

Visual sightings were made or cranberry tipworm, cranberry irdler, blackheaded fireworm, nd damage resulting from all reviously mentioned pests.

During bloom, scouting began or cranberry fruitworm (CrFw). TFw is an annual problem laguing every cranberry grower at timing of pesticide applications is paramount to the control f this pest. Based on past esearch findings, pesticide

applications were made 7-9 days after plants were 50% out-of-bloom (refer to How to Scout a Cranberry Bog for Insect Pests, available from Cranberry Experiment Station). The second application was applied 10 days after the first as a standard procedure. Four to five days after the second application, fruit samples (25 berries/sample site) were inspected for unhatched, non-parasitized CrFw eggs to determine whether a third or fourth treatment was necessary.

Fruit and vine samples were taken prior to harvest to determine injury levels of IPM and Check bogs. One vine sample was pruned per sample site from all the Check bogs and from 30% of the IPM bogs. Vine samples averaged 143 uprights per sample (range 82-198 uprights). Samples were frozen after being collected until they could be analyzed.

#### RESULTS

Direct and Indirect Injury
Injury was divided into two

categories: direct (fruit damage) and indirect (vine damage), Each upright was inspected for both types of injury. Indirect injury included scarring from southern red mite (SRM); tip cupping from cranberry tipworm (CrTp); leaffeeding (LF) and tip damage (TD) from gypsy moth, blossomworm, false armyworm, unknown cutworms, green spanworms, brown spanworms and unknown spanworms; and cut blossoms from cranberry weevil (CrW). These injury levels were correlated with insect counts and the confidence levels were either 95 or 99 percent. All indirect injury could not be combined numerically because individual uprights sometimes exhibited more than one type of injury.

In 1983, IPM bogs had 57%, 66% and 86% less injury from LF, CrTp and SRM, respectively, than Check Bogs. IPM bogs had 22% and 11% higher injury levels from TD and CrW, respectively, than Check bogs (Table 2).

In 1984, IPM bogs had 21%, 43% and 95% less injury from TD, LF and SRM, respectively,

Table 1. Number of cranberry bogs, acreage, and growers participating in the IPM program, 1983-1985.

Year	IPM	Check	Total Acres	Range	# of Growers
1983 1984 1985	47 77	5 8 8	21 334 632	1 - 4 1 - 20 2 - 28	10 35 44

Table 2. Average percent of indirect insect injury on vines at harvest on IPM and Check bogs participating in the IPM program, 1983-1985.

Insect Damage		83 Check		84 Check		85 Check
Terminal Cupping	0.6	1.8	1.9	1.4	8.6	5.8
Bronzing	4.9	36.7	0.7	14.7	3.9	21.0
Tip Damage	14.8	11.5	9.6	12.1	12.7	22.2
Leaf Feeding	3.8	9.0	1.7	3.0	1.9	8.5
Cut Blossom	18.3	16.2	9.7	9.4	10.1	9.8



nd had 3% and 26% higher injury evels from CrW and CrTp, espectively (Table 2).

In 1985, IPM bogs had 43%, 8% and 81% less injury from D, LF and SRM, respectively. PM bogs had 3% and 32% higher njury levels from CrW and CrTp, espectively.

Indirect injury levels were not sed in the economic analysis nd because of the nature of the ijury, the upright could bear arketable fruit and have one or ore injury types; therefore it ould be extremely difficult to ut a dollar value on the injury

Direct or fruit injury consisted damage from cranberry fruitorm (CrFw) and Sparganothis uitworm (SpFw). CrFw is an nnual pest which can be conolled with properly timed sprays hich keep damage levels at an eceptable level of 2%. SpFw is a ootty pest and until 1984 there as no effective control measure. In 1983 there were high insect pressures and IPM bogs had 52% lower SpFw injury and 19% higher CrFw injury levels; this resulted in IPM bogs having 35% less fruit injury than Check bogs (Table 3).

In 1984, when insect pressures were lowest, IPM bogs had 10% less SpFw injury and 42% less CrFw injury levels than Check bogs. Both SpFw and CrFw injury levels were close to 2% overall. Combined fruit injury was 31% less for IPM bogs compared to Check bogs (Table 3).

In 1985 IPM bogs had 81% less SpFw injury and 30% less CrFw injury than Check bogs. Total combined fruit injury for IPM bogs was very close to 2% (Table

Calculations which showed the economic benefit of the IPM program were performed using direct injury levels.

#### Insecticide Use

In 1983 IPM growers averaged 4.6 sprays per acre and Check

growers applied 5.4 sprays per acre. IPM growers used 1.2 sprays per acre less or a 15% reduction in the number of sprays, IPM growers used 24% less dosage equivalents than Check growers (Table 4). Dosage equivalent is the actual pesticide rate divided by the Massachusetts recommended rate.

In 1984 IPM bogs received 10% fewer insecticide treatments than Check bogs. IPM bogs received 14% fewer dosage equivalents than Check bogs (Table 4).

In 1985 IPM bogs received 1.2 less insecticide treatments than Check bogs, representing a 27% reduction in the number of sprays and a 31% reduction in the number of dosage equivalents (Table 4).

In 1985 there were 15 IPM bogs that received only two insecticide treatments for the entire season. Check bogs received no fewer than a minimum of three sprays. Twenty-one IPM bogs received only three sprays and 16 IPM bogs received four



# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC

Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**



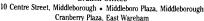








Table 3. Average percent of direct insect injury on fruit at harvest on IPM and Check bogs participating in the IPM program, 1983-1985.

Insect Pest	1983 IPM Check	1984 IPM Check	1985 IPM Check
Sparganothis Fruitworm Cranberry Fruitworm	$\begin{array}{ccc} 4.5 & 9.3 \\ 3.2 & 2.6 \end{array}$	$ \begin{array}{ccc} 0.9 & 1.0 \\ 1.1 & 1.9 \end{array} $	$ \begin{array}{ccc} 0.3 & 1.6 \\ 2.5 & 3.6 \end{array} $
Total % injury to fruit	7.7 11.9	2.0 2.9	2.8 5.2

Table 4. Average number of insecticide sprays and dosage equivalents per acre applied to IPM and Check bogs participating in the IPM program, 1983-1984.

	1983	IPM 1984	1985	1983	Checl 1984	
Average number of Sprays / acre	4.6	4.1	3.2	5.4	4.5	4.4
Average number of Dosage equivalents/ acre	6.6	5.9	4.0	8.7	6.8	5.8

Table 5. Total number of sprays and number and percent of bogs receiving those sprays for IPM and Check bogs participating in the IPM program, 1985.

# f Sprays	IPM BOGS # of Bogs	Percent	# of Sprays	CHECK BOG # of Bogs	S Percent
2 3 4 5 6	15 21 16 4 1	26 37 28 7 2	3 4 5 7	3 1 3 1	37 13 37 13

insecticide treatments (Table 5).

Check growers, in 1983, used 2½ times more parathion than IPM growers. In 1984 parathion use dropped by 50% by Check growers (Table 6), mainly due to a greater confidence in Diazinon effectiveness and due to the registration of Lorsban.

#### Pheromone Trap Catches

Cranberry Girdler trap catches peaked the first week of July and flight ended by the first week of August during all three years (Figure 1).

Sparganothis fruitworm (SpFw) flight in 1984 began approximately the first week of June, and peak flight occurred during the first week of July, and ended during the last week of July. In 1985 SpFw flight began approximately the second week of June, and peak flight occurred the second week of July (1 week later

than in 1984), and ended the l week of July (Figure 2).

Blackheaded fireworm (B) flight in 1985 began approxim ly the second week of June, a peaked the third week in Juand ended the last week in Juand Engel and Linguist grants and highest trap counts; Branste County, Wrentham in Bric County, and Kingston/Mau field in Plymouth County. The

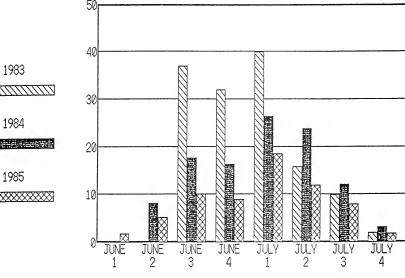


Figure 1. Average weekly adult catches for Chrysoteuchia topiaria, 1983-1985.

 $oldsymbol{\omega}$ 

Table 6. Number of Insecticide treatments per acre for insect control applied to IPM and Check bogs participating in the IPM program, 1983-1985.

	19	8.3	19	84	19	85
<u>Pesticide</u>	IPM	Check	IPM	Check	<u>IPM</u>	Check
Parathion Guthion Sevin Diazinon Lorsban Orthene Lannate Malathion Omite Pyrenone	1.4 1.8 1.8 0.6 * 0 0.2 0 1.6	3.6 1.0 1.2 0.2 * 0.2 0 0.2 0	1.6 0.6 1.0 0.5 0.9 * * 0 0.1	1.7 0.9 0.9 0.6 1.1 * 0	0.9 0.4 0.7 0.5 1.0 0 *	1.2 0.6 0.8 1.4 1.0 0 * 0.4

<sup>\*</sup> Insecticide not registered for use in years indicated.

were few moths trapped in the other areas of Cranberry production in Massachusetts.

#### Economic Benefit Analysis

Table 7 summarizes the cost benefit analysis of IPM vs. Check bogs for 1983. Cost savings for insecticides and their application was \$10 for IPM growers. The average value of fruit loss per acre was \$236 lower on IPM bogs, resulting in an average net benefit per acre of \$246 from IPM scouting and grower advisement.

In 1984 insecticide application costs were \$25 lower for IPM growers than for Check growers. The average value of fruit loss per acre was \$68 lower on IPM bogs. Cost of the IPM program in 1984 was \$20/acre. The average benefit per acre was \$73 (Table 8).

Table 9 summarizes the cost benefit analysis of IPM vs. Check bogs for 1985. IPM growers realized a cost savings of \$42 per acre on insecticides and their application. The average value fruit loss per acre was \$197 lower for IPM growers. The cost of the program was \$30 per acre for IPM growers. The average net benefit per acre was \$209 from IPM scouting and grower advisement.

The net economic benfit from IPM for the three years of the program averaged \$160 savings per acre per year (Table 10). In both high and low insect pressure years, regular scouting of insect pests and sound recommendations can realize a significant cost saving to the grower.

It should be emphasized that this analysis is intended to show relative instead of absolute numerical or percentage differences, and that the values herein are averages. As such, they do not reflect grower wholesale prices for pesticides, per acre yields higher or lower than the Mass chusetts averages of 125, 1 and 145 barrels/acre for 196 1984 and 1985, respectively, fruit prices substantially diffe ent from \$45, \$54 and \$55 p barrel for 1983, 1984 and 198 respectively, which are the fi ures used in this analysis.

It should be noted that sa ings in pesticide and application cost are only the most immedia benefits of IPM. IPM has man long-term benefits; such reducing selection pressure which can lead to pesticide resistant and thus greatly delaying devopment of resistance, while pulonging the period of usefulne of currently available pesticide.

(Cranberry IPM Constulta Roberts, a former entomologwith the Massachusetts Cranbry Experiment Station, is no employed by DeCran Ag Suplies, Inc., in Wareham, Mass.)







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

Table 7. Cost benefit analysis of insect pest control in IPM vs Check bogs, 1983.

Average number of energy	<u>IPM</u>	Check	Difference
Average number of spray dates per acre	4.6	5.4	
Average number dosage equivalents per acre <sup>1</sup>	4.45	7.28	
Average cost per acre spray materials for insecticides	\$43.78	\$47.19	+\$ 3.41
Spray application cost: Sprinkler <sup>2</sup> Helicopter <sup>3</sup>	\$15.30 \$11.40 \$26.70	\$19.00	+\$ 7.60
Average % fruit injury due to insects <sup>4</sup>	7.74	11.91	
Average value per acre of fruit loss due to insect injury <sup>5</sup>	\$433.35	\$669.60	+\$236.25
Per acre charge for IPM growers	No char	ge in 198	33
Average net benefit per acre from IPM			\$247.26

- 1 Dosage equivalent = actual pesticide rate/Ma recommended pesticide rate.
- Based on 20 minutes time to spray 1 acre, labor cost \$3.50 and 1.00 per acre per application for fuel.
- 3 \$9.50/acre/application- includes nurse truck, loading
  and labor.
- 4 Does not include cut-blossom, leaf-feeding, and tip damage which does not directly effect the fruit.
- 5 Based on pool price for Ocean Spray, as of Jan. 30, 1984: \$45/bbl and MA 1983 average yield of 125 bbl/A.

#### (More tables on pages 12, 13 and 15)

Table 8. Cost benefit analysis of insect pest control in IPM vs Check bogs, 1984.

	<u>I PM</u>	Check	Difference
Average number of spray dates per acre	4.07	4.50	
Average number dosage equivalents per acre1	5.88	6.80	
Average cost per acre spray materials for insecticides	\$43.04	\$59.38	+\$16.34
Spray application cost: Sprinkler <sup>2</sup> Helicopter <sup>3</sup>	\$16.02 \$ 3.42 \$19.44	\$14.04 \$14.25 \$28.29	+\$ 8.85
Average % fruit injury due to insects <sup>4</sup>	2.02	2.92	
Average value per acre of fruit loss due to insect injury <sup>5</sup>	\$152.71	\$220.75	+\$68.04
Per acre charge for IPM growers	\$20.00	NA	-\$20.00
Average net benefit per acre from IPM			+\$73.23

<sup>1</sup> Dosage equivalent = actual pesticide rate/MA recommended pesticide rate.

Pased on 20 minutes time to spray 1 acre, labor cost \$3.50 and \$1.00 per acre per application for fuel.

<sup>3 \$9.50/</sup>acre/application - includes nurse truck, loading and labor.

<sup>4</sup> Does not include cut-blossom, leaf-feeding, and tip damage which does not directly effect the fruit.

<sup>5</sup> Based on pool price for Ocean Spray, as of Jan. 30, 1985: \$54/bbl and MA 1984 average yield of 140 bbl/A.

Table 9. Cost benefit analysis of insect pest control in IPM vs Check bogs, 1985.

Average number of spray	<u>IPM</u>	Check	Difference
dates per acre	3.21	4.40	
Average number dosage equivalents per acre <sup>1</sup>	4.00	5.80	
Average cost per acre spray materials for insecticides	\$40.52	\$67.27	+\$26.75
Spray application cost: Sprinkler <sup>2</sup> Helicopter <sup>3</sup>	\$13.50 \$ 1.99 \$15.49	\$ 9.90 \$20.90 \$30.80	+\$15.31
Average % fruit injury due to insects <sup>4</sup>	2.73	5.21	. \$13.31
Average value per acre of fruit loss due to insect injury5	\$217.80	\$415.25	+\$197.45
Per acre charge for IPM growers	\$30.00	NA	-\$30.00
Average net benefit per acre from IPM			+\$209.51

<sup>1</sup> Dosage equivalent = actual pesticide rate/MA recommended pesticide rate.

Based on 20 minutes time to spray 1 acre, labor cost \$3.50 and \$1.00 per acre per application for fuel.

<sup>3 \$9.50/</sup>acre/application - includes nurse truck, loading and labor.

<sup>4</sup> Does not include cut-blossom, leaf-feeding, and tip damage which does not directly effect the fruit.

<sup>5</sup> Based on pool price for Ocean Spray, as of Jan. 30, 1986: \$55/bb1 and MA 1985 average yield of 145 bb1/A.

# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO.
P.O. BOX 7211, MADISON, WISCONSIN 53707
678-221-1581

# J.A. JENKINS & SON CO.

Grower Service

MOWING (ALL TYPES)
SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018



## Niemi Electric Co.

ROBERT NIEMI

ELECTRICAL CONTRACTORS
HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.

# CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass.

> 02537 (617) 888-1288

★ ★ ★ ★ ★ ★ ★ ★ No one is more qualified

to serve your Crop Insurance needs than

#### THE BUTLER GROUP

- GROUP

  1. Crop Hail Policies on any commercial crops Hail, Fire, Vandalism and Transit.
- Federal Crop Insurance
   Policies for Apples, Potatoes,
   Tobacco, Corn, Cranberries
   and others.

Call us for a quote or details

BUTLER

Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 本 617-366-1512

## Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

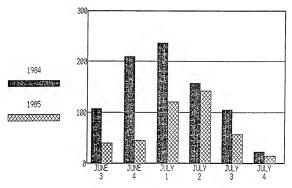


Figure 2. Average weekly adult catches for Sparganothis sulfureana, 1984-1985.

Table 10. Three year average economic benefit to growers participating in the IPM program, 1983-1985.

Year	Dollars/Acre	% Insect damage
1983 1984 1985	247 73 209	9.8 2.5 3.9
Avg	160	

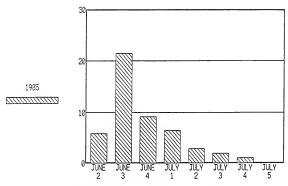


Figure 3. Average weekly adult catches for *Rhopobota* naevana, 1985.

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our but fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow, for buried laterals.

### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

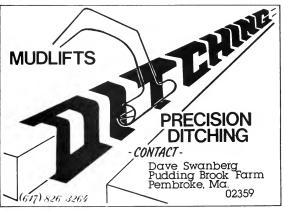
## High volume trailer pumps

0000000000000000

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285



## WEATHER WATCH

#### MASSACHUSETTS

June was cool, averaging 1.6 degrees a day below normal Maximum temperature was 85 degrees on the 29th and minimum 41 degrees on the 3rd. The only warmer than average period occurred from the 28th-30th. Cooler than average periods were the 1st-4th, 6th, 7th, 11th-13th and 21st.

Rainfall totaled 3.31 inches, which is just above normal. There was measurable rain on 11 days with 1.23 inches on the 8th as the greatest storm. We are ¼ inch above normal for the first half of 1986 and nearly 7 inches a

There were a total of 18 frost warnings issued on 14 days during the 1986 spring season. The last warning was on June 25th; in fact, there were several warnings after the 15th of June, all of the borderline variety. This is the largest number of warnings issued in several years and the latest date that we have had the growers out at night since 1979

#### NOVA SCOTIA

We have experienced a cool growing season to date. The mean temperature for the month of June was nearly one degree Celsius below the 30-year average. More serious was the effect of frosts which seem to have done far more injury than originally forecast. At Kentville on June 12 the minimum temperature recorded was 3.0° C but elsewhere it must have been lower. Hard hit have been apples, cherries and plums.

CRANBERRIES gives you the news and views of the industry.

CRANBERRIES is read by more than two-thirds of the growers in the U.S.

No matter how small your business, you can afford to place an ad in the magazine that serves the industry: CRANBERRIES!

AGWAY

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

#### **BOB ALBERGHINI - SPRAYING**

For further information, call 866-4429 evenings after 5:30.

866-4429

RFD 5 PLYMOUTH ST. CARVER, MASS. 02330

Office 295-2222 BEATON'S

K. Beaton 295-2207

D. Beaton 888-1288 WAREHAM.

M ASS.

Specializing in

P. Beaton 947-3601



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes 307 West Grove Street (Rte 28) Middleborough MA 02346

## KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp. Compact Excavators 1½ to 6 ton

Wheel Leaders ½ to ¾ vd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements
Polymark Beaver-Mowers

Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

*ਦ*0≖ ਂ ਰਾਹ ਰਾਹ ਰਾਹ ਂ ਰਾਹ ਂ ਰਾਹ

"We're Best on Earth"
One yd. CAT backhoe

Bog Construction
Land Clearing
Canal Work
Flume Setting
Pond Construction
Ditching

#### Brogdex Names Specialist In Packing House Equipment

Luis Alayza, an internationallyrecognized expert in machines control, has joined Brogdex Company of Pomona, Calif., as head of its systems engineering department.

Alayza will be in charge of designing specialized packing house equipment. A native of Iquitos, Peru, Alayza earned a degree in mehanical and electrical engineering at Peru's National University of Engineering before his inventive use of mechanics, electronics and hydraulics to control machinery won him the attention of U.S. manufacturers.

## REGIONAL NEWS NOTES

#### MASSACHUSETTS

By IRVING DEMORANVILLE

The 99th Annual Meeting of the Cape Cod Cranberry Growers Association will be held on Tuesday, Aug. 19th beginning at 10 a.m. The program will consist of equipment display and other exhibits, tour of research plots on State Bog, chicken barbeque lunch, committee reports, presentation of awards, election of officers, and the offficial crop estimate by the USDA Crop Reporting Service. Guest speaker will be Dr. Roger Locandro, of Cook College, Rutgers University. New Brunswick, NJ.

Reports and observations indicate that our bogs came through the winter in generally good condition. There were a few reports of winterkill, some bogs with leaf drop and a surprising number with picking machine injury-mostly from water reels. We had no great amount of frost injury and evidently not much damage from a hail storm on May 28. Many of the bogs with various injury symptoms appear to have recovered. Generally we enjoyed one of the heavier blooms in recent history and the fruit is setting very well. It would appear to this observer that, barring any unusual circumstances, we will have another record crop and probably by a considerable margin.

## STAY INFORMED

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine. Subscribe today! \$10 a year - \$18 two years

> Send check or money order to:

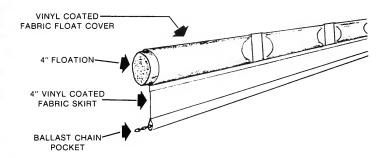
CRANBERRIES
P.O. BOX 249
COBALT CT 06414

# BogBoom!!

To harvest your cranberries with less labor and more efficiency, DAMCO Sales and Service Inc. (formerly McCarthy & Associates) offers our new BOG BOOM.

## **Bog Boom**

#### CRANBERRY HARVESTING FLOATING BOOM



Bog Boom is tough. With a shorter skirt designed for the shallower bogs. The solid PVC skirt improves the strength and durability of our boom.

**DAMCO** Sales and Service is now taking orders for the 1986 harvest season.

To order call or write: DAMCO Sales and Service Inc. 128 23rd St. Pittsburgh PA 15215 (412) 782-2987

# **50** and still growing

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



#### **Gage-Wiley & Company** Incorporated

Village Landing ● P.O Box 3507 ● Plymouth, MA 02361 617-746-3322 • 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation ..........

# Big Wheel Truck Sales 42 Quanapoag

E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England All types of diesel repair

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Largest tow trucks on the East Coast

Call Bob or Joe

(617) 763-5927 (617) 763-8745



#### CRANBERRY-RASPBERRY OMELET

This recipe is from The Cranberry Connection by Beatrice Buszek.

1 can cranberry sauce ½ cup sugar 2 tablespoons cornstarch 8 eggs salt

1 10-ounce package thawed (frozen) raspberries ¼ cup chopped parsley 1/3 cup milk 1/4 cup butter 1/4 teaspoon pepper 12 slices Canadian bacon

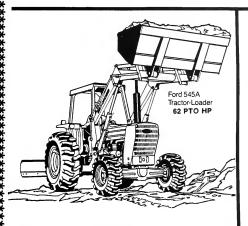
Combine sugar, cornstarch and cranberry sauce and raspberries. Stir slowly over low heat. When slightly thickened, simmer 5 minutes, Keep warm. Combine eggs, salt, pepper, milk and parsley. Beat gently, Heat butter in a 10-inch skillet and add egg mixture. Cook but do not stir. Lift edges with spatula so uncooked part can run underneath. Spoon some sauce over omelet. Using wide spatula, fold omelet over. Slide gently onto a serving dish. Brown bacon quickly on both sides. Place around omelet. Top each serving with berry mixture.

CRANBERRIES gives you news and views of the industry.

# **Baker Tractor Corp.**

190 G.A.R. Hwy. U.S. Rt-6 Swansea, Mass.

Ford Agricultural and Industrial Tractors
Other Lines: Bomford, Bush Hog, Woods, Mott,
Triumph, York, Brilhon, Hardy, Kelly



# 63/4 % FINANCING AVAILABLE

for up to
48 months
Subject to
FMCC approval

Introducing the *new* 545A Tractor Loader with FWD. Here is a versatile tractor to meet your sanding, pumping and mowing needs. Available with torque converter or 8 X 2 transmission with independent 540 RPM-PTO. Budget capacity 1 yd general purpose with 4,500 lb. lift capacity.

Telephone Sales 678-5692

Parts & Service 678-5645

# CAPEWAY BEARING & MACHINE, INC. BEARING & DRIVELINE SPECIALISTS

COMMERCIAL PUMPS & COMPONENTS

TRANSMISSION & REAREND

TRANSMISSION & REAR AXLE REBUILDING KITS

POWER TRANSMISSION

COMPONENTS

BROWNING COMPONENTS

MECHANICAL CLUTCHES

RIGHT ANGLE OBIVES

HYORAULIC HOSE

ALEMITE SUPPLIES

LUBRICATION

KENOALL

SEALS

C/B

NATIONAL NATIONAL O-RINGS

STEMCO

FATON

FULLER ROCKWELL SPICER

PULLEYS

SPROCKETS

NEVER-SEEZ

QUAKER STATE



#### BEARINGS

BOAT & TRAILER BOWER - BCA C/R FAG

FEDERAL FLANGE UNITS INDUSTRIAL MARINE CUTLAS PILLOW BLOCKS

TIMIKEN TORRINGTON

#### DRIVELINE COMPONENTS BORG-WARNER

C/V SHAFTS
DETROIT
PRONT WHEEL DRIVE AXLES
HANGER BEARINGS
MOTOR MASTER UNIVERSAL JOINTS
PTO COMPONENTS
ROCKWELL

SPICER CLUTCHES
SPICER-DAMA
UNIVERSAL JOINTS FOR ALL CARS
TRUCKS AND HEAVY EQUIPMENT

#### FII TERS

BALDWIN

#### SUPPLEMENTARY PRODUCTS

BRONZE BUSHINGS + BIG RIG EXHAUSTS + CARDO CLUTCHES & WATER PUMPS + DAYCO BELTS
GASKET PAPER + HAND CLEANER + HARDWARE + HELICOLL + HYDROFLO WATER PUMPS
LOCKING HUBS + LOCTITE + MORSE CABLES + POLLACK ALARMS
MARINE SUPPLIES AND ACCESSORIES

57 SUMMER ST., KINGSTON, MASS. 02364

#### **CEECO** CORPORATION OF NEW ENGLAND Industrial Suppliers To The Cranberry Industry 280 mag Chain, Cable and Accessories Used for Making Mats All Types of Fasteners (Bulk & Packaged) Pumps Hand Tools Power Tools Motors Abrasives Chemicals **Cutting Tools** Lubricants Safety Equipment 747-0086 Richards Rd. Ivmouth Industrial Park Plymouth, MA 02360

### Farrell Equipment Repair

FULLY EQUIPPED ROAD SERVICE & PORTABLE WELDING AFFORDABLE HEAVY

EQUIPMENT SERVICE IRRIGATION PUMP REPAIR.

L P GAS WORK, ETC.

QUALITY WORK AT LOW RATES
REFERENCES AVAILABLE

(617) 748-0394

MIKE FARRELL COUNTY ROAD MARION MA 02738

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass.

Phone 824-5607

AMES
Irrigation Systems

RAIN BIRD

Sprinklers

HALE Pumps

Highest Quality Products with Satisfaction Guaranteed

## Pump Repairs

All Types

#### Sales

Field Service & Shop 20 years experience

AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake St.

Plympton MA 02367

Bruce Sunnerberg (617) 585-2394

# **AERIAL LIFTING**

• BERRY LIFTING • nylon berry bags bulk bins

· MUD LIFTING ·

L RATON'

JOE Brigham Inc lightweight durable

contact
PETER → CHUCK
617-295-2222



mat rentals & sales



Serving Massachusetts cranberry growers

CONTACT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

John C. Decas
DECRAN AG SUPPLIES INC.
219 MAIN ST.

office: 295-0147 evening: 763-8956 (William Chamberlain)

# C.R. LEONARD & SONS INC.

ACUSHNET, MASS. 02743 TEL. 763-2712 890 MIDDLE ROAD

Flumes **Detrashers** 

Conveyors (steel or aluminum)

Shearing · Shop Welding Bending

## STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM
- REINFORCEMENT ROD WIRE MESH

# YLON BERRY BA

- · 8-9 Barrel Capacity · Cost Efficient
  - - · Easy to Handle
      - · No Wheel-Off Rigs
        - · No Bulk Bins
          - No Fork Lifts

~ Custom Made

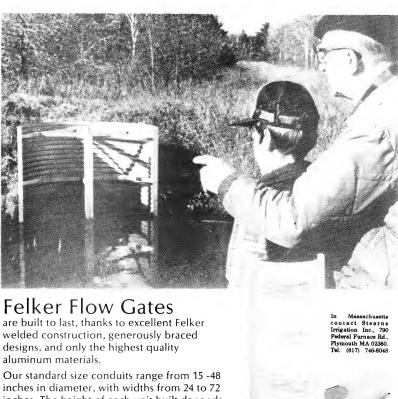
Allow 4-6 weeks for delivery.

866-4429

RFD 5 PLYMOUTH ST.

CARVER.

MASS. 02330



Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

FELKER BROS. CORP.

22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846 A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

# LARCHMONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



## IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

FOR EXAMPLE: —

Gorman-Rupp Self Priming Electric Sprinkler Pumps

Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact:
Stearne Irrigation, Inc.
790 Federal Furnace Rd.
Plymouth MA 02360
(617) 746-6048



W Wass

R.D.GRASSI Cranberry SERVICES

Rick 5158

SANDING WIPING Applied PATILIZER

CLIPPING MOWING

HARVESTING WET

Mowing Includes Hydraulic Arm Mower

# **Since 1903**

**MORTON** Buildings have grown to become the largest builders of timber column structures in the U.S.

We offer a complete line of commercial, light industrial, arenas and stallbarns, livestock and suburban buildings, backed by the strongest written warrantee available, including acid rain protection. Don't settle for less.

If a new or expanded building project is in your plans, call or write:

P.O. Box 549
Raynham Center, Mass. 02768
(617) 824-3827
or call toll free 1-800-447-7436

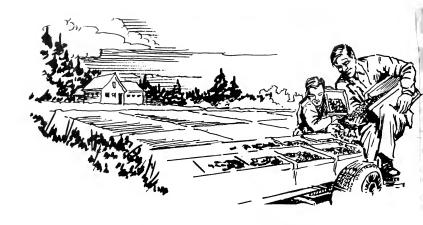


The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer Our 50th Year of Publication



Another Record Crop - 5



Chances are, we're already there. Over the years, we've turned out thousands of cranberry boxes. So you see, we may have been at your annual picking for many years now.

But did you know that Sharon Box can help you long before the crop comes in? Besides special Boxes, Shooks, Skids, and Pallets, we can take care of your Utility Shed needs. No matter where on the bog, or what size. How about Portable or Stationary Pump Houses? Are they in your future plans? Then Sharon Box should be, too.

There are so many ways we can help you bring it all in.

Why not give us a call.

All Pine Framing Choice of Siding Style Large Heavy Duty Door Fixed Window Shingled Roof Gable Vents



# Sharon Box Co., Inc.

216 NORTH MAIN STREET • SHARON, MA 02067 (617) 784-2477, 2581. BOSTON (617) 361-6060

# Marketing Body Okays Rolling Base Concept

#### By CAROLYN GILMORE

Near the conclusion of a recent nine and a half hour long meeting in Plymouth, Mass., the Cranberry Marketing Committee (CMC) approved—with only one dissenting voice-the so-called "rolling base amendment." The amendment had suffered two rejections earlier in the meeting.

If adopted by the U.S. Department of Agriculture, the amendnent will mandate that the deermination of base quantities be tied directly to a bog's crop

### RANBERRIES



SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR ARKETING DIRECTOR: CAROLYN LABAN DESIGN DIRECTOR: R.J. SHEMKOVITZ

SSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

**DVISORS & CORRESPONDENTS** MASSACHUSETTS — Irving E. Damorenville, ector, Cranberry Experiment Station. NEW JERSEY — Phillip E. Merucci, Cranberry & Blue-

rry Specialist, Crenberry & Bluebarry Leboretory, atsworth; Elizabeth G. Carpenter, Chetsworth. NOVA SCOTIA - I. V. Hall, Botenist, Research

tion. Kentville DREGON — Arthur Poole, Coos County Extension ent, Coquille.

VASHINGTON — Azmi Y. Shawe, Horticulturist and VASHINGTON — AZMI T. Shawe, nontunuturat anu lension Agent in Horticulture, Coastal Weshington saerch & Extension Unit, Long Beech. WISCONSIN — Tod. D. Plenar, Farm Manegament ant, Wood County.

AMBERRIES is published monthly by Diversified frodicais, Wellwyn Drive, Portland CT 04450. Second as postage is paid at the Portland, Conn. Post Office. ce is \$10 a yeer, \$18 for two years, \$1 a copy in the 1, \$12 a yeer in Caneda; \$15 a yeer in all other in the Back copies: \$2, including postage. Copyright 8 by Dhersified Periodicais.

ISSN: 0011-0797 Postmaster, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

history. An annual recomputation will award base quantity by averaging production from the best four out of the previous six years, excluding any regulation year.

The date of adoption of the rolling base amendment by the U.S.D.A. sets the time for starting the new system at two years' ahead. In other words, if the hearing process takes another two years, and the rolling base amendment is approved by the U.S.D.A. in 1988, it will be 1990 before the new system can be implemented. At that point, the best four out of the previous six years will determine the base for each bog.

The rolling base concept is a means to keep the base directly linked to cranberry production, to take much of the pressure of base assignment off the committee and to eliminate the marketing of base quantity outside the industry.

The amendment process is expected to take 18 months to two years, according to Jay Guerber, marketing specialist, U.S.D.A. Following the committee's approval this August, the amendment is to be reviewed by the Agriculture Department's Agricultural Marketing Service (AMS). A hearing process follows for grower input before it can finally be adopted.

As yet, there is no marketing order in this country with a rolling base.

"Growers will determine the destiny of the rolling base," said Douglas Beaton, CMC member.

In other business, a \$172,500

budget was approved for 1986-87, representing a 4.5 cents-perbarrel assessment. This is an increase of \$70,370 over last year's budget. One-time expenses in advertising for a manager, relocating to Massachusetts, and updating the computer system were responsible for the increase.

In related activity, the AMS proposed rule on "bona fide effort" is in the comment period until September 22, 1986, Depending on grower feedback, this will be a rule once it is published on the Federal Register. With minimal comment, this could happen by October.

"Bona fide effort" is a means of updating and expanding base quantity for the benefit of growers by keeping base quantities with growers who have demonstrated a "bona fide effort" to produce and sell cranberries. This rule would supplement the present system of issuing base quantities, but would become invalid if the rolling base amendment is passed in the future.

#### COVER PHOTO

In a scene that has remained unchanged for decades, dry harvested cranberries—after having been hand screenedare loaded into wooden boxes. This batch will be packaged into 12- or 16-ounce boxes or plastic bags, for the fresh fruit market. For more photos of annual harvesting activities. see pages 15-17.

(Photo by Robert B. Fitch)



## Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846 In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360. Tel. (617) 748-6048





# Ocean Spray Names Llewellyn Successor to Hal Thorkilsen

The Ocean Spray board of diectors recently named John S. Lewellyn Jr., 51, to succeed resident and Chief Executive Officer Hal Thorkilsen, when horkilsen, 60, retires in Deember of 1987.

The board promoted Senior Vice resident Llewellyn to the new osition of executive vice presient and chief operating officer. le will report to Thorkilsen dur-

ng the transition period.

The 25-member board took the ction to name Llewellyn in order provide a substantial period of verlap to ensure a smooth tran-

"The board selected Jack Llerellyn as the candidate best ualified to assume the responibilities of this office, upon my etirement," Thorkilsen said. "I rill work closely with him durng the interim to strongly posion Ocean Spray for continued rowth and prosperity."

During the transition period, lewellyn will be responsible for ne following operations: sales,



John S. Llewellyn Jr.

marketing, corporate planning and business development, logistics, technical research and development and manufacturing. Corporate services and finance will continue to report to Thorkilsen.

Llewellyn joined Ocean Spray in 1982 as senior vice president, marketing. Prior to joining Ocean Spray, Llewellyn was employed by ITT Continental Baking where he was general manager of Continental Kitchens Division. His experience also includes assignments as executive vice presi-(continued on page 12)

# CMC Selects New Manager

By CAROLYN GILMORE

David N. Farrimond was unanimously selected Cranberry Marketing Committee general manager by mail ballot following committee interviews of five candidates during a recent special meeting in Washington, D.C. Farrimond comes to the CMC with experience in the Wisconsin soybean and corn marketing orders.

The manager's position was advertised in May in both Massachusetts and Wisconsin. Of 35 applications received, 20 qualified candidates were reviewed by the Massachusetts subcommittee. The top five were interviewed by the full committee.

Farrimond is overseeing the details of relocating to Massachusetts, including organizing office space and computer requirements. Mark Benny, Cranberry Computer Company, is consulting with the manager to redesign and update the present computer system. A fulltime bookkeeper/computer operator will be hired to assist Farrimond. Field staff will continue to be located in cranberry growing regions.

Also, the committee unanimously elected Douglas R. Beaton as chairman at the annual summer meeting in Plymouth. John C. Decas was elected vice president. Rita T. Wood was voted secretary/treasurer.

CRANBERRIES gives you news and views of the industry.

# Ag Department Forecasts Record Smashing Crop

By CAROLYN GILMORE
A record 3.59 million barrel
anberry crop is forecast this
ar by the U.S. Agriculture
epartment's Agricultural Stastics Board. This represents a
percent increase over 1985's
arvest of 3.52 barrels.

Massachusetts is expected to old the lead in production at 8 million barrels, a 7 percent crease over last year.

"Every year Massachusetts has sen breaking its own records," aid Irving Demoranville, dictor of the University of Masichusetts Cranberry Experient Station. New Jersey's crop is estimated at 300,000 barrels, a 6 percent drop from 1985; Oregon, 120,000 barrels, up 20 percent; Washington, 120,000 barrels, down 19 percent, and Wisconsin, 1.25 million barrels, down 1 percent.

The Cranberry Marketing Committee estimate made at the August 20 annual meeting was for a 3,610,900 barrel crop nationwide. By region, this is expected to be 1.8 million barrels for Massachusetts; 307,500 barrels from the West Coast; and 1,262,500 barrels from Wisconsin.

# n's farm

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel

# **50** and still growing

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your

next 50 years.



### **Gage-Wiley & Company** Incorporated

Village Landing ◆ P.O. Box 3507 ◆ Plymouth, MA 02361 617-746-3322 • 800-242-0263

> Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation

## Companies Get Awards At **CCCGA Meeting**

By CAROLYN GILMORE

The sky held out for the Cape Cod Cranberry Growers Association annual meeting Aug. 21 postponed from Aug. 19 because of rain. Some 650 spent the day touring the state bog, examining equipment and viewing displays.

In the equipment contest, the first prize plaque in the commercial category for manufactured equipment for sale was awarded to New England Bog Equipment for its water reel adapted for ditches.

Cranberry Growers Service won a \$100 first prize in the noncommercial division for its self-propelled hydraulic herbicide spreader.

## REGIONAL NEWS NOTES

#### WASHINGTON

By AZMLY, SHAWA

It is an absolutely sensational feeling to be back home again and on "top" of the world

As you know, I was on a sabattical leave for six months at Lincoln College, New Zealand, working on post-harvest physiology of blueberries. The results were successful and a seminar was presented to the horticulture faculty and blueberry growers

Such information can be adapted and applied to fresh cranberry storage. The benefit was mutual between Lincoln College and Washington State University. A report about this research work appears on these pages

All reports indicate that you had a superb 1986 Field Day. I would like to commend masters of ceremony Carl Shanks and Peter Bristow for conducting the program, and my special gratitude for our staff, Edie Shire, John Wang, and Richard Brenenstahl, for endless days of preparation. Thank you for your participation in making it a success



## Serving Massachusetts Cranberry Growers

JOHN C. DECAS DECRAN AG SUPPLIES INC. 219 MAIN STREET WAREHAM MA 02571

OFFICE: 295-0147 EVENINGS: 763-8956 (WILLIAM CHAMBERLAIN)

22 years experience 😂 construction lifts 🦮



· MUD LIFTING ·



· BERRY LIFTING ·

nylon berry bags bulk bins

AEATON'S

JOE

BRIGHAM INC

lightweight durable

contact PETER - CHUCK 617-295-2222

mat rentals & sales

Office 295-2222 BEATON'S

K. Beaton 295-2207





P. Beaton 947-3601



#### Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

AGWAY

AUTHORIZED AGWAY REPRESENTATIVE

AGWAY

LICENSED SPRAYING OF PESTICIDES (Seasonal)

WITH A COMPLETE LINE OF:

CRANBERRY INSECTICIDES • FUNGICIDES HERBICIDES • MITICIDES • and FERTILIZERS IN STOCK!

#### **BOB ALBERGHINI - SPRAYING**

For further information, call 866-4429 evenings after 5:30.

866-4429

RFD 5 PLYMOUTH ST. CARVER, MASS. 02330

## Queries Answered at Field Day

# Nematodes and Other Pests

Editor's Note: The questions below from growers were answered by Carl H. Shanks at the recent Washington Field Day held at the Coastal Washington Research and Extension Unit in Long Beach.

#### 1. What is a nematode?

Nematodes are one of the major groups of worms. They are distinguished by the fact that their bodies are round and are not divided into segments. There are thousands of species of nematodes and they are found almost everywhere. Each species has its worn habitat and type of food. Some of the things that serve as food for nematodes are decaying organic matter, plant roots, plant eaves, insects, fish, pigs, and people.

2. I understand that we have nematode infestations in some of our bogs. Is this what is causing the dead areas or what we call "die back"?

Not all dead areas in cranperry bogs are due to nematodes, bisease, excessive application of ertilizer or herbicide, black vine weevil and cranberry girdler all ause areas of bogs to die. Howwer, we have evidence that blant-parasitic nematodes are associated with some weak or lead areas of cranberries.

3. Is there any relationship retween nematode and black ine weevil injury? Maybe our roblem is nematode!

This is a good point. It means hat we must be certain of the ulprit before treating it. There s no question that black vine reevil can by itself damage ranberries. We also have seen areas that had no weevils but did have high populations of nematodes. In one case, we found both black vine weevil and nematodes plus cranberry girdler.

4. Are liquid form insecticides as effective as granular forms in conjunction with girdler?

I have no data on that question. However, Dr. Jim Kamm of Oregon State University told me that he thought that granular diazinon was more effective against the larvae than the liquid because the latter was too easily absorbed by the organic matter under the vines. We have no comparative data with Lorsham

Sprays of liquid or wettable powder formulations of some insecticides may be used in the future for control of the adult moth. We have a little data that indicate that properly timed sprays might be effective in killing the adults before they lay eggs. This would be most effective when used in conjuntion with pheromone traps for proper timing.

5. Is repeating several applications of liquid diazinon legal for use for control of the girdler?

Cranberry girdler is not on the label of liquid formulations of diazinon but blackheaded fireworm and cranberry fruit worm are. There are no restrictions on the number of applications but it cannot be applied less than seven days before harvest. There probably is no legal problem if the label instructions are followed. Girdler sprays usually must be started before bloom is

finished. Diazinon should not be applied then because it is very toxic to bees.

6. I have carefully followed the recommendations for girdler control for the past two years and still have damage. Is there anything new to try this year?

It is important to be certain that the damage is caused by girdler and not by other pests. Granular diazinon still is the only insecticide registered specifically for control of cranberry girdler on cranberries. Some growers have used a drenching spray of Lorsban and have felt that it was effective. Lorsban is very toxic to bees, so I will not recommend its use during bloom, especially when the hives of bees are present. We are experimenting with sprays of malathion to control the adult moth. If this proves successful, malathion could be applied in the late evening when bees are not foraging.

7. Aretherenematodes that attack black vine weevil larvae?

larvae?
Yes, in fact there are a number of species that will attack black vine weevil larvae. These nematodes do not affect plants at all. They are not visible to the unaided eye. We have initiated studies with these nematodes this year. Preliminary data show that one species applied to a cranberry bog in April infested a high percentage of weevil larvae in the soil, in spite of lower than desirable soil temperatures. The nematodes remained alive and capable of infesting weevil larvae.

(continued on page 20)

# Time To Refinance Your Mortgage

#### By JOSEPH ARKIN

In the years 1980-83 did you take out a fixed rate mortgage to purchase a home or finance the purchase of picking machines, office equipment, packing machinery or real estate?

If so, you're likely saddled with a mortgage with a rate anywhere from 12½ to 17½ percent.

12/2 to 17/2 percent.

It is simply a matter of arithmetic to figure whether or not it pays to refinance an existing morgage.

A factor to consider is what it costs to eliminate a high rate mortgage and substitute one at a lower rate—a rate brought about by an overabundance of money in the tills of lending institutions.

THE FIRST EXPENSES of refinancing are those connected with title. Your old title policy is not acceptable because your marital status may have changed in the interim, or for other reasons. Thus you'll need to pay for a new title policy. You'll also have to pay for a current appraisal of the property or equipment. There will be costs of a credit check, recording fees, and documentary stamps, too.

Furthermore, it is likely that the lender, whether it is your current mortgage holder or a new lending institution, will ask for a termite and or roof inspection.

These expenses and fees could easily add up to \$1,000 or more.

Another expense is the fee for your lawyer's attendance at the closing. It is prudent to be represented by your own attorney.

By far the largest expenses will be the points or "origination" fees charged for a new mortgage. These are negotiable but in most areas of the country today they average about three percent.

To illustrate: A 30-year fixed-rate mortgage at 10½ percent for a \$60,000 loan would cost three points (3%) or \$1,800. The mortgagee paying a 14 percent rate would save approximately \$2,000 per year at the lower rate. Together with the costs previously outlined, it would take about a year and a half to recover the \$3,000 or so of costs.

If the rate of mortgage being refinanced is 12½ percent or lower, it will take somewhere between two to three years to cover the costs involved.

For example, a 30-year fixed-rate mortgage of 10½ percent for a \$60,000 loan would cost three points (3%) or \$1,800. The mortgagee paying an 11 percent rate would save approximately \$1,200 per year at the lower rate. Together with the costs previously outlined, it would take somewhere between two to the years to cover the costs involved; molikely, closer to three years than two.

A factor to consider for residential business property mortgages is wheth or not you (the mortgagee) intend to se the premises within a two- or three-yer period

In such cases it doesn't pay to re nance as the point was made that the break-even point on refinancing is (base on the rates illustrated) between 1½ to years

A POINT NOT mentioned heretofo is that in refinancing the new rate locked in. If rates keep dropping you ca (subject to the provision of prepaymet clauses) refinance at the lower rates. C the other hand, if rates again zoo upwards, you are able to keep your cu rent low rate obtained when refinancin now.

You might have a mortgage with a r atively low interest rate, but with a be loon clause. This means that after just few short years all of the mortgage be ance becomes due and payable. If ratrose you face a dilemna of finding mortgage at a payment rate you cou

(continued on page 1







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography



# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC

> Main Office 10 John Glass, Jr. Square, Middleborough

Branch Offices

10 Centre Street, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham

Telephone all offices 947-1313



## 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

• LONG LASTING • GOOD LOOKING •

MAINTENANCE FREE • WITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT - CALL TODAY!

617 / 824-3826

RAYNHAM CENTER, MA

**MORTON** BUILDINGS, INC.

## Llewellyn...

(continued from page 5)

dent. Morton Frozen Foods, and vice president, marketing, at Sunshine Biscuits. Llewellyn also held a variety of marketing positions with General Foods. He received his BA from Holy Cross College in 1956 and his MBA from Harvard Business School in 1961. He resides in Hingham. Mass., with his wife, Mary Martha, and his daughter and four

Llewellyn will be heading a company that ranks 452 in the Fortune 500 list of the nation's largest industrial corporations.

Ocean Spray is expected to report fiscal 1986 revenues of more than \$630 million, marking the 11th consecutive year of record sales and profitability.

The marketing cooperative consists of approximately 800 cranberry and citrus grower members nationwide and in Canada.

The company markets fresh cranberries and sauces and is one of the leaders in the multibillion dollar juice and juice drink industry.

# The Effect of Foliar Sprays On Keeping Quality of Blueberries In Canterbury, New Zealand

By AZMI Y. SHAWA Director, Long Beach, Wash., Reasearch and Extension Unit

In late 1985, five nutritional foliar sprays (Nutra-phos 10, Nutra-phos 17, Nutra-phos 24, Nutra-phos 40 and Nutra-phos K, at the rate of 20 lbs/A) and two additional sprays (Sorba-spray ZNP and Sorba-spray ZKP, at the rate of 1/2 gal/A) were used twice as aqueous sprays to blueberry bushes until dripping, using a knapsack sprayer. The first application was made just before bloom (Sept. 1985) and the second shortly after berry set (Oct. 1985).

Bushes were harvested at berry maturity (Jan. 1986) and screened by hand to remove immature, injured

and deformed berries

Samples were placed in storage at 33°F. Certain samples were removed at two, four and six weeks after storage. The following records were taken: berry weight and volume, pressure, pH, soluble solids, titratable acidity. weight loss, rot percentage, and shriveled percent.

Berries treated with nutritional foliar spray Nutra-phos K twice at the rate of 20 lbs/A showed a significant increase in acidity, a significant decrease in pH, and a decrease in soluble solids/acidity ratio during two weeks' storage. It also decreased soluble solids/acidity ratio and pH significantly, increased acidity, and reduced percentage rot during four and six weeks' storage. These characteristics are associated with good keeping quality berries.

Applying nutritional foliar sprays -the first application just before bloom and the second application shortly after berry set-may have enhanced the growth and development of sound berries with good keeping quality characteristics.

Harvesting blueberries at a certain stage of ripeness may affect berry keeping quality. As blueberries ripen, total soluble solids content of the fruit increases and acidity decreases. In addition, increases in berry pH and in soluble solids/acidity ratio are found. Blueberries should be harvested when they are approaching ripeness which can be measured by determining the soluble solids/acidity ratio. A ratio of soluble solids/acidity = 10-15 was considered as just ripe blue fruits.

Cold storage temperature is another factor affecting berry keeping quality. Temperature as close to 32°F as possible is desirable. Under the conditions of this trial, 33°F showed to be satisfactory.

Foliar spray nutra-phos K enhanced the production of sound berries with good keeping quality. It significantly decreased soluble solids/acidity ratio and pH and increased acidity, which has an influence on resistance to decayproducing organisms (Alternaria and Botrytis spp), which, in turn, reduced percentage rot during the four and six week storage periods.

It is hoped that, in the future, nutritional foliar spray applications, such as nutra-phos K, will aid blueberry growers to produce good keeping quality berries with longer storage life. Thus, the fresh blueberry market season could be extended.



#### CRANBERRY ROLY POLYS

By VIVIAN M. PRESTON

These are very good and so pretty. They can be served as a snack with a drink while watching the Thanksgiving football games or at an evening buffet.

1/2 cup vellow cornmeal 1 1/2 cups sifted flour 3 teaspoons baking powder 1 teaspoon salt 1/4 cup sugar

1/3 cup shortening 1/2 cup milk

1 cup thick cranberry sauce 2 teaspoons grated orange rind

Sift together dry ingredients. Cut in shortening with two knives or use a pastry blender until mixture resembles coarse crumbs. Add milk and mix lightly only until ingredients are dampened. Turn out on a lightly floured board and knead a few times.

Roll out to form a rectangle 8 x 14". Combine cranberry sauce and orange rind, and spread over dough. Roll up and cut into 1" slices. Bake in greased muffin tins in 400 degree oven for 15 to 20 minutes. Remove from oven, let stand a few minutes, then remove from pan. Makes 12 to 15 Roly Polys.

# WEATHER WATCH

#### WASHINGTON

May continued mild but the temperature rose to a 72 degree maximum on two days, the 26th and the 31st. There was a bog low of 32 degrees on the 16th, and the minimum temperature of 35 degrees at the weather station. Precipitation for May totaled 4.46 inches with the greatest storm of 1.04 inches on the 13th.

June maximum temperature was 73 degrees on the 13th and the minimum 40 degrees on the 30th. The precipitation totaled .82 of an inch.

July maximum temperature was 70 degrees on the 20th and the minimum was 41 degrees on the 18th. The precipitation totaled 2.49 inches with the largest storm on the 10th of .75 of an inch. Overcast skies and pea-soup fog have continued much of July and into August as the high temperatures in the 90's hit Portland, Ore., and Seattle.

A.Y.S.

#### NOVA SCOTIA

We have had one of the wettest summers on record. Precipitation in July was 172.5 mm, which was more than double the 30-year average of 70.2. The highest rainfall, 56.4 mm, occurred on July 28. It follows that our temperatures were cooler and hours of sunshine were below normal.

I.V.H

#### MASSACHUSETTS

July was cold, dark and wet. Temperatures averaged 1.6 degrees a day below normal. Maximum temperature was 92 degrees on the 7th and minimum 49 degrees on the 4th. The only warmer than average days were the 7th and 8th. Cooler than average periods were the 2nd-4th, 6th, 12th-14th, 20th, 28th, 30th and 31st. The month was cloudy with the least sunshine since 1967 and tied with 1969. Because of the cloudiness the daytime temperatures were considerably below normal while the night minimums were normal or slightly above.

Rainfall totaled 4.39 inches or slightly more than 2 inches above normal. This is the 6th largest in our records and the most since 1973. We had 11 days with measurable rainfall with 1.84 inches on the 2nd as our greatest storm. We are about 2% inches above normal for the year, but are about 7% inches ahead of 1985.

I.E.D



# **Need Help?**

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



P.O. Box 7, Taunton, Mass. 02780, Tel: (61") 824-7578 Located on Rt. 44 14 Mile West of Rt. 24





## Mortgage...

(continued from page 10)

afford

If rates dropped since taking out the mortgage you have the opportunity to pay the ballooned balance by taking out a new mortgage at lower payment rates.

Miriam Levy, assistant vice president of the Ft. Lauderdale office of mortgage bankers Stockton, Whatley, Daven & Co., says, "These creative financing gambits should be done away with, and there is no better time than now. Even if rates are low now, they might blow up one way or another in a different economic climate."

Your tax advisor will most likely warn about tax savings. If you follow his usual advice it is to not add the point cost to the closing, And, it is usually better to do this with a separate check. These points are tax deductible and will result in a tax savings, reducing the overall cost of refinancing.

What about those sitting with 15, 16 or

17 percent mortgages? These people should not be foolish and overpay interest and the monthly carrying charge for interest and principal.

If you are one of these people, run, don't walk, to banks or lending institutions in your area and ask about current rates

bloseph Arkin holds a BBA degree in accounting from St. John's University and an MBA in taxetion from Pace College, and is licensed by the states of New York and Florida as a CPA. It has had more than 8,000 articles published in leading trade new spapers and magazines.)

WHAT CAN YOU SAVE? Illustrated are the savings to be had on a 30-year fixed rate mortgage balance of \$75,000 with a 15 percent rate refinanced with a 9.75 (9%) percent mortgage, plus savings for other interest rates:

Mortgage Rate	Present Monthly Payment	New Payment-9.75%	Monthly Savings
15,00	\$ 948.33	\$ 644.37 \$	303.96
14.50	918.42	644.37	274.05
14.00	888.65	644.37	244.28
13.50	859.06	644.37	214.69
13.00	829.65	644.37	185.28
12.50	800.44	644.37	156.07
12.00	771.46	644.37	127.09
11.50	742.72	644.37	98.35
11.00	714.28	644.37	69.87
10.50	686.05	644.37	41.68
10.00	658.18	644.37	13.81
9.88	651.26	644.37	6.89

Source: Bank Rate Monitor, No. Palm Beach, Fl. 33408.

#### The scoop of the year!

Cranberry Flavor, Fact and Folklore in

THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries . . . you'll find this book a treasure."—Des Moines Register, Paperback, Sa, 92





Please send BERRY CO	copies of THE CRAN- NNECTION, \$8.95 each.
	Zip
Add \$1.50	for postage; Conn. residents

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414

# Pump Repairs

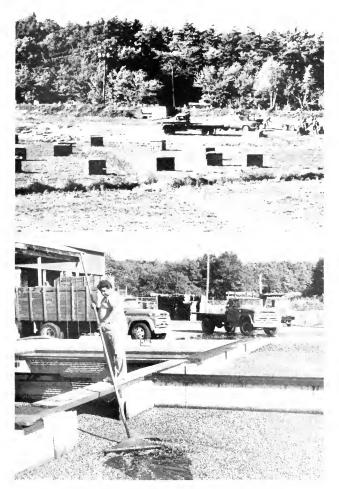
All Types

Field Service & Shop 20 Years Experience

# AAA INDUSTRIAL PUMP SERVICE INC.

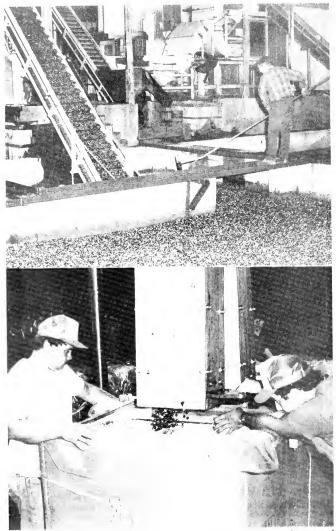
66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

CRANBERRIES gives you the news and views of the industry.



### **Harvest Time: A Photo Album**

ABOVE: Workers on the Hiller Cranberry Bogs load wooden crates with berries to be flown to shore by helicopter, where the crates will be loaded onto trucks and transported to the Peter A. LeSage Cranberry Handling Plant of Carver, Mass. BELOW: A worker moves the floating cranberries from a holding tank toward an elevator with the use of a snow rake. Each of the holding tanks at the LeSage Plant is six to eight feet deep, and can hold over 700 barrels of berries. (All photos on these pages by Robert B. Fitch)



ABOVE: A night shift worker "feeds" the elevator with water-harvested cranberries at the LeSage Plant. BELOW: Workers fill "bottom bins" with water-harvested cranberries. The bins weigh about 1,000 lbs. each when filled, and are stacked one on top of another, so each top and bottom bin together weigh a ton when shipped.



ABOVE: The hand screening (inspecting) process of dry-harvested cranberries demands concentration and a sharp eye. BELOW: A cranberry industry veteran loads the hand screened, dry-harvested berries into wooden boxes to await packaging for the fresh fruit market.

## High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft

marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

"We're Best on Earth"
One vd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching

> 307 West Grove Street (Rte 28) Middleborough MA 02346

## KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp.
Compact Excavators 1½ to 6 ton
Wheel Leaders ½ to ¾ yd.
Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements
Polymark Beaver-Mowers

947-6299

Specialty Fabrication Work
Kubota Financing as Low as 81/2%

#0= FO FO 1 FO 1 FO 1 FO

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607

AMES

Irrigation Systems
RAIN BIRD
Sprinklers

HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

# Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

### Farrell Equipment Repair

FULLY EQUIPPED ROAD SERVICE & PORTABLE WELDING

AFFORDABLE HEAVY EQUIPMENT SERVICE

IRRIGATION PUMP REPAIR, L P GAS WORK, ETC.

QUALITY WORK AT LOW RATES

REFERENCES AVAILABLE

(617) 748-0394

MIKE FARRELL COUNTY ROAD MARION MA 02738

# Baker Tractor Corp.

SALES 678-5692 190 G.A.R. Hwy. U.S. Rt. 6 Swansea, Mass.

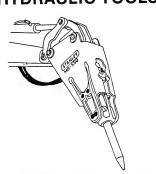
PARTS 678-5645

We Are Pleased To Announce 3 New Product Lines To Help Meet Your Needs

T C M WHEEL LOADERS .5 to 4.6 yards



# STANLEY MOUNTED HYDRAULIC TOOLS



## NEW HOLLAND SKID LOADERS



SALES • SERVICE • RENTALS • PARTS

Serving Southeastern Massachusetts and Rhode Island since 1916

#### CAPEWAY BEARING & MACHINE. INC. BEARING & DRIVELINE SPECIALISTS



#### BEARINGS

BOAT & TRAILER BOWER - BCA C/R FAG FEDERAL FLANGE UNITS INDUSTRIAL

MAPINE CUTLAS PILLOW BLOCKS THIKEN TORRINGTON

#### DRIVELINE COMPONENTS

BORG-WARNER C/V SHAFTS DETROIT FRONT WHEEL DRIVE AXLES HANGER REARINGS MOTOR MASTER UNIVERSAL JOINTS PTO COMPONENTS

ROCKWELL SPICER CLUTCHES UNIVERSAL JOINTS FOR ALL CARS
TRUCKS AND HEAVY EQUIPMENT

#### FILTERS

BALDWIN

#### COMMERCIAL PUMPS & COMPONENTS CRESEN HYDRAULIC HOSE

#### LUBRICATION ALFMITE SUPPLIES

VENDALL NEVER-SEEZ **CUAKER STATE** 

#### SEALS

NATIONAL NATIONAL O-RINGS STEMCO

#### TRANSMISSION & REAREND

FATON FULLER DOCKWELL SPICER

TRANSMISSION & REAR AXLE
REBUILDING KITS POWER TRANSMISSION

#### COMPONENTS BROWNING COMPONENTS

CHAIN MECHANICAL CLUTCHES RIGHT ANGLE DRIVES SPROCKETS

#### SUPPLEMENTARY PRODUCTS

BRONZE BUSHINGS + BIG RIG EXHAUSTS + CARDO CLUTCHES & WATER PUMPS + DAYCO BELTS GASKET PAPER + HAND CLEANER + HARDWARE + HELICOIL + HYDROFLO WATER PUMPS LOCKING HUBS . LOCTITE . MORSE CABLES . POLLACK ALARMS MARINE SUPPLIES AND ACCESSORIES

57 SUMMER ST., KINGSTON, MASS. 02364

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line, Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals. Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION. INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

#### Radnia Appointed Laboratory Manager

P. Matthew Radnia has been appointed laboratory manager of Brogdex Company of Pomona, Calif., a leading supplier of post-harvest preparations for the fresh fruit and vegetable industry.

The position of laboratory manager is a new one, having been created with the elevation of John Bice to the position of vice president and chief scientist.

Dr. Radnia will be responsible for all laboratory functions, including research and development, according to an announcement by Thomas E. Blackwell, Brogdex executive vice president.

Dr. Radnia is a research specialist in the field of organic chemistry. Before joining Brogdex he was employed by Diagnetics, Inc., of Tulsa, Okla., where he specialized in the application of polymer chemistry to filtration and contamination control.

## Nematodes...

(continued from page 9)

vae in the bog soil for at least six weeks.

There was also evidence that they were capable of moving at least a few feet from where they were applied. Much more research is needed before nematodes can be recommended for black vine weevil control but we are encouraged by the results we now have.

#### 8. Are there any restrictions on the application of pesticides through sprinklers?

Currently, a pesticide may be applied through irrigation sprinklers if the label does not specifically forbid it. EPA is proposing new rules that probably will greatly affect our cranberry industry, Basically, the proposed rules will state that each chemical must be registered on each crop that is to be treated by an irrigation system. For example, the diazinon label will be required to specifically state that diazinon may be applied to cranberries through irrigation sprinklers if W W e a f e h a m Mass.

R.D.GRASSI Cranberry SERVICES Rick 5158

SANDING WIPING Applied PATILIZER

CLIPPING MOWING

HARVESTING WET

Mowing Includes Hydraulic Arm Mower

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

# LARCHMONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



## IRRIGATION EQUIPMENT DESIGNED ESPECIALLY FOR THE CRANBERRY INDUSTRY

FOR EXAMPLE: —

Gorman-Rupp Self Priming Electric Sprinkler Pumps Proven Ouick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

#### Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



#### Contact:

Steams Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 (617) 746-6048



# J.A. JENKINS & SON CO.

Grower Service

MOWING (ALL TYPES)
SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018





# The UNIQUE GIFT from WISCONSIN

salarer a bit calor instorically accurate their and head steeding detection.

Each box is signed and numbered by araberly writes Anward Canabra.

The hinged over makes this collector's less andy disrupe box.

Packet with crushers's bissens home, and story and any disrupe box.

Packet with crushers's bissens home, and controllery being being box of the packet has been and any disrupe box of the packet has been and packet by the packet has been and packet by the packet has been and packet by the packet

835 each plus \*2" postage/handling (WI residents add 5% tax) Ann Kurz Chambers 1631 4th Street, Port Edwards, WI 54469

A CRANBERRY GIFT BOX

Measure: 1 24 U.S. Standard Cranberry Barrel 113/x71/x43/

# Big Wheel Truck Sales 42 Quanapoag

++++++++++++++++++++++++++++++++

E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England All types of diesel repair

Largest tow trucks on the East Coast

+++++++++++++++++++++++++++++

Call Bob or Joe

(617) 763-5927 or (617) 763-8745 it is to be applied in that way. Also, it will specify the type of injection system that is to be used and require certain types of back-flow restrictors. There may be modifications of the proposed rules before they are finally adopted but I am guessing that there will be a real impact on your pest control methods. I suggest that you begin to at least consider what other methods might be used for applying pesticide sprays to your bogs. You will be informed of any final changes by the Cooperative Extension.

# 9. What is the safest way to apply Furadan granules for black vine weevil control?

We have been dismayed by the number of cranberry growers who have developed symptoms of Furadan poisoning while applying the chemical. In early June, Dick Maxwell, Agricultural Chemicals Specialist at Washington State University, and I wrote a letter outlining the hazards of Furadan, suggestions for safe handling of it, and treatment if symptoms of poisoning occur. We urge you to read the letter and follow the suggestions. The letter is available from the Coastal Washington Research and Extension Unit.

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288

# YLON BERRY BAG

- · 8-9 Barrel Capacity · Cost Efficient
  - · Easy to Handle
    - No Wheel-Off Rigs
      - · No Bulk Bins
        - · No Fork Lifts

- Custom Made -

Allow 4-6 weeks for delivery.

\* CONTACT \*



## C.R. LEONARD & SONS INC.

ACUSHNET, MASS. 02743 TEL. 763-2712

**Detrashers** 

Flumes

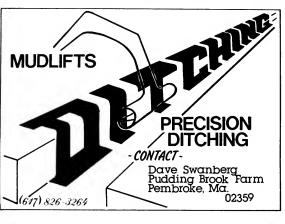
Conveyors (steel or aluminum)

Shearing · Shop Welding Bending

## STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM

Contact Dan Sullivan 23 Rear Chauncy St. South Weymouth MA 02190 (617) 337-4728



# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G • PARATHION • ETHREL

## Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO.
P.O. BOX 7211, MADISON, WISCONSIN 53707
608-221-1581

Book Review

# Fort Compiles Field Guide To Cranberry Insect Pests

By ELIZABETH G. CARPENTER A picture is worth a thousand words, as Walter Zeigler Fort's Cranberry Insects, A Portfolio, illustrates.

Long time field man in New Jersey for the Cranberry Marketing Committee, Fort is well aware of the devastation minute insects can bring to one of New Jersey's leading agricultural crops, cranberries. Over the years, he has used his photographic skill to capture early developmental stages of major pests—the girdler, fireworm, tipworm, firebeetle, blossom worm, armyworm, bluntnose leafhopper, and cranberry fruitworm—as well as the damage caused by each.

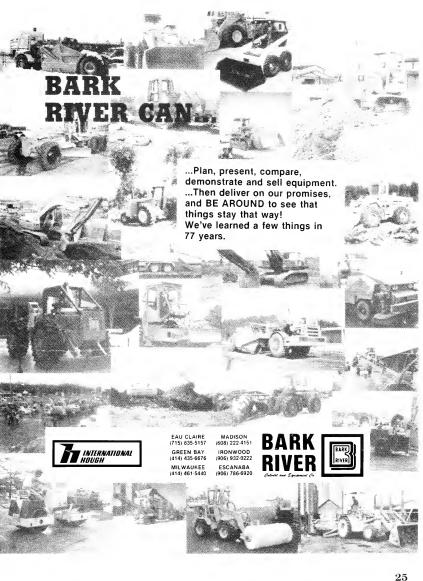
In response to growers' requests, Fort has now compiled a portfolio of 743-inch by 5-inch colored photos, showing various insect pests and the damage each does. Accompanying explanatory text, including line drawings of actual insect length, make this an outstanding field guide, that, as Fort explains, "can be useful for a lifetime."

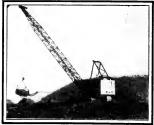
This affordable package, dedicated to Philip E. Marucci. "entomologist par excellence" and retired director of the Rutgers University Blueberry/Cranberry Research Center, may be purchased for \$100. Anyone wanting additional information about the portfolio or wishing to examine a copy before ordering may contact Fort by calling (609) 894-8616.

Many New Jersey growers have already made Fort's portfolio a part of their working libraries and can attest to the value of the guide. Unquestionably, growers in other cranberry producing states and Canada will find this a valuable resource—one that is vividly illustrated, clearly written, and well documented.

Have a piece of equipment you want to sell?

Write or call: CRANBERRIES P.O. Box 249 Cobalt CT 06414 (203) 342-4730





### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4-3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

## Niemi Electric Co.

ROBERT NIEMI

ELECTRICAL CONTRACTORS
HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.



Wareham, Mass.

### STAY INFORMED

Stay up-to-date on all the news and views of the cranberry industry. Keep in touch with reports on new pesticides and herbicides, new equipment and services, new growing procedures and upcoming legislation that will impact on growers like yourself.

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine. Subscribe today!

\$10 a year — \$18 two years

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414

CRANBERRIES gives you the news and views of the industry.

CRANBERRIES is read by more than two-thirds of the growers in the U.S.

No matter how small your business, you can afford to place an ad in the magazine that serves the industry: CRANBERRIES!



# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

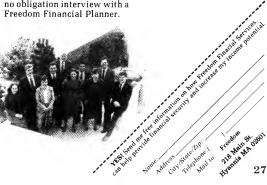
Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm



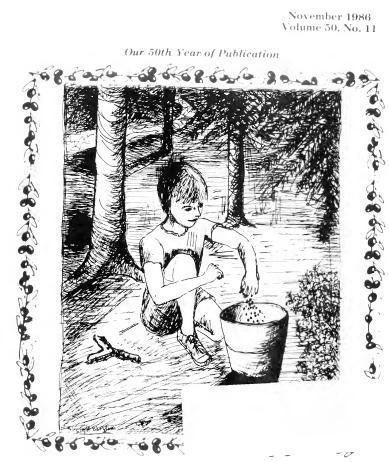


The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

November 1986 Volume 50, No. 11

Our 50th Year of Publication



Picking In Alaska — 3 Wisconsin Field Day — 6

# **Baker Tractor Corp.**

190 G.A.R. Hwy. U.S. Rt. 6 678-5692 Swansea, Mass.

PARTS 678-5645

We Are Pleased To Announce 3 New Product Lines To Help Meet Your Needs

# T C M WHEEL LOADERS .5 to 4.6 yards



# STANLEY MOUNTED HYDRAULIC TOOLS



## NEW HOLLAND SKID LOADERS



SALES • SERVICE • RENTALS • PARTS

Serving Southeastern Massachusetts and Rhode Island since 1916

# Picking In Alaska

# Wild Cranberry Becomes More Than Holiday Treat

By SHIRLEY J. MURDOCK

Until the early autumn of 1979, ranberries had been to me the byely jewels that adorned hanksgiving and Christmas. It is a considerable of the high the berry hanged when the bound-forollege young man next door ppeared one day to ask, "Would ou like to know of a good spot to ick wild cranberries?" Having o abandon his picking grounds imself, he was willing to share

them.

To my enthusiastic "Yes!," he described the route which headed out a dirt road, close to our homes near Palmer, Alaska, then meandered over a rutted path in a farmer's field and finally wound through a woods near a creek which was a spawning ground for sockeye salmon.

With modest-sized picking pails in hand, our family of five set out to claim the booty. August mornings were already cool at that latitude; gardeners had been harvesting in earnest, knowing that the first frost was just around the corner.

As we drew closer to the creek, which at that location burbled across rocks and windfalls, we left the path to search under the tall spruce for signs of our neighbor's wild cranberry patch. First we saw the dainty "waxed" leaves, and soon we spotted the petite sister of the large tame cranberry which most North Americans pick up in four-cup plastic bags from their produce counters. Carefully kneeling in the mossy undergrowth, which had an extra cushioning of spruce needles, we discovered a treasure trove of scarlet nuggets hiding beneath polished leaves.

The "plunk, plunk, plunk" of empty pails receiving a first layer echoed in the cool morning air. Soon, our three young sons, who had come armed with homemade slingshots to bag some spruce hens, laid down their weapons to join in the exquisite delight of pulling a small handful of berries into a bucket with each out-

reach.

The rising sun found us with nearly-full pails and heady with excitement of raking in so many berries in so short a time. Flushed with success, we planned to return the next morning with bigger containers.

Once home, we dumped the berries in cold water in the sink for cleaning. Dismay descended. Leaves, spruce needles, spider webbing—everything adhered to our beautiful cranberries and we foresawhours of cleaning. Clearly that wouldn't do.

Then, one of us (I think it was me!) remembered reading about farmers separating wheat from chaff by pouring the wheat and allowing the wind to winnow the chaff. Sure enough, as our sturdy gems rolled from colander to bowl and back again in the late summer breeze, they were soon free of all debris and ready to be packaged in one-quart ziplock bags for freezing.

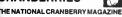
AFTER SEVERAL MORE trips to our land of spruce hens and cranberries, our harvest



# COVER ILLUSTRATION

SHERYLL English, a Wethersfield, Connecticut, artist, illustrated the story about cranberry picking in Alaska by Shirley J. Murdock that begins on this page.

#### CRANBERRIES



SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN DESIGN DIRECTOR: R.J. SHEMKOVITZ ASSOCIATE EDITOR: CAROLYN GILMORE

(617) 763-5206 ADVISORS & CORRESPONDENTS

MASSACHUSETTS — Irving E. Demoranvilla, lrector, Cranberry Experiment Station.

NEW JERSEY — Phillip E. Marucci, Crenberry & Blueerry Specialiat, Crenberry & Bluebarry Laboratory, hateworth; Elizabeth G. Carpenter, Chatsworth

NOVA SCOTIA — I. V Hall, Botanist, Research lation, Kentville
OREGON — Arthur Poole, Coos County Extension gent, Coquille.
WASHINGTON — Azmi Y. Shawa, Horticulturist and

WASHINGTON — Azmi Y. Shawa, Horticulturiat and xtension Agent in Horticulture, Coastal Weshington essarch & Extension Unit, Long Beach. WISCONSIN — Tod. D. Planer, Farm Menagement

WISCONSIN — Tod. D. Planer, Farm Menagement gent, Wood County.

RANBERRIEB is published monthly by Olversilled erfodicals, Welheyn Drive, Portland CT 06460. Second sea poetage is gold at the Portland, Conn. Pool Office. rice is \$10 a year, \$18 for two years, \$1 a copy in the \$3. \$12 a year in Cenade; \$15 a year in all other burnifee. Back copies: \$2, including poetage. Copyright 86 by Diversilled Periodicals.

ISSN: 0011-0787
Poetmaster, send Form 3749 to:
CRANBERRIES
P.O. BOX 249
COBALT CT 05414

amounted to 33 quarts. Our freezer was filling fast, so we decided to leave the remainder of the plentiful supply to the bruins.

Although it was joy enough to open the freezer simply to behold the stacked packages of deep-red berries, we were anxious to savor their tangy goodness. But, Thanksgiving was still more than two months away.

A trip to our local home extension office yielded a booklet with tasty recipes for cranberry bread and muffins. On my own, I discovered that chopped cranberries in pancakes gave the batter a tart zing that was a delicious counterpoint to maple syrup.

My husband found this "new" cranberry relish as appealing as our old standard:

#### CRAN-ORANGE RELISH

4 cups cranberries 2 oranges with peel 2 cups sugar 1 cup ground walnuts

Put cranberries and oranges through a food grinder. Mix in the sugar and walnuts. Refrigerate several days before serving.





But the recipe that made m want to go out and pick ever last red morsel off its low-to-the ground bush was one brought to me by our berry benefactor' mother. It is rich, yet retain that incomparable cranberry tang.

#### WENDY'S CRANBERRY REFRIGERATOR CAKE

Mix and set aside: 4 cups cranberries (chopped i tame, whole if wild) 2 large bananas (diced) 1 1/3 cups sugar

Other ingredients:
4 cups crushed vanilla wafers
1 cup butter
2 cups confectioner's sugar

4 eggs

4 eggs 1 cup chopped nuts

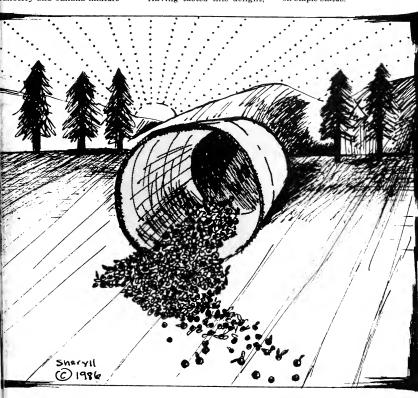
1 cup whipping cream

Place one half of the crushed vafers in a lightly buttered 9" x 3" pan. Cream butter and conectioner's sugar. Add eggs and eat well. Spread this mixture ver layer of crumbs. Top with ranberry and banana mixture

and sprinkle with nuts. Whip cream and spread over all. Cover with remaining wafer crumbs. Chill at least 4 hours (better if chilled overnight).

Having tasted this delight.

even the cranberry novice will understand how that once holiday-only berry has taken up year round residence at our home. A delight to the eye and to the palate, the cranberry has taken on staple status.



### reeSweet Lite xpands To East

Presewest Lite, which includes a drink led Cranberry Lite and which claims be the nation's first full line of juice verages with at least one-third less ories than regular juice drinks, will be ailable this fall to consumers in an oanded marketing area that includes entire East Coast of the United States. Besides Cranberry Lite, the line features five other juice beverages—Orange Lite, Apple Lite, Grapefruit Lite, Pink Grapefruit Juice Cocktail Lite and a juice blend called Citrus Combo Lite—all featuring natural fruit juice tastes with calories reduced by one-third to twothirds.

In June, Houston-based TreeSweet announced the introduction of the Lite line into approximately 40 percent of the United States including Texas, California and Midwestern markets where the TreeSweet brand has extensive distribution

"Since we first announced the product this summer, the response from brokers and orders from the retail trade have been overwhelming," said Randy Meissner, vice president of new business development for The TreeSweet Companies. "With this unprecedented and most favorable reaction, combined with strong feedback from our consumer research, we decided it would be strategically sound, even before distribution, to broaden our market for TreeSweet Lite."

# Wisconsin Field Day Called 'Biggest' Yet

#### By FREDERICK M. POSS

As the last humid dog days of August finally ripen crops planted long months earlier, cranberry growers from across the north country of Wisconsin make it a practice to gather their thoughtsbefore they attempt to gather the bounty of their bogland.

This ritual gathering of trade and technology is called a "field day." And this year growers, manufacturers, salesmen, and processors could truly boast they had ventured far afield in search of a successful harvest.

The 1986 Wisconsin Cranberry Field Day was held Wednesday, August 6. Hosted by the cooperative efforts of the tours and lunch tickets at the Ocean

John Rezin Jr. family and the Ocean Spray Cranberry Processing Plant, the sharing of information and business practices was impressive.

"The biggest and best yet!" was Nodji Van Wychen's response to how the show came off, and as the vice president of the Wisconsin Cranberry Growers Association, she is in a position to know. Her association sponsored the field day this year along with help from the Monroe County and University of Wisconsin Extension office.

A record crowd eagerly signed up for

Spray Plant, Jim Peterson, managero the Warrens Receiving Station, was a busy man from 9 to 10:30 a.m. a somewhere between 800 and 1,000 peo ple showed up for the festivities.

And no one was left disappointed!at least as far as Nodji's helpmate, Jin Van Wychen was concerned.

"There were nearly 100 indoor and outdoor exhibitors this year," h explained. "And when people weren' touring the state-of-the-art cranberr processing facility that Ocean Spra constructed at Warrens, they were tal ing a bus tour of the John Rezin Ji cranberry marsh.



A RECORD NUMBER of visitors toured the Ocean Spray Receiving Plant located between Tomah and Warrens. Buses shuttled people to the nearby North Tomah Cranberry Company too, so that they could see how cranberries are handled from start to finish. (CRANBERRIES photo by Frederick M. Post



MEMBERS of the Warrens Lions Club peel, slice, and dice plenty of potatoes for the anticipated urge of hungry field day visitors. A crowd of about 1,000 showed up to consume information and ome home cookin'. (CRANBERRIES photos by Frederick M. Poss)

Even helicopter rides were made vailable—for those who wanted to get ne "big picture" of exhibitors, plant, arshland... and most of all, cranberes in the field.

The August sun didn't let anyone iss a single sight either. Its warm use guaranteed everyone a front row at, and the 25 cranberry growers who ad come from Massachusetts must ave found the Wisconsin climate at ast as good as their New England. ertainly, they didn't miss the displays and booths filled with chemical and trilizer information. Nor could they we missed the impressive lines of eavy equipment which growers find a necessary to break new ground or necessary to break new ground or their their long awaited produce.

Ladies even found displays to their ting. Booths of interest to women cluded cranberry art, t-shirts, greetg cards, and even cranberry tea. imples of cranberry fritters, ice cream ith cranberies, and the usual line of

pop and beer was assembled for the tired and thirsty. The Warrens Lions Club catered the much needed noon meal.

The afternoon, too, was a busy and business filled time. Larry Rezin, president of the Wisconsin Growers, was the moderator for the association's business meeting.

After committee reports and a message by the president, a professional engineer from Lampert, Lee and Associates of Wisconsin Rapids addressed the assembly. Will L. Lee gave an interesting speech dealing with the important aspects of cranberry dam construction and safety.

The August sun had reached its zenith and was already sliding toward the oak hills of West Central Wisconsin as Lee finished his address. The meeting was adjourned around 3 p.m. And, if the heat of the meeting and the warmth of the sun were any indication, the gathering of producers, industry, and

sales will go a considerable way toward the success of another autumn harvest of Wisconsin's ever-bountiful cranberry crop.

# Sundance Introduces Cranberry Beverage

Pacific Health Beverage Co. recently launched its new advertising campaign for Sundance 100 Percent Natural Juice Sparklers this week in California.

According to Hunter Hastings, vice president of Pacific Health Beverage Co., the advertising schedule will rank Sundance as the number one advertiser among brands of its type.

The 30 second TV spots, produced by Ross Roy Advertising Inc. of Detroit, highlight the four varieties of Sundance, including cranberry, apple, orange and grapefruit.

Pacific Health Beverage Co. is a wholly owned subsidiary of The Stroh Brewery Company.

## WEATHER WATCH

#### MASSACHUSETTS

August was cool, cloudy and slightly on the wet side. Temperature averaged 2 degrees a day below normal. Maximum temperature was 85 degrees on the 4th and minimum 40 degrees on the 30th. This was the coolest August temperature since 1965. In fact, we issued a frost warning for the 28th which is the earliest in more than 40 years. Bog temperatures ranged from 26° on up. The only warmer than average day was the 4th. Cooler than average periods were from the 19th-21st and 23rd-30th.

Rainfall totaled 5.13 inches, which is slightly more than 3/4 inch above normal. There was measurable rainfall on 12 days with 1.41 inches on the 18th-19th as the greatest storm; this was associated with Hurricane Charley, which caused the postponement of the Cape Cod Cranberry Growers Association annual meeting from the 19th to the 21st. The burricane did not develop however. We are now 3 2/3 inches above normal for the year and almost exactly even with 1985. I.E.D.

#### NOVA SCOTIA

Earlier I reported that 1986 was one of the wettest growing seasons on record. In view of the cool temperatures during the

month of August, it will be also one on ... coldest. Maturity of many crops was delayed. Low lying areas were subject to near frost or frosty conditions on August 29, August 30 and Sept. 5.

I.V.H.

307 West Grove Street (Rte 28) Middleborough MA 02346

#### Diesel Equipt. KUBO

Tractors 2 & 4 wheel drive - 12-90 hp.

Compact Excavators 11/2 to 6 ton Wheel Leaders 1/2 to 3/4 vd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of implements Polymark Beaver-Mowers

947-6299

Specialty Fabrication Work Kubota Financing as Low as 81/2%

> FO→. FO≥ > FO FO \ FO ~~O~

Office 295-2222 REATON'S

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

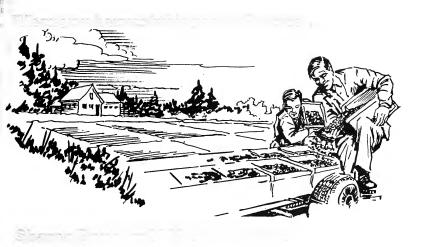
P. Beaton 947-3601



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes



Chances are, we're already there. Over the years, we've turned out thousands of cranberry boxes. So you see, we may have been at your annual picking for many years now.

But did you know that Sharon Box can help you long before the crop comes in? Besides special Boxes, Shooks, Skids, and Pallets, we can take care of your Utility Shed needs. No matter where on the bog, or what size. How about Portable or Stationary Pump Houses? Are they in your future plans? Then Sharon Box should be, too.

There are so many ways we can help you bring it all in. Why not give us a call.

All Pine Framing Choice of Siding Style Large Heavy Duty Door Fixed Window Shingled Roof Gable Vents



# Sharon Box Co., Inc.

216 NORTH MAIN STREET • SHARON, MA 02067 (617) 784•2477, 2581. BOSTON (617) 361•6060

# Washington Entomologist Discusses 1986 Research

By CARL H. SHANKS JR.

EDITOR'S NOTE: The following paper was presented at the recent field day held at the Coastal Washington Research and Extension Unit in Long Beach.

Insect research on cranberries this year involves two main areas: (1) control of black vine weevil, and (2) use of sex pheromone traps. I will briefly summarize the research and results obtained at the time this was written on July 8.

#### Black Vine Weevil

We are trying to find an insecticide that can be sprayed on the foliage to kill the adult weevils

before they lay eggs. Unfortunately, chemicals that work very well on strawberries and raspberries have performed poorly on cranberries. We are not sure of the reason for this, but for some reason the weevils do not get a lethal dose when walking on cranberry vines.

In April, we applied an insectparasite nematode to cranberry plots infested with black vine weevil larvae. Although soil temperatures were lower than desirable, a good number of larvae became infested by nematodes. Also, we learned that the nematodes survived in the soil for at least six weeks and were able to move laterally for at least a few feet. These are both useful properties to have in a biological control agent. Further work with the nematode is planned.

#### Pheromones

Pheromones are chemicals produced by animals to send signals to others of the same species. We are working with sex pheromones emitted by female moths to attract male moths of the same species.

Blackheaded fireworm pheromone is being tested as bait for traps for the second year. The 1985 results showed us very clearly which bogs had high adult fireworm populations, when peak populations occurred, and the effect of various spray schedules. Results so far in 1986 are yielding similar information. Addi-

# CRANBERRY BOOMS TRUCK COVERS

Sewn & Repaired / Rubber Tie Downs

# Middleboro Canvas Works

A DIVISION OF DUXBURY OFFSHORE INC.

### Newly Developed Cranberry Boom To Replace The Old Wooden Boom

The boom weighs a fraction of the old wooden boom. It is 6" in height with a 3" freeboard and 3" draft. It is 1.5" thick with ballast weights on the bottom, made of materials that meet federal specifications and is virtually maintenance free.

# Unbeatably Priced at \$3.90 / foot LOCATED IN THE HEART OF CRANBERRY COUNTRY

OFFICE: 52 JOSSELYN AVE. P.O. BOX 6 SNUG HARBOR DUXBURY, MA., 02331 PLANT: (FROM 6 A.M. TO 2 P.M.) 70 CAMBRIDGE ST. MIDDLEBOROUGH, MA. 02346 TEL. (617) 947-5490

TEL. (617) 934-0566; TLX. 940-733 PETER DUXB, FAX. (617) 934-7301

# KUBOTA **COVERS THE FIELD**

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance

KUBOTA B AND L SERIES TRACTORS

15\*

19\*

22.5\*

PTO HP

21° 29

29\*

23.5\*

Model CVI HP

B5200

B6200 B7200

B8200 B9200

T 245HC

L345 L355 SS

1.2250

L2550

1 2850

L3350

1.3750

L4150



Choice of Transmission

Hydraulic shuttle shift

Mechanical shortle shift

Mechanical shuttle shift

Mechanical shuttle shift

Standard

Hydrostatic

Standard

Standard

Hydrostatic

Standard



Model	CYL	HP	Transmission
G3200	2	10	Standard
G4200+	2	1.2	Standard
G4200H	2	1.2	Hydrostatic
G5200H	3	14	Hydrostatic
G6200H	3	16	Hydrostatic



KUBOTA M SERIES TRACTORS

Model	CYL	РТО НР	Speeds Forward/Reverse
M4030	6	43.00	8/4
M5030	6	49.00	16/4
M6030	3	57 00	16/4
M7030	4	68 00	16/4
M8030	4	76 00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85 00	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field.

8 x 8 Or Hydraulic shuttle shift Nothing like it on earth."

# **ELLIS IMPLEMENT**

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

## High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with

marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285 tionally, we are seeing that trap catches may vary drastically when the traps are separated by only 50-100 feet. Therefore, it will be necessary to use several traps well-scattered over your bogs. The number of traps per acre is vet to be determined.

Cranberry girdler populations had just begun to rapidly increase on June 26 when the heat unit accumulation since January 1 was about 1,200 (base 42° F.). I am estimating the peak will occur about July 10 when heat units should total close to 1.500.

We are experimenting with the use of malathion to keep girdler moths to a low level. A cooperating grower applied malathion on June 23 and the girdler moth trap catches went to zero. However, after five days the catches started to increase and he made a second application on July 2. By July 5 no girdler moths had been caught in the traps. These sprays also controlled the fireworm adults, although it was too late to prevent most egg laving, and they also should control larvae that were present. The results suggest that a malathion spray could be applied earlier to kill fireworm adults before they lay eggs.

This article is intended to be only a progress report and not for giving recommendations. If any of this research results in new recommendations, you will be so notified by the Cooperative Extension of Washington State University.

> Have a piece of equipment you want to sell?

Write or call: CRANBERRIES P.O. Box 249 Cobalt CT 06414 (203) 342-4730

# **Avoiding The Hidden Costs Of Computer Conversions**

#### By CHRIS FISHER and HARRIET WRIGHT

The most important aspect of computerization is "planning." It is as important to plan for the actual transfer of data from a manual billing system to computer (computer conversion) as it to plan for the purchase of a computer system for your business. With careful planning, both expected costs and unforeseen costs of converting to the computer system won't punch a giant hole in your checkbook.

Most business owners spend their time and energy in the selection of the microcomputer that will best suit their needs. Once they have paid the price for the system, they are surprised at the additional cost of the data transfer. Since many problems can arise during a computer conversion, these costs can run as high as 30 percent of the initial cost of the system.

The bulk of these costs could have been greatly reduced or avoided altogether with a little planning.

Recently, one of our clients, a glazing contractor, had been plagued with cash flow problems and was very aware of the loopholes in his manual billing system, as well as other related problems, despite a loyal, competent office staff. The solution then, was obvious. Computerize. This would definitely speed up the invoicing process and solve the cash flow problem right away. Or so he thought. With the blessings of his accountant, the contractor signed the sales agreement with a computer firm located in Chicago and plugged in his magic problem solver. Then, a funny thing began happening to his check book.

## Problem 1. The Hidden Costs of Training.

The first unforeseen problem arose when the computer was installed and now the staff had to be trained in its use. A one week training program by one of the company's instructors had been included in the sales agreement. The problem was that there were no instructors in the contractor's area. Not included in the sales agreement, but chargeable to the contractor, were the hotel accommodations for the trainer during his stay in Los Angeles, as well as round trip airfare from Chicago.

During the training session. the contractor became concerned about additional training costs when it appeared that the sessions would have to be extended beyond the one week. This gave rise to situations not previously considered: 1, the ability of the employees chosen to learn the system; 2. the tendency by the trainer to cover all the training material by week's end regardless of the quality or quantity of comprehension by the employees; 3 lack of concern and attention to the condition of the conversion data being fed into the computer; and 4. the general knowledge and expertise of the employees to recognize errors and omissions with regard to the data being entered. In other words, under such time limits and short intensive training, the employees' errors were not caught and corrected before data was entered.

Not only did the instructor remain an additional week, but

it was necessary for him to schedule a return visit six weeks later to insure that both system and employees were functioning effectively.

Another "hidden cost" in the training of the staff is in subset quent or retraining. When a new employee is hired, especially a key employee regarding the computer, most business managers feel that the computer company is best suited to do the training. Also, retraining costs can be incurred if the owner or manager feels that the staff would benefit by additional training or if updated software is purchased. Most companies charge a separate fee for retraining of anywhere from \$200 to \$500 per software package per person. Some companies charge a monthly or yearly maintenance fee anywhere from \$35 to \$150 per month, which includes consulting and support from their company's technical staff.

#### Problem 2. The Hidden Cost of "Garbage In, Garbage Out."

Once the training has been completed, the actual conversion can begin in earnest. To avoid one of the most expensive "hidden costs," it is important that the records from the old systems be reviewed and cleaned up.

Again, the cost cutting elements is planning. It is going to cost you to have the previous systems audited, but that cost can triple if you wait until after input. Then the old system, as well as the current data, must be audited, and this is additional man-hours plus a possible adverse effect on your cash flow.

The resulting errors produced

by the new computer caused by your source documents and poor lata entry is known as "garbage n, garbage out," and can cost you a small fortune.

The single, most important part of a smooth conversion, and corect ongoing work, is the prepaation of the accounts before they ere input into the new system. Contrary to popular belief, a omputer is not an automatic vashing machine. You cannot out in a messy accounts receivale and expect it to come out of he printer clean, pressed and olded. On the contrary, it will be nore costly and time consuming o get your accounts in order nce they have been input into he computer.

To avoid unnecessary costs and readaches, the following steps hould be taken to "clean up"

efore input.

1. All of the ledgers should be econciled. This means that any secessary adjustments should be nade, bad debts turned over for ollection or written off, and any osting errors corrected. This eaves only the realistic open ecount balances ready to be nput into the computer.

Most systems start with an nput of a "balance forward" mount to each account. This is ine only if you keep the old ecords of all open items included n the "balance forward" amount. At the time a ledger is reconciled. ine out any balances that are ot open items. This ledger then ecomes a quick and easy refernce when a customer asks for in itemized statement of the alance forward amount. A reconiliation of this kind may also ring to light other previously indetected problems, such as nadequacies in the billing and ollection procedures, posting rrors, errors in addition, missng ledgers, statements that aven't been sent. All of these night be contributing to current ash flow problems, and are often gnored by computer instructors s they are well aware this adds

to the cost of computer purchase.

2. All the demographics pertinent to your accounts should be reviewed for completeness.

3. Prepare an "aging" of the accounts receivable. This is done by listing the balance due for each of your customers according to the amount of time the balances have existed. The aging schedule usually consists of a number of 30-day time interval columns. When the aging is totaled, it should equal the total balances on the ledger cards.

When your first aging is run from the computer, it should balance with the hand listed aging. This will catch any input errors and they can quickly and easily be corrected before new data is entered.

The cost for this preconversion "clean-up" varies and there are

many alternatives.

The least expensive is to have the current staff put in the extra hours, but only if they feel confident and experienced enough with the new computer system. Then, the cost is in overtime pay. But there are drawbacks. Overworked, tired employees have a higher error rate and the few extra hours per week that can be devoted to the conversion extend the time necessary to get the system fully operational.

Another inexpensive method is to hire extra full- or part-time, permanent personnel. This can possibly be more costly in the long run, but will speed up the conversion process without distrupting the daily work flow. When the conversion is complete, there is the task of letting these extra employees go and they may be entitled to collect on your unemployment insurance. You can, of course, hire or "rent" your extra employees from a temporary employment agency.

There are outside consultants, such as freelance accounts analysts experienced in computer conversion. Some management consulting firms have on staff personnel who specialize in

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass.

> Phone 824-5607 AMES

Irrigation Systems

Sprinklers HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

\*

\*

\*

\*

\*

\*

\*

\*

\*

\*

to serve your Crop Insurance needs than

\*

\*

\*

\*

\*

×

\*

\*

\*

\*

\*

×

#### THE BUTLER GROUP

1 Crop Hail policies on any commercia

crops—Hail, Fire, Vandalism and Transit
2 Federal Crop Insurance Policies for Apples, Potatoes, Tobacco, Corn, Cranberries

Applies, Potatoes, Fobacco, Corn, Cranberries and others

3 Home, Auto, Business, Life, Health
Call us for a quote or details

Call us for a quote or details

BUTLER Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512

\* \* \* \* \* \* \* \* \* \* \* \*

# Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511



# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

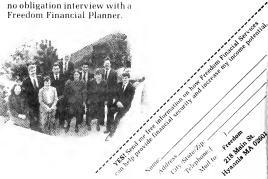
Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm



omputer conversions, are amiliar with various microomputer systems and are someimes recommended by the softvare company where the system s purchased. These accounts nalysts can reduce the converion time, usually with greater ccuracy. Higher cost here is the najor drawback as well as locatng the right person. But the earch is well worth it and can lleviate some of those "hidden osts" caused by omission errors nd duplicate work. Also, the ork is usually guaranteed.

Another alternative might be good freelance bookkeeper xperienced in computer converons that might be obtained rough your accountant or rough the computer company here you purchased the computer. Their hourly rates are less an a consultant but are usuly a little higher or competitive ith a temporary agency. The lvantage here is that the freencer might be more experienced an temporaries from agencies. heir fees are often negotiable

and they should have references.

The least expensive source is the temporary employment agency. Most do not specialize in computer conversion, but phone calls to these agencies will give you an idea of how experienced their stable of employees is. Many, but not all, temporary agencies extensively test and review their applicants to insure quality employees.

Problem 3. The Hidden Cost of Computerphobia.

Most people today are computer-conscious but many have not had "hands on" computer experience.

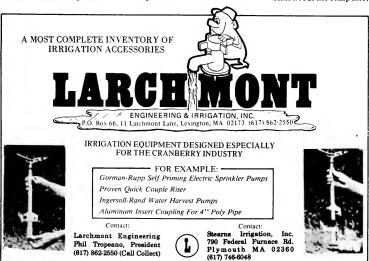
When our glazing contractor purchased his computer, he had overcome most of his computer phobia with the help of the computer salesman. But his staff, which was very comfortable with the routine of the old manual system, began to show signs of computerphobia. With no one to help them calm their fears of possibly being replaced by the computer or lack of confidence to

handle the new technology of the computer, their computerphobia grew, costing our clien the loss of a valued employee and even some of his customers.

These fears are not always readily apparent but some of the signs of computerphobia are: complaints that the computer isn't working properly and a negative attitude toward the computer company's technical staff; negative remarks to customers about the computer; not cooperating with personnel hired to do the computer conversion: slowed billing process; using the computer as a scapegoat to cover any errors or shortcomings in staff performance; complaints of having to do more work than before; "I'll never be able to learn the computer"; complaints about losing control of information.

Some computerphobia is normal, but it can be kept to a minimum and you can foster a more positive attitude by:

1. Communication. Take the time necessary to talk with the staff about the computer, discuss



# **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags bulk bins

BEATON'S

JOE INC

BRIGHAM

mat rentals & sales

· MUD LIFTING ·

lightweight durable

contact PETER - CHUCK

617-295-2222



Serving Massachusetts Cranberry Growers

- CONTACT -

JOHN C. DECAS DECRAN AG SUPPLIES INC. 219 MAIN STREET WAREHAM MA 02571

OFFICE: 295-0147 EVENINGS: 763-8956 (WILLIAM CHAMBERLAIN) any problems the staff may have and discuss their feelings toward the changes occuring in the office.

2. Training. A good training program by the computer company should make the staff feel comfortable with the system.

3. Continuing Education. Attending a seminar on microcomputer systems will give the employees a broader understanding of computers and increases their self-confidence.

4. Safety Line. Knowing where to get immediate help when there is a problem with the system lets the employee feel that she is not completely on her own but that help is a phone call away.

5. Recommendations. Obtain the names from the computer company of one or two clients that have their system, are happy with it, have been using it for some time and would be willing to spend a few minutes on the phone with your key employee. Quite often, a conversation with someone in another office, in a similar position, can go a long way to eliminate unfounded fears.

Another fear, not unlike computerphobia, stems from that infamous excuse, "Sorry, our computer is down."

What happens if the hardware fails? Another "hidden cost," of course. Some computer companies charge a monthly maintenance fee ranging anywhere from \$250 per month to thousands, depending upon the size of the system. In the case of software support, only the most reputable firms even bring up the subject of software support and obsolesence... let alone the cost.

The truth is that the number of trouble calls for software vs. hardware number 100 to 1. Software "bugs," obsolesence and operating problems are many and ongoing, even in the best of sys-

tems. The newer, smaller pieces of hardware seldom break down and repair time is usually minimal due to modular construction.

Thus, it becomes apparent that good software support is a very necessary additional cost and it varies depending upon the complexity of the program.

These are some of the many hidden costs of computer conversion. It can be an extremely costly procedure if no forethought is given, and forethought is the key.

It goes without saying that the sales agreement should be read very carefully, the staff expertly trained and both the businessman and his staff work as a team to alleviate computerphobia. Care should be taken at each step of the conversion process. Remember that old saying: There never seems to be enough time or money to do it right, but there is always enough to do it over.

Chris Fisher and Harriet Wright are owners of the Los Angeles based management firm, Insights Unlimited, and have been doing computer conversions and technical writing for over 10 years in the Southern California area. They also ghostwrite for professionals and self-publish booklets on business subjects for the medical field.





## Private Party Wishes To Buy Cranberry Bog

10 to 20 acres in Southeastern Mass.

CALL (617) 293-7346 7 a.m. to 5 p.m.

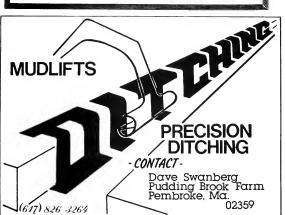
# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREI

### Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just helow bog surface. No insert fittings. Rent our but fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole bole plow. for buried laterals.

## Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048



# Christmas Package Salads

By VIVIAN M. PRESTON

1 can jellied cranberry sauce 1 envelope plain gelatin ½ cup hot water ¼ cup cold water 1 cup finely shredded cabbage ¼ cup diced celery ½ cup chopped walnuts

Crush cranberry sauce with a fork. Add hot water and heat thouroughly. Soak gelatin in cold water for five minutes and add to hot cranberry sauce. Fold in cabbage, celery and nuts. Turn into oblong, oiled baking pan. Cut into rectangles for serving after chilling until firm. Pipe with bands of softened cream cheese. You now have a red Christmas package with white ribbons for your holiday table.

# STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years Send check or money order to:

CRANBERRIES

P.O. Box 249 COBALT CT 06414

## REGIONAL **NEWS** NOTES

#### MASSACHUSETTS

By IRVING E. DEMORANVILLE

Dr. Frank Caruso attended the American Phytopathological Society meeting in Orlando, Fla., recently,

Dr. Karl Deubert visited the New York State Agricultural Experiment Station in Geneva, N.Y. He met with another chemist to discuss a new system of analysis for pesticide residues in water.

The 99th Annual Meeting of the Cape Cod Cranberry Growers Association was held at the Cranberry Station on August 21. We did not set a record for attendance due to the postponement, but did serve 650 dinners, which equalled last year. Officers and Directors reelected for the coming year were: president, Chris Makepeace; 1st vice president, Doug Beaton; 2nd vice president. Bob Zaniboni and the author, secretary-treasurer. There was one new member on the board of directors. Jim Jenkins, who replaced Wilho Harju. We will miss Wilho for his many contributions to the board and appreciate his advice on many problems. The program was shortened, as the guest speaker and crop estimate were omitted due to the cancellation from the original date.

## Niemi Electric Co.

ROBERT NIEMI

## **ELECTRICAL CONTRACTORS** HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL.



TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.

# C.R. LEONARD & SONS INC.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

**Detrashers** Conveyors (steel or aluminum) Shearing · Shop Welding Bending

## STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM
- REINFORCEMENT ROD WIRE MESH \*

#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING GOOD LOOKING •
- MAINTENANCE FREE
   WRITTEN WARRANTY
   Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door
   DON'T WAIT CALL TODAY!

617 / 824-3826 RAYNHAM CENTER, MA MORTON BUILDINGS, INC.

"Excellence - Since 1903"



# The Business Bank.

MTC offers you business banking built to your needs.

Personal attention to your special
financial requirements now and as you grow. Cooperation.
Flexibility. Complete business and personal banking.

Member FDIC

#### Main Office

10 John Glass, Jr. Square, Middleborough

#### Branch Offices

10 Centre Street, Middleborough • Middleboro Plaza, Middleborough
Cranberry Plaza, East Wareham

Telephone all offices 947-1313





# Milk Comes From **Bottles—Not Cows**

#### By HAROLD GLUCK

For several years I taught elementary school on the East Side of New York City, My first year with the lower grades was a new experience in many ways.

The first morning the topic was food. The children all told me what they had for breakfast. That led to a discussion of milk. I guess it didn't occur to me that these kids, accustomed to asphalt and concrete, had never seen a cow. If so, I would never have asked the question, "From where do we get milk?" Every little hand in the room shot up. I called on Mary.

"We get milk from bottles."

she answered proudly.

"No," I tactfully tried to explain, "we get milk from cows. Then the milk is pasteurized and put into bottles."

Every head in the class motioned a resounding no! Milk, they insisted, came from bottles-not cows.

I shared the experience with two fellow teachers, and one of them came up with a brilliant solution, "The Board of Education will supply the bus transportation for an outing or a picnic. Why not take the class to a dairy farm in the country? Then they can actually see that milk loes come from a cow."

On Thursday morning, bus oaded with kids and three nothers, we traveled to Wilton's Dairy. After a picnic lunch, Mr.

Wilton let the children watch as the cows received a shower bath and were then hooked up to automatic milking machines. The kids watched in amazement

Milking done, Mr. Wilton asked the kids if they had any questions.

Peter raised his hand, "If the milk is sold to a milk company that puts the milk in bottles, why can't you train the cows to sit on a bottle and fill it up from the top?"

Obviously Mr. Wilton was stumped for a few seconds. Scratching his head, he said. "The milk has to be pasteurized first to kill the bacteria that might be in it. That's the law of the state. And besides it would take a long time to train cows to do all this. Next question."

"Something I don't understand," Mildred began, "if a brown cow eats green grass and gives white milk, how do the colors change?"

Mr. Wilton didn't know how to answer her question, and had to confess he didn't know, but finally muttered, "A chemist could probably explain that one."

Before he could ask for another question Joanne remarked, "We have a box of powdered milk at home. My mother mixes it with water, and we get our milk. How do you get powdered milk? Do you ground up a cow very fine?"

By this time Mr. Wilton had

# Big Wheel Truck Sales 42 Quanapoag

\*\*\*\*\*\*\*\*\*\*\*\*\*

## E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England

All types of diesel repair

Largest tow trucks on the East Coast

++++++++++++++++++++++++

(617) 763-5927

Call Bob or Joe









Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting — Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

about run out of answers but tried to explain the process. Seeing he was getting nowhere, he scored a bulls-eye, "How about a free ice cream cone?"

By mid-afternoon the kids were tired and we journeyed back home ... where milk came from bottles.

The next day I asked the class. "What is meant by pasteurization?"

Milton came up with an answer. "I looked it up in the dictionary," he said. "Pasteurization is when you put the cows out to pasture. They get good clean grass to eat. And then there are no germs in the milk."

Then Martin interrupted, "Well, why can't we have a cow in our apartment, and then we could have milk anytime we wanted it?"

I tried to explain, but like Mr. Wilton's, mine was a lost cause, and I ended the question-andanswer exercise and moved on to something else.

From that time on, if kids said milk came out of a bottle. I left it at that.



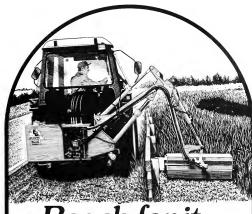
The scoop of the year!

Cranberry Flavor, Fact and Folklore in THE CRANBERRY CONNECTION, by Beatrice Buszek. Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries . . . you'll find this book a treasure."-Des Moines Register. Paperback, \$8.95

	Zip
Address	
Name	
BERRY CONNECTION	1, \$8.95 each.
Please send copie	s of THE CRAN-

Add \$1.50 for postage; Conn. residents add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414



## Reach for it

with a Beaver P10 hydraulic flail cutter. The P10 reaches over, under or around obstacles, to deal with any two year growth and leaves a smooth, even finish. Hooks up easily to most Cat 1 or 2 35-70 hp tractors. The P10 makes short work of highway margins and medians, lakesides, grades and ditches - all those areas you can't reach with your regular mower.



ELLIS IMPLEMENT **6639 HIGHWAY 66** STEVENS POINT, WI 54481 PHONE (715) 592-4111

Contact Dan Sullivan 23 Rear Chauncy St. South Weymouth MA 02190 (617) 337-4728



#### CMC to Let You Know What CMC Means

All you ever wanted to know about the Cranberry Marketing Committe but didn't know how or who to ask will soon be mailed to you.

The committee has prepared a handbook to be mailed to all growers. Included is a brief explanation of the history and workings of the committee along with crop statistics, charts on utilization of fresh and processed fruit, yields, recent rulings and the yearly marketing policy statement.

A listing of all CMC office staff, field personnel, committe members and alternates will be included.

C.G.

#### National Memorial to Farmers Dedicated

The first national memorial to the American farmer was dedicated on Labor Day.

The memorial is located on the grounds of the Agricultural Hall of Fame and National Center, in Bonner Springs, Kansas, 18 miles west of Kansas City.

The National Farmers' Memorial was designed by The Austin Company, an international organization of consultants, architects, engineers and constructors.

The memorial is in the form of a pavilion containing three high-relief bronze panels, each depicting a different representation of the American farmer. The pavilion will be surrounded by flags of the United States, the 50 states and territories, and the U.S. Department of Agriculture.

To house the panels, Austin has designed a simple, integrated concrete dome rising 17 feet 9 inches above the ground. The concept is reminiscent of early Indian seed storage mounds and root cellars.

When completed, the roof of the dome will be covered with split-face white granite, paved with deep joints. The roof will contrast with walls of stainless steel and polished black granite that will form a cavity in the dome framing the three bronze panels.

The dome occupies the center of a plaza circumscribed by a concrete walkway. Plantings of hedges and double rows of white flowers border the walkway.



#### Pump Repairs

All Types
SALES

Field Service & Shop 20 Years Experience

#### AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288

### J.A. JENKINS & SON CO.

**Grower Service** 

MOWING (ALL TYPES) SANDING DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018

## 50 and still growing.

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



#### Gage-Wiley & Company Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 ● 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation

## TED'S FARM EQUIPMENT

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel

## TreeSweet Names Executive VP, Sales & Marketing

Edwin J. Werner, an executive with more than 31 years in the consumer products business, has joined The TreeSweet Companies as executive vice president, sales and marketing.

Werner will have senior management responsibilities in the areas of sales, marketing and new business development. He also will be involved in strategic marketing and business planning for Faygo Beverages, Inc., of Detroit, a company acquired earlier this year by the owners of The TreeSweet Cos.

Werner began his career with Procter and Gamble where he spent 16 years in sales and sales management, and helped direct the original test market and initial rollout of Pampers, the first nationally sold disposable diaper. He then was with Warner Lambert for five years.

#### STAY INFORMED

Stay up-to-date on all the news and views of the cranberry industry. Keep in touch with reports on new pesticides and herbicides, new equipment and services, new growing procedures and upcoming legislation that will impact on growers like yourself.

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine. Subscribe today!

\$10 a year — \$18 two years

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414



#### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846 In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360.







The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 50th Year of Publication



Nova Scotia Meeting — 3 New Jersey Meeting — 14



## TURNOUT IS HEAVY AT **NOVA SCOTIA MEETING**

Seventy one delegates, from six states in the U.S. and five provinces in Canada, attended the 1986 biennial conference of the North American Cranberry Workers Sept. 14-16 at the Kentville Research Station in Kentville, Nova Scotia,

The first session was devoted to crop protection and the chairpersons were Rick Delbridge, plant pathologist, and Robert Murray, berry crop specialist, both with the Nova Scotia Department of Agriculture and Marketing.

The second session, on production problems, was chaired by Dr. Roger Blatt, plant nutritionist

#### CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

P.O. BOX 249 **COBALT CT 06414** (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE

#### (617) 763-5206 ADVISORS & CORRESPONDENTS

MASSACHUSETTS - Irving E. Demorenville.

Director, Crenberry Experiment Stetion.

NEW JERSEY — Phillip E. Marucci, Crenberry & Blueberry Specielist, Crenberry & Blueberry Leboratory, Chatsworth; Elizabeth G. Carpenter, Chatsworth. NOVA SCOTIA - I. V. Hall, Botanist, Research

Station Kentville OREGON — Arthur Poole, Coos County Extension

Agent, Coquille. WASHINGTON — Azmi Y. Shews, Horticulturist and Extension Agent in Horticulture, Coastel Washington Research & Extension Unit, Long Beech. WISCONSIN — Tod. D. Plener, Farm Management

Agent, Wood County. CRANBERRIES is published monthly by Diversified Periodicals, Waltwyn Drive, Portland CT 06480. Second class postage is paid at the Portland, Conn. Post Office. Price is \$10 a year, \$18 for two years, \$1 a copy in the

U.S.; \$12 a year in Canada; \$15 a year in all other countries. Back copies: \$2, including postage. Copyright 1986 by Diversified Pariodicals.

ISSN: 0011-0787 ster, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

for Agriculture Canada, Research Branch.

The final session, on weed control, was chaired by Dr. K.I.N. Jensen, also of Agriculture Canada.

Delegates were guests of the Province of Nova Scotia on the

and biology of the provincial department, brought greetings from the Hon. Richard Bacon, minister of agriculture and marketing. Banquet speaker was Dr. G.M. Weaver, director of the Kentville Research Station. He spoke on the past, present and future role of the station, illustrating his talk with a slide

evening of Sept. 15. David

Sangster, director of horticulture

On the second day of the conference, delegates toured the operation of Chase and Bezanson at Avlesford, Nova Scotia. Heavy rains and wind didn't dampen the group's enthusiasm.

presentation.

Luncheon on Sept. 15 was served at the station by the Canning Women's Institute. The second day luncheon was a buffet in South Berwick provided

(continued on page 7)

#### COVER PHOTO

IT WAS POURING but the hardy delegates to the North American Cranberry Workers convention still took time out to view a cultivar trial sponsored by the Nova Scotia Department of Agriculture and Marketing at a local bog. A story on the convention starts on this page. This photo and the photos on the pages that follow were taken by Arthur Lightfoot, photographer for the Kentville Research Station.

#### Niemi Electric Co.

ROBERT NIEMI

#### **ELECTRICAL CONTRACTORS**

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
  - **INDUSTRIAL**



TEL., 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.





TOP: Developing an interest in cranberries early was the infant son of Professor and Mrs. Steven Jeffers. Dr. Jeffers is with the department of entomology at the University of Wisconsin/-Madison. BOTTOM: Dr. Daniel Boone, retired professor of plant pathology, University of Wisconsin, discusses fruit disorders with Margaret Drake, Prince Edward Island, Department of Agriculture, and Dr. Bert Pepin, Agriculture Canada, Vancouver, British Columbia.



OP: British Columbia delegate Parm Bains, right, and Irving E. Demoranville, director of the lassachusetts Cranberry Experiment Station, observe a sorting operation. BOTTOM: Dr. Azmi hawa, director of the Long Beach, Wash., research station, holds a package of freshly harvsted Nova Scotia fruit.



TOP: Dr. G. M. Weaver questions Carol Hall while David Sangster listens. CENTER: Rober Murray, Dr. Yvon Martel and Ivan Hall confer. BOTTOM: Head table guests Weaver, Murray Carol Hall, Ivan Hall, Sangster and Martel.



AND, TO REPEAT, it was wet, very wet. But a grand time was had by all.

#### NOVA SCOTIA . . .

(continued from page 3)

by the local Women's Institute.

Anumber of wives accompanied
their husbands to the conference
and were given a tour of Grand
Pre Park and other points of
historical and horticultural
interest. Carol Hall was in
charge of the ladies program.

## Is Biennial Cropping A Washington Pattern?

By AZMI SHAWA

It is evident that the Washington
roos are caught in a biennial

cropping.

The previous five years show such a pattern in production: 1981—128,293; 1982—91,000; 1983—124,081; 1984—102,104; 1985—147,939.

(The U.S. Department of Agriculture's Agricultural Statistics Board forecasts a 1986 crop of 120,000 bbl for Washington.)

A big variation in peak bloom and the period of blooming during June and July signaled a low yield in 1986. Late fruit set, in general, and a cool summer affected fruit growth and development, producing small to medium berries. Cold nights and warm days in September enhanced an excellent color.

The third quarter of 1986 was cooler overall and had more precipitation than the same period last year. Total degree days accumulation showed 185 units less and precipitation 4.65 inches more.

## J.A. JENKINS & SON CO. Grower Service

MOWING (ALL TYPES) SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018



## WEATHER WATCH

#### MASSACHUSETTS

September was cool and dry. Average temperature for the month was 1.9 degrees below normal, not unusually cool. Maximum temperature was 78 degrees on the 30th and minimum 35 degrees on the 28th. The only warmer than average day was the 30th, which shows a consistently cool month. Cooler than average temperatures occurred on the 14th, 16-19th, 21st-23rd and 27th-28th.

Rainfall totaled only 0.88 of an inch or 3 inches below normal. This was the driest September since 1980, but the fourth driest in our records, topped only by 1990, 1980 and 1955. There were only six days with measurable rain, with 0.66 as the greatest storm and really nothing else during the month. We are about 2/3 inch above normal and just slightly behind

I.E.D.

#### NOVA SCOTIA

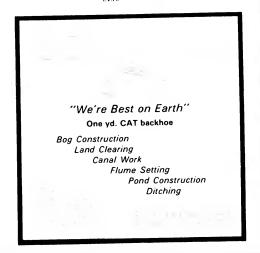
Our weather during the first two weeks of October was much better than what we experienced through most of the growing

season. As a consequence, harvest operations went reasonably well. The cool summer weather seemed to have resulted in smaller berries with good color.

IVH

#### FOOD CONGRESS SLATED

The 2nd World Congress of Food Technology will be held March 3-6 in Barcelona, Spain.









Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting — Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

#### REGIONAL NEWS NOTES

#### MASSACHUSETTS By IRVING E. DEMORANVILLE

Some dry harvesting occurred on or just before Sept. 10, which was the earliest tart in many years.

Color developed early, probably from he early cold weather in late August and arrly September. Howes were also well colored and were being harvested at this virting in the middle of October. Early Black size started generally small but were ater generally average.

Quality was not as good as expected, sspecially in the case of berries that had been bruised in harvesting and handling. hese bruised berries softened much nore rapidly than in recent years. This loftening did not appear to be caused by ungal organisms, but probably was due o cool, extremely cloudy and wet weather conditions during the summer months.

We were probably about 40 percent arvested by Oct. 7, maybe even a little nore.

The crop is heavy and should equal the August estimate.

Members of the Cranberry Expperiment Station staff, Dr. Frank Caruso, Dr. Joan Lasota, Karen Rosenberg, Carolyn Demoranville and this author, attended the Sixth International Cranberry Research and Extension Workers Conference held this year from Sept. 15-17 at the Kentville, Nova Scotia, Agricultural Centre.

Twenty one papers on various subjects plus tours of the Centre and the Chase and Bezanson bogs and packing plant were on the agenda.

My thanks to Ivan Hall, Bob Murray and

all of the other people who made the meeting such a success. We had the largest turnout ever and it will be a tough act to follow. Personally, I had a wonderful time. It was good to visit Nova Scotia again, to renew acquaintances with both Mr. Chase and Mr. Bezanson and to visit with all of my old friends and to meet new friends.

All this and a chance to increase my technical knowledge and background. It was a great experience.

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. For buried laterals.

#### Irrigation supplies

PVC PIPE 2"-12" WITH F!TTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048



#### Serving Massachusetts Cranberry Growers

- CONTACT -

JOHN C. DECAS DECRAN AG SUPPLIES INC. 219 MAIN STREET WAREHAM MA 02571 OFFICE: 295-0147 EVENINGS: 763-8956 (WILLIAM CHAMBERLAIN)



#### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360. Tel. (617) 746-6048



22 NORTH CHESTNUT AVENUF, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846





## When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial
Services is committed to
Services is committed to
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm



#### Queries on Herbicides Answered at Field Day

The following questions were answered at the 1986 Cranberry Field Day in Long Beach, Wash.:

QUESTION: What is the procedure followed for establishing herbicide residue data?

ANSWER: Berry samples from treated plots are sent to the company together with efficacy data. The company analyzes the samples, then forwards the results and the efficacy data to the EPA for obtaining a label.

QUESTION: Are the herbicides Banvel and Sinbar available for use with other crops?

#### **Private Party** Wishes To Buy Cranberry Bog

10 to 20 acres in Southeastern Mass.

CALL (617) 293-7346 7 a.m. to 5 p.m.

#### Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

AAA INDUSTRIAL PUMP SERVICE INC.

> 66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

ANSWER: Yes, they are, but our use in cranberries is still experimental, and it is necessary to follow the above mentioned procedure if the company is interested in getting a label for cranberries.

QUESTION: Have you tested Banvel on other weeds, such as silverleaf?

ANSWER: Yes, we did, and found nothing but Fydulan worked on silverleaf.

QUESTION: How much Fydulan do you recommend applying in sandy soil bog infested

with silverleaf?

ANSWER: Since chemicals move faster in a sandy medium. it is necessary to drop the amount of application to 75 lbs bulk/A and be sure to water it immediately. It is harmful if you wait for rain. Rule of thumb: when applying granules of any kind, turn on sprinklers for at least half an hour to wash the granules down.

QUESTION: After putting Aqua Klean in sump, how soon can water be used?

ANSWER: The amount of Aqua Klean you will be using to 

Cranberry Computer Co.



33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

#### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase Implementation & training
- Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acre
- Chemical applications
- Profitability/cost per barrel Sanding and damage

## **Bog Sand** For Sale

Screened & Unscreened from C. Johnson's Bog in Carver, Mass.

WANTED: Quantities of subsoil, peat loom & gravel

Read Sand & Gravel 878-2955

treat aquatic weeds in your sump is very small in comparison to the volume of water stored. Aqua Klean will be so much diluted that it will not cause any injury to cranberries and water can be used following treatment.

QUESTION: Can Devrinol and Evital be applied together on a new bog?

ANSWER: Devrinol OR Evital can be applied at the rate of 50 lbs bulk/A on a new bog. THERE IS NO ADVANTAGE to applying a mixture of the two herbicides, even at a total of 50 lbs/A.

QUESTION: Should other herbicides be applied over 50 lbs bulk/A of Devrinol OR Evital on a new bog?

ANSWER: No, too much herbicide is harsh on a new bog. You can swab tall weeds with Roundup or spray grasses with Poast or Fusilad in summer.

QUESTION: What is the latest date you can put Devrinol on a new bog?

ANSWER: There is no cutoff date. The stage of weed growth governs the effectiveness of a herbicide. Apply your herbicide when weeds start germinating. This is the most vulnerable stage. Later applications will not be as effective.

QUESTION: Do you apply Casoron, Simazine and 2,4-D combination separately or do you mix them first and then apply?

ANSWER: You mix the three herbicides together first, then apply to your bog, thus saving time and labor.

QUESTION: How much herbicide do you apply on a two year old bog?

ANSWER: Half a rate of any recommended herbicide if the vines are healthy and have good coverage.

QUESTION: Dandelions are growing during the winter. How can they can controlled?

ANSWER: Spot treat them in the winter with 2,4-D granules at

20 lbs product/A or spray them with 2,4-D Amine solution at the rate of ½%.

QUESTION: What does Simazine WP do to Dalapon-M when you mix them?

ANSWER: It will increase its effectiveness in controlling a more and broader spectrum of weeds. This phenomenon is called synergism.

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288



Phil Tropeano, President

(617) 862-2550 (Call Collect)

790 Federal Furnace Rd.

Plymouth MA 02360

(617) 746-6048

### Regulations, Research & Technology Shape New Jersey's Cranberry Future

By ELIZABETH CARPENTER

A brief, midsummer hailstorm is about as rare as rain on the American Cranberry Growers Association's (ACGA) meeting day in Augustbut both occurred in 1986.

Overall, in fact, summer in New Jersey this year was rambunctious, proving once again that a successful cranberry grower has to be a bigger gambler than any high roller at Atlantic City's casinos.

Late spring frosts and searing July days, let alone the midsummer hailstorm, were some of the year's challenges that would make less hearty souls bet on Mother Nature as the odds-on favorite. However, Jersey growers continue to hold their ground despite perverse natural phenomena, as well as pesticide regulations and marketing order concerns

STEPHANIE Moss, agricultural statistician for the U.S. Department of Agriculture, told growers that, based on their survey responses, it appeared the state's 1986 crop would total 300,000 bbls, down 6 percent from last year's record breaking crop. This decrease can be attributed to untimely, scattered frosts, hail damage, and below average rainfall, with a resulting decrease in the soil's moisture content.

Economically, the promising news was that the average price per barrel in New Jersey reached \$55.30 in

1985. With 3.300 acres in production. this means the total value of the state's harvested crop was \$17,696,-

STEPHEN V. LEE III, a New Jersey representative to the Cranberry Marketing Committee, reminded growers of the need to maintain the balance between supply and demand if cranberry growing is to remain profitable. Overexpansion of productive acreage could become a major problem, he said. Lee cautioned that farmers throughout the U.S. have experienced financial disaster because, in part, public demand has not kept pace with increased supply.

Next spring, he told the audience, growers will be given an opportunity to vote on the continuation of the marketing order, as well as administrative changes. The concept of a "rolling base" or base quantity adjustment will be considered, he added.

If an individual's farm production is steadily increasing, a new base quantity may be established on the best four out of the last six years, Lee explained. Conversely, if the farm's annual production is less than 50 percent of its base quantity, its allotment may be reduced.

Lee said the marketing order



10" 160# \$2.50 per ft. 000000000000 13" 160# \$3.50 per ft.

**Used for Culvert** & Irrigation

Pilors

Equipment, Inc. Conveyors



9 County K (1 block south of Polonia) Custer WI 54423 • (715) 592-4650

rrigation & Potato

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511





OP: Entomologist Phil Marucci emphasizes a point while talking with Alvin Brick Jr. and Fred lahn. BOTTOM: Marucci and Harry Moulter (to Phil's right) listen intently to growers' conerns. Scientist Moulter, now retired and a Texas resident, enjoyed seeing long-time friends hile visiting New Jersey.

doesn't prevent anyone from becoming a cranberry grower, but it does not guarantee a new grower a market for his crop.

Currently, New Jersey's representatives to the marketing committee include Alan Brick Sr. and Charles Thompson, independent grower representatives, William Haines Jr. and Stephen V. Lee III, Ocean Spray grower representatives, and Walter Z. Fort, field man.

ABBOTT LEE, ACGA president and representative to the advisory board for the N.J. Department of Environmental Protection's Bureau of Pesticide Control, spoke highly of the work done by Raymond Ferrarin and Mark Robson of the bureau. The bureau is responsible for drafting and enforcement of pesticide regulations. Both men. Lee said. have to contend with pressure from special interest groups that may not be sympathetic to agriculture's needs, yet the bureau has been able to fairly administer regulations.

Ferrarin, bureau chief and a graduate of Cook College, Rutgers University with a degree in plant

science, noted that pesticide regulation is basically an effort to try to "regulate courtesy." He expressed appreciation for the cooperation received from the farming community and said that, out of 971 pesticide violations reported last year, only 60 involved agriculture.

That's a good record, he said, because agriculture is the biggest user of pesticides in the state. Ferrarin observed that the concept "right to know" is strong in Ne Jersey. However, he said, the cor cept "should be addressed in th regulatory world and not the legilative arena."

Currently, regulations for agricu tural application are not bein reviewed, Ferrarin said. Perhap future regulations can be avoided b using a "diplomatic approach." h

#### WISCONSIN CRANBERRY **HEADQUARTERS FOR** SEVIN XLR



DEVRINOL 10G + EVITAL + GUTHION DIAZINON 14G \* PARATHION \* ETHREL

#### Cole Chemical Supply

DIVISION OF Hopkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581

22 years experience 😂 construction lifts 🤝

· MUD LIFTING ·

## **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags bulk bins

AEATON'S

JOE **BRIGHAM** INC

mat rentals & sales

lightweight durable

contact PFTER - CHIICK 617-295-2222



TOP: Abbott Lee, peaked cap, furthest to right, discusses the planting and maintenance of a new bog on the family's farm at Speedwell. RIGHT: Everett Abrams, left, and William Haines Jr. exchange ideas during the afternoon visit to the Rutgers Research Center bogs.

(CRANBERRIES photos by Elizabeth G. Carpenter)



Robson, research scientist for the bureau, reported on the results of the pesticide residue sampling program for blueberries and cranberries. Forty blueberry samples revealed no problems when checked by the federal government and the FDA declared that Ocean Spray's pesticide residue testing program for cranberries is so stringent that there would be no need for further testing, he said.

Robson recommended three essential safety precautions for farmers storing pesticides: 1. put a sign on the storage shed identifying the shed as a pesticide storage facility; 2. buy a lock for the storage shed door, and 3. make an inventory of the pesticides in storage. If an accident does occur, these precautions may make it possible to avoid additional damage and /or personalinjury, heexplained.

Robson said the bureau's inspectors are receiving good cooperation from farmers. Half of all inspections are made by appointment and bureau staff members try to make inspections a positive educational experience, he added.

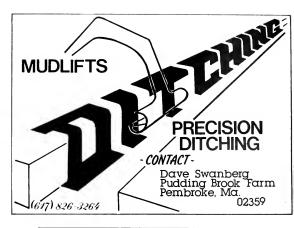
WALTERZ. FORT, field man in New Jersey for the Cranberry Marketing Committee, described for growers his recently completed field guide to cranberry insects, a Portfolio, the guide contains 74 colored photographs accompanied by explanatory text and line drawings showing actual insect length. Each portfolio may be purchased for \$100 and orders may be placed by calling Fort at (600) 804.861.

TED GORDON—photographer, botanist and Pinelands enthusiast—updated growers on this year's cranberry festival in Chatsworth.

JERE DOWNING, manager, horticultural development/grower relations, for Ocean Spray, described the successful marketing strategy for the company's new cranberry-blueberry drink. Initial marketing efforts in states where residents are familiar with blueberries have gone very well, he said.

Downing said retail chains have been most cooperative in handling the product and consumer purchase of the juice exceeds expectations. Currently, the juice is packaged in the 48-ounce bottle as well as the single serving paper bottle, he explained. However, in early 1987, packaging will be expanded to include the 64-ounce glass bottle, he added.

Downing's description of a proposed cranberry receiving station that may be constructed in Chatsworth was of great



## **50** and still growing.

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



#### Gage-Wiley & Company Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 ● 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation

#### C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

# Detrashers · Flumes Conveyors (steel or aluminum) Shearing · Shop Welding Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I ΒΕΔΜ
- REINFORCEMENT ROD WIRE MESH

#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING GOOD LOOKING •
- MAINTENANCE FREE WRITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826 RAYNHAM CENTER, MA

MORTON BUILDINGS, INC.

"Excellence - Since 1902"

interest to growers. Modeled after the Warrens, Wisc., plant, the facility's recommended location is ideal because it is within five miles of 85 percent of New Jersey's cranberry producing sites. Two key factors—an abundant water supply and receipt of appropriate permits—are necessary if the plant is to become a reality, Downing said.

As a planning precaution, the Ocean Spray manager said, a sample of New Jersey berries will be sent to Wisconsin this fall to see if the cleaning process there will work on the more densely vined Jersey cranberries

ABBOTT LEE AND JOSEPH DARLINGTON, cranberry/blueberry research council members, updated growers on council objectives and current research efforts.

Created three years ago, the council's two major functions are to coordinate research efforts that are specific to the needs of New Jersey growers and to do the "policing" and lobbying necessary to maintain a viable cranberry industry in the state. Recent projects undertaken to heat serve ACGA members include funding a cranberry dieback research project. support of Dr. Nicholas Vorsa's cranberry breeding program, and application of political pressure on legislators in an effort to obtain additional research staff for the Blueberry/Cranberry Research Center and financial support for the county extension service. Funds supporting the council's efforts come from individual growers who contribute 10 cents for each barrel of cranberries they harvest during the year

Lee and Darlington highlighted the results of ongoing research projects that include temperature control on cranberry bogs with sprinkler irrigation, investigation of methods to reduce cranberry vine dieback, evaluation of fertilization practices on bogs, analysis of the effectiveness of different fungicide application procedures, and review of cranberry

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass.

Phone 824-5607 AMES

Irrigation Systems

RAIN BIRD

Sprinklers

HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed varieties, with particular attention given to productive varieties that color early and have a high anthocyanin content.

AN OVERVIEW of the results of a cranberry cultural practices questionnaire recently distributed by the council to the state growers addressed bog fertilizing. sprinkler irrigation practices, cranberry fruitrot control and estimated acreage of varieties other than Early Black, the New Jersey standard.

Survey results indicate that 100 percent of the growers responding use a fertilizer formula in a 1-1-1 ratio, a 1-2-1 ratio being too costly. Sixty six percent of the respondents made applications at the rate of 125 to 250 lbs, per acre, Forty six percent only make one application in the spring while an equal number make one springtime as well as one postharv est application. Although slow release fertilizer stimulates runner growth and is valuable in establishing new bogs, it appears to promote an increase in rot according to the survey.

Sprinkler irrigation practices used to cool cranberry vines during hot summer days continue to vary. Forty three per cent of the survey respondents irrigate bogs during the day, 29 percent irrigate

## **WEATTH STATE FIELD**

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel

efficient, and require little maintenance.

Multi-cylinder design

makes them
quiet and they



Model	CYL	HP	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	
B7200	3	17*	or
B8200	3	19*	( Hydrostatic
B9200	4	22.5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
L2550	3	23.5*	Mechanical shuttle shift
L.2850	4	27*	Mechanical shuttle shift
L 3350	4	32*	(8×8
L3750	5	36*	∛ or



KUBOTA LAWN & GARDEN TRACTOR

lodel	CYL	HP	Transmission	
3200	2	10	Standard	
4200	2	12	Standard	
4200H	2	12	Hydrostatic	
5200H	3	14	Hydrostatic	
6200H	3	16	Hydrostatic	
		_		



KUBOTA M SERIES TRACTORS

Model	CYL	РТО НР	Speeds Forward/Reverse
M4030	6	43 00	8/4
M5030	6	49.00	16/4
M6030	3	57.00	16/4
M7030	4	68 00	16/4
M8030	4	76.00	16/4
M4950	6	49.57	12/4
M5950	3	58.00	12 '4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12.4
M8950	4**	85.00	24/8

Visit your Kubota dealer to find out which

Kubota will be best in your field.

### **ØKUBOTA**

Nothing like it on earth."

#### **ELLIS IMPLEMENT**

6639 HIGHWAY 66 STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111 ply in the morning and 21 percent irri-

Evaporation makes daytime sprinkler see less efficient. However, Dr. Allan stretch, USDA plant pathologist, noted hat nighttime sprinkler use enhances he possibility of increasing rot. Philip Arucci, extension specialist in cranberry not blueberry culture and research prossor of entomology, explained that it is common fallacy that daytime sprinkler secauses scalding since water evaporation cools the surrounding surface when prinklers are turned off.

Williams Haines Jr. corroborated farucci's observation, noting that the emperature rose very slowly on his bogs when the water was turned off and no cald effects occurred.

Although 100 percent of survey respondnts irrigate when the temperature eaches 95 degrees F in the shade (or helter), this practice reflects comprome rather than a scientifically estabshed procedure, according to speakers. ince many summer days reach 90 degrees , water usage at this temperature would e excessive, while damage might occur growers were to withhold irrigation for nly the occasional 100 degrees F day. SIXTY THREE percent of grower grvey responses indicate that rot is condered to be most prevalent in bogs here vine coverage is thin, while 37 ercent thought rot is more often found

in well established, thickly vined bogs. Annually, rot causes approximately a 3 percent crop loss in New Jersey.

Although an aggressive, early fungicide application program appears to control rot, Lee suggested the need for further study. Joint research efforts of a plant physiologist teamed with Stretch, Lee said, could identify causes of rot, as well as productive, rot-resistant cranberry varieties. Meanwhile, fungicide application techniques vary, with a





## The Business Bank.

MTC offers you business banking built to your needs.

Personal attention to your special financial requirements now and as you grow. Cooperation.

Flexibility. Complete business and personal banking.

Member FDIC.

Main Office 10 John Glass, Jr. Square, Middleborough Branch Offices



LENDER

10 Centre Street, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham

Telephone all offices 947-1313



majority of the state's growers depending on aerial application.

PHIL MARUCCI led an afternoon tour of the Rutgers Research Center bogs. Growers viewed experimental plots, where a variety of techniques to control weeds, rot and cranberry girdler are being tested. They also had an opportunity to observe the results of different irrigation and fertilizer application procedures, as well as the development of cranberry varieties and seedlings.

In addition, several pieces of equipment suitable for bog maintenance were displayed.

THE DAY concluded with a tour of bogs at the Lee farm in Speedwell, Here growers had an opportunity to see the positive effects of sanding on a bog where cranberry vine dieback had become a problem. Sanding appeared to be a solution to the problem, since vines were reestablishing themselves in areas where a 1-inch application of sand was applied in the spring of 1985.

The value of the slow release fertilizer, osmocote, in establishing a new bog, coupled with additional fertilizer applications made in 1985 and 1986, were apparent in a bog started from cuttings (Crowley, Ben Lear and variety #35) planted in 1984. The bog illustrated that stem and leaf protection in new bogs is enhanced by controlled applications of fungicides, insecticides and herbicides.

CRANBERRIES advertisers aet aood results.

#### PLYMOUTH COUNTY ELECTS

New officers of the Plymouth County branch of the Massachusetts Farm Bureau recently were elected. They are: John Garrettson of South Carver, president; Jeff Kapell of Plymouth, vice president; Mary Mullen of Hanson, secretary, and George "Chip" Morse, treasurer.

307 West Grove Street (Rte 28) Middleborough MA 02346

#### KUBO. Diesel Equipt.

Tractors 2 & 4 wheel drive - 12-90 hp. 11/2 to 6 ton

Compact Excavators Wheel Leaders 1/2 to 3/4 yd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers

947-6299

Specialty Fabrication Work Kubota Financing as Low as 81/2%

> FO→ FO + FO FO E-0 122

Office 295-2222 REATON'S

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

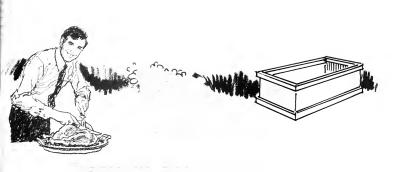
P. Beaton 947-3601



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes



Well . . . it's the Holiday season, and holidays mean Turkey, and Cranberries go with Turkey like corned beef goes with cabbage.

Boxes? Over the years, we at SHARON BOX have produced thousands of cranberry boxes.

But did you know that SHARON BOX can help you long before, or after, the crop comes in? Besides special Boxes, Shooks, Skids, and Pallets, we can take care of your Utility Shed needs. No matter where on the bog, or what the size. How about Portable or Stationary Pump Houses? Are they in your future plans? Then Sharon Box should be, too.

There are so many ways we can help you bring it all in.
Why not give us a call.

All Pine Framing Ship Lap Siding Large Heavy-Duty Door Double Hung Window Shingled Roof Gable Vents Full Five-Year Warranty





216 NORTH MAIN STREET • SHARON. MA 02067 (617) 784-2477. 2581. BOSTON (617) 361-6060

## Crowds Defy Rains to Give Warrens Fete Record Tally



Warrens CRANBERRY HONE

CRANBERRY honey from the Wallace Honey Farm was one of the tasty attractions at the Warrens, Wisc., Cranberry Festival. (CRANBERRIES photo by Frederick M. Poss)

#### By FREDERICK M. POSS

Cold creates a chorus of movement in Autumn. Oak leaves swirl away with the first frosty breath of fall, skeins of geese beat strong wings south across grey skies. And, as the 1986 Warrens, Wisc., Cranberry Festival went on parade Oct. 4 and 5 for the 14th consecutive year, flocks of people—young, old and somewhere in between—all crowded into this tiny village to celebrate the harvest of the

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285 adger State's second largest uit crop: cranberries.

"This year's fest has been the est yet, despite the rainy eather," explained Alice Nemitz, ng-time cranfest organizer. lice may have a point. onservative estimates placed ie number of visitors to the anfest at more than 40,000 rong. And, despite traveling eather more fit for ducks on aturday, there was just too uch fun for anyone to feel "left it in the rain."

Contests, of course, are a basic art of promoting cranberries at e Warrens festival. This year e scarecrow contest and cran ueen and princess brought gether the "berry" beautiful as ell as the beasts of autumn. hill and Tracy Richer, 1985 and 986 cranberry royalty respectelv-the beauties next to the arecrows-jointly stated:

"Promoting cranberries will ke us to 40 parades in isconsin and Minnesota this ear. We will be making beeches and giving a slide show resentation to promote our dustry."

A vegetable contest was on the zenda, too, with a lovely lineup produce, such as pumpkins, juashes, carrots and the like.

A plant and flower contest had be held in the basement of the cal bank due to the intermittent in which made a nuisance of self throughout the day. owever, Mother Nature's oundance still put on a dazzling splay of flowers and finery, ith a little help, of course, from ie talented eyes and hands of a w arrangers.

And the newest of the impetitive events was a stateide recipe contest which has itegories established by the isconsin Department of griculture for breads, desserts, nd salads which somehow clude cranberries as part of the igredients. Encouragingly lough, 169 entries "flew in" for inclusion among the 10 finalist places awarded.

Cranberries also were under scrutiny at the Wetherby marsh where scores of tourists shuttled in and out of buses for a quick peek at how a real harvest is actually handled. The John Rezin marsh was a popular stopping off point, too, because some of the latest and greatly specialized harvesting equipment was available for inspection.

Of course, all the contests and tours, not to mention the chilly weather, helped to stimulate movement toward the food and refreshment areas. Brats. beer. Indian fry bread, barbecued

chicken, pork, lamb, funnel cakes, cheese curds, and even omelettes were all frying, baking or steaming away for eager appetites.

A farmers' market offered fresh foods for the passersby, too. Cauliflower right from the garden, pumpkins just off the vine, apples from the trees of local orchards, and squash, melons, honey, cabbage, and cranberries, of course, all strutted their stuff for hungry consumers.

Henry Wallace spoke with some authority on the subject of the farmers' market at the fest.

"I had one of the four original booths at the first cranfest," he



## Reach for it

with a Beaver P10 hydraulic flail cutter. The P10 reaches over, under or around obstacles, to deal with any two year growth and leaves a smooth, even finish. Hooks up easily to most Cat 1 or 2 35-70 hp tractors. The P10 makes short work of highway margins and medians, lakesides, grades and ditches - all those areas you can't reach with your regular mower



ELLIS IMPLEMENT 6639 HIGHWAY 66 STEVENS POINT, WI 54481 PHONE (715) 592-4111

said proudly. "That was 14 years ago and today there are more than 50 booths all selling produce."

An exciting new product rushed in to wash down all the tasty treats, and it seemed to be a very popular item. That item, cranberry/blueberry cocktail, quenched some of the thirst of cranfest contingent.

So did Van Wychen wine.

Jim and Nodji Van Wychen operate a marsh just east of Warrens.

"A few years ago, we started selling about 2,000 pounds of cranberries to a small winery in La Crosse, Wisconsin," explained Nodji as she busily sold bottles of her brew and boxes of fresh cranberries. "This year, however, we have our own name on the label, 60,000 pounds of our berry crop going into the wine, and it all is shipped to Cedarburg for processing."

Van Wychen wine appeared to be a real favorite among festgoers. A light, fruity apple wine with just a hint of cranberry tartness and color makes the beverage an appealing potion, and people lined up even in the drizzle to purchase the tasty protection from the cold.

And Sunday there was a blocking bit of chill in the air at the Mid Iowa Men of Song mad their appearance at the schogym for a 10:30a.m. gospel must session. A church service by the First Baptist congregation was

#### Big Wheel Truck Sales 42 Quanapoag

E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England All types of diesel repair

Largest tow trucks on the East Coast

(617) 763-5927

Call Bob or Joe

(617) 763-8745

## CRANBERRY BOOMS TRUCK COVERS

Sewn & Repaired / Rubber Tie Downs

### Middleboro Canvas Works

A DIVISION OF DUXBURY OFFSHORE INC.

#### Newly Developed Cranberry Boom To Replace The Old Wooden Boom

The boom weighs a fraction of the old wooden boom. It is 6" in height with a 3" freeboard and 3" draft. It is 1.5" thick with ballast weights on the bottom, made of materials that meet federal specifications and is virtually maintenance free.

## Unbeatably Priced at \$3.90 / foot LOCATED IN THE HEART OF CRANBERRY COUNTRY

OFFICE: 52 JOSSELYN AVE. P.O. BOX 6 SNUG HARBOR DUXBURY, MA., 02331 PLANT: (FROM 6 A.M. TO 2 P.M.) 70 CAMBRIDGE ST. MIDDLEBOROUGH, MA. 02346 TEL. (617) 947-5490

TEL. (617) 934-0566; TLX. 940-733 PETER DUXB, FAX. (617) 934-7301

part and parcel of the musical beginning to a day filled with uneful celebrations. Sunday, of ourse, is the time for the big parade: marching bands, colorful loats, thousands of spectators, hore royalty, pageantry, arts, rafts, foods, displays, gloriously on and on.

"Itis just an excellent festival," jummarized Sharon Marka, as she adjusted one of her wildlife jaintings which she brought to he cranfest. "And they're juying—which is most imporant."

No need to sell the cranberry restival to those who were in tttendance. By flock and covey, by car, truck, motor home, train, plane, and even helicopter, they same. Autumn breezes had ouched the instincts of these iving things in some manner and the wings over Warrens the first weekend of October beckoned all to follow.



#### Cranberry Toddy

This toddy is from the book, The Cranberry Connection, by Beatrice Ross Buszek.

- 6 cups cranapple drink 1 cup bourbon
- 1 teaspoon each ground nutmeg and cinnamon
- 1 6X1/2 inch strip orange peel

Mix in large pan. Heat but do not boil. Serve in mugs. Makes seven cups of warmth.





IN SPITE OF the inclement weather, the attendance at the Warrens Festival was the best yet.

(CRANBERRIES photos by Frederick M. Poss)

### TED'S FARM EQUIPMENT

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

#### Our 51st Year of Publication



Oxygen & Insects — 3 Chatsworth Festival — 14



#### Felker Flow Gates

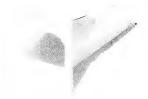
are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360. Tel. (617) 748-6048





# The Effect of Oxygen Deficiency In the Winter Floodwater on **Cranberry Insects in New Jersey**

By PHIL MARUCCI and HARRY J. MOULTER (Part I of II Parts)

In Pearl Buck's classic of literature, The Good Earth, there are unforgettable, poignant scenes of doughty Chinese peasants futilely battling plagues of locusts with sticks and fire. In the early days of cranberry culture, cranberry growers were not quite as desperate as this, but they were almost completely at the mercy of insects.

The ravages of several species of caterpillars were so destructive that they were called "fireworms," because after they got through feeding on a bog, it looked as if fire had swept through it. Complete loss of

#### COVER PHOTO

THE CROWDS attending the Chatsworth, N.J., Cranberry Festival found the Rutgers University cranberry display to be of great interest. Exhibited were the winners in the largest cranberry contest. Each of the big glass jars contained a different cranberry variety and the place cards in front of the jars provided historical data and characteristics. The story on the festival starts on page 14.

(CRANBERRIES photo by Cornelius Hogenbirk)

crops to fireworms and cranberry girdler was not uncommon.

John B. Smith, one of the first students of cranberry insects. who worked in both Massachusetts and New Jersey beginning in 1883, gave the following description of the destructiveness of fireworm:

"The damage by this species is enormous. I have seen bogs which, before the advent of the second brood of these pests promised an excellent crop of fruit, entirely browned over in a few days and all of the berries destroyed. In others, crops have been reduced from 50 percent to 75 percent, while few bogs escape



# MIDDLEBOROUGH TRUST COMPANY

# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham

Telephone all offices 947-1313

altogether." John B. Smith (2).

Uncontrollable, pervasive damage by insects persisted for many years until cranberry growers discovered a method of insect control unique in agriculture: the use of water. Flooding to control insects on cranberry bogs has now been in use for well over 100 years.

William Fish, an investigator employed by the Cape Cod cranberry growers in 1869, recommended spring reflows to control black-headed fireworm and late holding of the winter flood to suppress cranberry fruitworm. Tomlinson (1).

The use of water remained the best insect control method for many years. A succession of competent and original entomologists studied cranberry insects and, although they also tested insecticides, the use of water was still recommended as the best method to reduce insect losses.

J.B. Smith (2) in 1890 and H.B. Scammell (3) in 1917 made significant contributions to the knowledge of cranberry entomology and each advocated the use of water rather than insecticides. Even as late as 1948, when Henry J. Franklin published his classic work. Cranberry Insects of Massachusetts, the use of water reflows was still considered the first choice, with insecticides suggested as alternatives only "when water supply was lacking or its use for any reason impractical."

THE ADVENT of DDT after World War II revolutionized insect control methods in cranberries and rapidly caused abandonment of traditional water control practices. A succession of effective and safe insecticides have been introduced and their dramatic success is well documented and appreciated by growers.

Today, the cranberry industry has a total reliance on chemicals to control insects. This is unwise. The inevitable development of resistance by insects to any insecticide and the undesirable impacts insecticides have on the environment must be acknowledged.

We contend that out there. under the winter flood, there occurs, in most years, a destruction of insects by natural means which is far more spectacular than the easily observed kill of insects by modern insecticides. Utilization of these natural mortalities is easy and it lessens the dependance on insecticides. which is so fraught with risks.

Prof. William E. Tomlinson Jr. who retired from the Massachusetts Cranberry Experiment Station in 1978 after a distinguished career, was an early mentor of the senior author. One of the first field trips with him, in 1949, was for the purpose of finding a Sparganothis fruitworm infestation suitable for insecticide tests. He took me to Mayetta Bogs, near Barnegat Bay in Massachusetts, where he had seen a very heavy infestation the previous autumn.

000

Ô

ŏ

Ó

ō

ŏ

0

00

10" 160# \$2.50 per ft. 13" 160# \$3.50 per ft.

**Used for Culvert** & Irrigation

ō TatroIrrigation 000 & Potato Equipment, Inc. Conveyors 1619 County K (1 block south of Polonia) Custer, WI 54423 ● (715) 592-4650 ō

Pilers

VINES FOR SALE

Available Spring of 1987

Pure Prunings Of

Howes Early Blacks \$2.500/Ton - SOLD OUT \$2.500/Ton - SOLD OUT

Stevens Crowlevs \$4,000/Ton \$2.000/Ton

FOR Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

Table 1.

Mortality of Red Striped Fireworm Winter of 1972-1973

Population in October 1972:

North Branch Bogs - 344 per 20 sq. ft. Rutgers Bog #1 - 83 per 20 sq. ft.

Population in 1973:

North Branch Bogs - 0 Leather leaf on bogs'edge - 14 per 20 sq.ft. Rutgers Bog #1 - 0 Leather leaf on bogs'edge - 3 per 20 sq.ft.

The ardent teacher and the eager student were equally frustrated; nary a Sparganothis webbing was found in a morning of hunting. For the student, however, it was a learning expecience in an important and impressive fact: that there is a remendous mortality of cranberry insects under the winter lood.

OVER the years, we have made many observations on the high mortalities suffered by cranberry insects during the winter. Some of the more notable ones were recorded and they are tabulated in tables 1, 2 and 4.

Table 1 shows that a very heavy population of red striped fireworm was completely decimated under the winter floodThe ardent teacher and the eager student were equally frustrated; nary a Sparganothis webbing was found in a morning of hunting. For the student, however, it was a learning experience in an important and impressive fact: there is a tremendous mortality of cranberry insects under the winter flood.

water on two bogs located 20 miles apart. A small proportion of the insects was able to survive only on leatherleaf at the edges of the bogs, where the plants were not completely submerged all winter.

Most of these fireworms hibernate under trash under the vines, but a few pass the winter in silken webs on the leaves. Only those few which were on



Table 2.

Mortality of Cranberry Pests
Under Winter Floodwater-1973

Under Winter F	1000wate	er-19/3
	Above Water Line	Below Water Line
SPARGNOTHIS per 1000 uprights	3	0
CRANBERRY FRT.  Worm Eggs per 1000 berries	32	1
MITES per 1000 berries	8	0
MEALY BUGS per 1000 berries	4	0
SPOTTED FIREWORMS		

leatherleaf leaves above the water apparently lived throughout the winter.

Frequently, we are able to find moderate to heavy populations of cranberry insects on cranberries growing on the banks of dams above the water line. The abundance of insects found in such situations compared to the negligible amounts found on bogs shows how very poorly several cranberry insects are adapted for survival under the winter floodwater. Table 2 points out that Sparganothis fruitworm, cranberry fruitworm, mealy bugs, spotted fireworms and mites all suffer very high mortalities under the winter flood water.

Perhaps least able to survive under water on cranberry bogs in New Jersey is cranberry scale. There have been sporadic and very destructive outbreaks of this disease in the state.

The cause of these infestations was entirely mysterious. The first and very destructive occurrence of cranberry scale in the state was from 1951 through 1955 after a long period of mild winters during which the water on

### Private Party Wishes To Buy Cranberry Bog

10 to 20 acres in Southeastern Mass.

CALL (617) 293-7346 7 a.m. to 5 p.m.

# VINES FOR SALE Howes and Early Blacks

Available Early Spring

(617) 428-6101 (617) 428-0907 After 6 p.m. ogs stayed unfrozen much of

he time.

Since DDT was now being ised intensively in New Jersey, t was easy and popular to ttribute the increase in scales

o the destruction of natural nemies of the scale by the DDT. This was faulty, since heavy cale populations were found where DDT was not used, as well s where no insecticides at all vere applied.

After a study of weather data, ve are now convinced that high xygen contents in flood water luring a long period of mild winers (1945-1955) reduced the iormally high mortality suffered by these insects and encouraged apid increases in population.

It appears that when the sum of the average temperature of December, January and February exceeds 100 degrees F, condiions become favorable for survival of scale. As shown in table 3. from the winter of 1945-46 through 1954-55, nine out of 10 of the winters had average temperatures the sum of which was well above 100 degrees F. and cranberry scale remained very destructive on many bogs



#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING
   GOOD LOOKING
- MAINTENANCE FREE WRITTEN WARRANTY •

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826

**RAYNHAM CENTER, MA** 

MORTON BUILDINGS, INC.

"Excellence - Since 1003"

#### Cranberry Scale Infestation \* Post Harvest-1975

	Uprights Infested	
Bog #8 (Water drawn Mar. 1) WILCOX CENTENNIAL BEN LEAR	91% 90% 8%	4.8 3.5 1.0
Bog #5 (Water drawn Mar.l) EARLY BLACK	14%	2.3
Bog #1 (Water drawn Apr.1) EARLY BLACK	5%	1.9
Bog #11 (Water drawn May 10)	0	0.0
Bog #12 (Water drawn May 10) EARLY BLACK	0	0.0

\* 10 square foot samples at random from each variety and boq.

from 1951 through 1955.

It took only one below normal winter-that of 1955-56-to greatly reduce the scale populations. Then, in a series of 15 winters (1956-57 to 1970-71), there were only three which had average temperatures in December, January and February totaling above 100 degrees F, and cranberry scale virtually disappeared.

There was another flareup of scale in 1975 and 1975 after there had been five successive years well above 100 degrees F. This incipient scale infestation was abruptly stopped by the severe winters of 1976-77 and 1977-78.

The circumstantial evidence of weather's influence on cranberry scale is substantiated by actual data on cranberry scale abundance after the insect again

appeared in 1975. In table 4. populations of scale on the Rutgers University bogs are tabulated. These data clearly show higher populations in early withdrawals and much lower infestations the longer the scales are kept under oxygen deficiency stress. Infestations were as high as 91 percent on March 1 withdrawals but were down to zero on May 10 withdrawals.

IT IS apparent that cranberry insects are terrestrial in habitat and are not well adapted for survival when submerged for long periods. Ironically, a standard practice in most cranberry areas, the relieving of oxygen deficiency in the floodwater by withdrawing the water ("dropping the ice"), reduces the natural mortality of cranberry insects.

A series of tests were started in 1970 with the objective of determining the benefits versus the risks involved in allowing the oxygen content in the floodwater to descend to below critical levels without relieving it.

It was acknowledged that the results in terms of insect control would be beneficial; the cost in terms of injury to cranberry

307 West Grove Street (Rte 28) Middleborough MA 02346

### Diesel Equipt.

**Tractors** 2 & 4 wheel drive - 12-90 hp. Compact Excavators 11/2 to 6 ton

Wheel Leaders 1/2 to 3/4 vd.

Water Cooled Diesel Engines 4 to 104 hp. All Types of Implements

Polymark Beaver-Mowers Specialty Fabrication Work

947-6299

Kubota Financing as Low as 81/2%

ON ON ■ON

	·	
Winter of:	Sum of Avg.	temp.
1945-46	103.2	
46-47	104.9	
47-48	90.4	
48-49	115.4	
49-50	114.3	_
50-51	107.3	BAD CRANBERRY SCALE
51-52	110.6	
52-53	114.9	
53-54	113.3	
54-55	100.4	L
55-56	95.9	Г
56-57	108.6	1
57-58	96.7	
58-59	94.4	
59-60	109.5	
60-61	88.2	CRANBERRY SCALE
61-62	96.8	VIRTUALLY
62-63	87.8	NON-EXISTANT
63-64	92.0	
64-65	99.5	
65–66	99.4	
66-67	101.7	
67-68	94.0	
68-69	94.7	
69-70	90.4	
70-71	98.7	
71-72	109.2	ı
72–73	107.4	
73-74	109.2	
74–75	111.3 -	CRANBERRY SCALE
75–76	107.2	REAPPEARS
76-77	86.2	A_
77–78	85.6	<del>-</del>
78-79	93.7	CRANBERRY SCALE
79-80	100.1	VIRTUALLY
80-81	95.9	NON-EXISTANT
81-82	99.9	
82-83	108.1	
83-84	101.8	_

(Average temperature 1929-1984 = 101.7)

nbryo flowers and production as the overriding consideration. The test was set up following roper replicated scientific rocedures; but it was also esigned to be a practical demnstration for growers. In actulity, the extension purpose was convince growers that it was ise to drop the ice and avoid oxygen deficiency losses. From 1970through 1975, the same test in the same area was a prominent feature of the annual field day of the American Cranberry Growers Association and the New Jersey Agriculture Experiment Station.

The tests clearly demonstrated that, under New Jersey conditions, extremely low levels of oxygen deficiency did not harm cranberries. For six consecutive years, the results were the same, despite the fact that the dissolved oxygen content dropped to zero in three of the six years.

(Data on the effect of oxygen deficiency on cranberry flowering and fruiting will be presented in Part II.)

In New Jersey, it is possible to alleviate the cranberry insect problem simply by letting nature take its course. Oxygen deficiency in the winter floodwater, in most years, causes much more good than harm by inducing very high mortalities of insects.

# Dropping the ice to aerate vines in the winter is no longer recommended.

Dropping the ice to aerate vines in the winter is no longer recommended. Since this practice, which is not without some hazard, has been abandoned, cranberry production in the state has continued to rise sharply.

This is certainly not a cause and effect relationship, but it has given growers encouragement that the new attitude regarding oxygen deficiency is well justified. It is based on "common sense." It has been shown that oxygen deficiency definitely destroys insects while, at the same time, not harming cranberry production.

#### References:

1) Tomlinson, E.E. Jr., 1969. Modern Cultural Practices in Growing Cranberries. Mass Ag. Exp. Sta. Pub. No. 39.

2) Smith, J.B., 1890. The Insects Injuriously Affecting Cranberries. N.J. Exp. Sta. Special Bulletin K.

3) Scammell, H.B., 1917. Cranberry Insect Problems and Suggestions for Solving Them. U.S.D.A. Farmers Bulletin 420.

#### REGIONAL **NEWS** NOTES

#### MASSACHUSETTS

By IRVING E. DEMORANVILLE

Dr. Joan Lasota attended the annual meeting of the Eastern Branch of the Entomological Society of America in Philadelphia from Oct. 5-8. Joan presented a paper and was moderator for a symposium.

Dr. Karl Deubert attended a conference on pesticides and groundwater in St. Paul. Minn., from Oct. 15-17.

Carolyn DeMoranville attended a training session in Tarrytown, NY, given by Technicon Inc. Oct. 19-23 on the operation of an auto-analyzer.

Dr. Robert Devlin attended the Agway Weed Control Round Table in Syracuse. N.Y., Oct. 20-22

Dr. Frank Caruso and Karen Rosenberg attended a meeting of the Northeast Division of the American Phytopathological Society in Stowe, Vt., from Nov. 5-7. They both presented papers and Frank also chaired a symposium.

Unofficially, the Massachusetts crop appears to be somewhat larger than last year's: probably close to the August estimate of 1,800,000 barrels.

Size on Early Black was small on some bogs, but not on all bogs, and color started out good early and was excellent overall. The Howes were outstanding in all respects. Quality was very good, except for much of the dry, harvested fruit, when bruised berries softened rapidly.

There were a total of 18 frost warnings on 13 days following the frost season. The first warning was on Aug 28, which hadn't happened this early in over 40 years. For comparison, we issued 15 warnings in 1985, 10 in 1984, 13 in 1983, and 17 in 1982

#### WISCONSIN

Elden J Stang of the University of Wisconsin/Madison reports in Wisconsin Cran Tips that the state crop for '86 can be summarized "as good to excellent in terms of total yield and fruit quality

He adds: "Many growers reported yields varying substantially from bed to bed, a possible carryover (biennial bearing) effect from high yields in 1985

Stang concludes 'Fortunately, uncontrollable limiting factors, such as hail, were much less common in 1986. Vines in North Central area marshes decimated by hail in 1985 have recovered very well. In general, cranberry plants statewide have gone into winter in very good condition. with excellent crop prospects for 1987

### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with

marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

# KUBOTA **COVERS THE F**

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel

efficient, and require little maintenance Multi-cylinder design



Model	CIL	HIP	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	← Standard
B7200	3	17*	₹ or
B8200	3	19*	Hydrostatic
B9200	4	22.5*	Hydrostatic
		PTO HP	
L245H(	3	21*	Standard
1.345	-4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
I.2250	3	21*	Mechanical shuttle shift
L.2550	3	23.5*	Mechanical shurrle shift
L2850	4	27*	Mechanical shuttle shift
1.3350	4	3.2*	Caxa
L3750	5	36*	₹ or
L4150	5	40*	Hydraulic shuttle shift



VUROTA LAWN & CARD

Model	CYL	HP	Transmission
G3200	2	10	Standard
G4200	2	12	Standard
G4200H	2	12	Hydrostatic
G5200H	3	14	Hydrostatic
G6200H	3	16	Hydrostatic



Model	CYL	РТО НР	Speeds Forward/Reverse
M4030	- 6	43.00	8/4
M5030	6	49 00	16/4
M6030	3	57.00	16/4
M7030	4	68 00	16/4
M8030	4	76.00	16/4
M4950	6	49.57	12/4
M5950	3	58.00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75.44	12/4
M8950	4**	85 (K)	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field.

## **®KUBOT**

Nothing like it on earth.

### **ELLIS IMPLEMENT**

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111



# When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

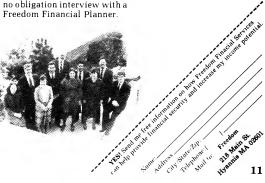
Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm



# Weather Watch

#### MASSACHUSETTS

October temperature averaged 0 9 degrees a day below normal, which made for the fifth consecutive cool month. Maximum temperature was 81 degrees on the 1st and the minimum was 30 degrees on the 1st end the only warmer than average days were the 1st, 4th and 9th Cooler than average days were the 7th, 10th, 16th–20th, 24th–27th and 31st

Rainfall totaled 3.31 inches, just slightly below normal. There was measurable precipitation on 10 days, with 0.78 inch on the 14th as the greatest storm. We are about ½ inch above normal for the year and 1½ inch abead of 1985.

November was cool and wet Temperatures averaged 21 degrees a day below normal, the sixth consecutive month with below normal temperatures. Maximum temperature was 64 degrees on the 2nd and the minimum was 16 degrees on the 14th. Warmer than average days were the 1st, 2nd, 9th and 26th. Cooler than average days were the 5th, 10th-15th, 19th, 22nd and 30th.

Precipitation totaled 6.55 inches, or almost 2 inches above normal. There was precipitation on 14 days, with the greatest storm 1.28 inches on the 19th. This was the largest total November precipitation.

since 1975 and the 10th greatest in our records. We are 2½ inches above normal for the year and just over 2 inches ahead of 1985. There was 1½ inches of snow.

#### NOVA SCOTIA

Although temperatures were slightly on the cool side during October, the weather was relatively fine, which assisted greatly in harvest operations.

There was a good supply of local cran-

berries for the Canadian Thanksgiving (Oct 13).

During the first week of November, we experienced frost on several nights, which should have assisted in hardening of the

Crops were nearly all harvested by the time of this writing. Dec. 1, and almost everyone was ready for Christmas. We had some snow earlier, but warm weather and rain the past week eliminated that.

I V F

# Bog Sand For Sale

Screened & Unscreened from C. Johnson's Bog in Carver, Mass.

WANTED: Quantities of subsoil, peat loom & gravel

Read Sand & Gravel 878-2955

# CRANBERRY BOOMS TRUCK COVERS

Sewn & Repaired / Rubber Tie Downs

## Middleboro Canvas Works

A DIVISION OF DUXBURY OFFSHORE INC.

#### Newly Developed Cranberry Boom To Replace The Old Wooden Boom

The boom weighs a fraction of the old wooden boom. It is 6" in height with a 3" freeboard and 3" draft. It is 1.5" thick with ballast weights on the bottom, made of materials that meet federal specifications and is virtually maintenance free.

# Unbeatably Priced at \$3.90 / foot LOCATED IN THE HEART OF CRANBERRY COUNTRY

OFFICE: 52 JOSSELYN AVE. P.O. BOX 6 SNUG HARBOR DUXBURY, MA., 02331 PLANT: (FROM 6 A.M. TO 2 P.M.) 70 CAMBRIDGE ST. MIDDLEBOROUGH, MA. 02346 TEL. (617) 947-5490

TEL. (617) 934-0566; TLX. 940-733 PETER DUXB, FAX. (617) 934-7301



# Chatsworth Festival Grows Eight-Fold in Only 3 Years

By CORNELIUS HOGENBIRK

The first New Jersey Cranberry Festival held in Chatsworth in 1984 was a one day fair that drew a crowd estimated at 5,000.

That figure encouraged the fair originator and chief organizer Mary Ann Thompson to enlarge the festival in 1985 and expand it to two days. The attendance more than quadrupled.

Then came 1986. The festival drew an estimated 35,000. That's almost double the figure of 1985.

It's hard to believe that that number of people, along with their cars, can all get together, albeit on two days, in the small crossroads town of Chatsworth, "The Capital of the Pine Barrens," population 400.

The center of town, at the intersection of Routes 532 and 563, consists of Buzby's General Store and Eatery on one corner—the local gathering place—while on a diagonally opposite site, just in from the corner, is the Griffin Auto Service Shop. Appropriately, the largest operation in town is the huge A.R. DeMarco, Chatsworth Cranberry Associa-

The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607 AMES

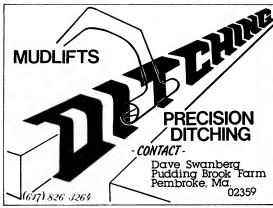
Irrigation Systems
RAIN BIRD
Sprinklers

HALE

Highest Quality Products with Satisfaction Guaranteed

tion processing plant and packing house on Route 532, east of the town center.

One thing that may have puzzled some drivers, especially the city drivers, was the lack of anyone directing traffic at the crossroads. There were no state troopers, nor a local police officer, nor even any volunteer traffic coordinators. Yet, the day long stream of cars entering town each day somehow untangled themselves from each other



# Big Wheel Truck Sales 42 Quanapoag

### E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England

All types of diesel repair

Largest tow trucks on the East Coast

+++++++++++++++++++++++++++++

(617) 763-5927

Call Bob or Joe

(617) 763-8745



TOP: Food and drink were available to those who passed through the portal of the Cranberry Cafe. BOTTOM: Mary Carty of Mount Holly, a member of the Pinelands Dulcimer Society, entranced a young audience with her playing on a "mountain" dulcimer.

(CRANBERRIES photos by Cornelius Hogenbirk)

# "HAVE WILL TRAVEL"



90 Precinct Street Lakeville, Massachusetts (617) 947-0300

Ö

without harm, or undue delays, and then went on to the more difficult problem—that of trying to find a parking spot. Every available space on the road shoulders and fields within a quarter of a mile of the fair-grounds had a vehicle parked on it.

One reason for the growth and success of the Cranberry Festival, no doubt, is due to its location in the New Jersey Pine Barrens, a region that has acquired a certain mystique, partly as a result of national publicity when the "barrens" became the nation's first National Reserve.

It is a contiguous area of approximately 400,000 hectares that is dominated by pitch pines. Tidal rivers, shallow lakes, cedar bogs and swamps enhance the character of the region. It contains an estimated 17 trillion gallons of the purest of waters that lie beneath its sand vsoils in

the Cohansey Aquifer.

The Pine Barrens is also home to a number of unusual and some quite rare species of flora and fauna. The most famous is the Pine Barrens Tree Frog. Flora of note include several of the carniverous plants, such as the





# **AERIAL LIFTING**

• BERRY LIFTING • nylon berry bags bulk bins

BEATON

JOE BRIGHAM

BRIGHAT INC

mat rentals & sales

· MUD LIFTING ·

lightweight durable

contact
PETER - CHUCK
617-295-2222

Pitcher Plant and the several Sundews. A number of wild orchids are also to be found, including the charming, and most rare. Spreading Pogonia. or Rosebud Orchis. Other scarce plants that are here for the nature lover to seek are the Pine Barrens Gentian, the Climbing Fern and the Curly Grass Fern.

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

Another factor that has helped to make this festival a popular one is that Chatsworth is located right in the center of the Burlington County cranberry bogs farming area, New Jersey, which ranks third among the cranberry producing states in the country. harvests virtually all of its cranberry crop from the 3,200 acres of bogs in this region.

This same region also produces much of the blueberry crop in the state, which ranks second in the country in the production of the "blues." A large number of cranberry farms grow blueberries as a companion crop.

THE CHATSWORTH Cranberry Festival of the last three years has done much to inform people about the importance of cranberry growing in New Jersey, Each year, Phil Marucci of the Rutgers Cranberry/

### WISCONSIN CRANBERRY **HEADQUARTERS FOR**



**SEVIN XLR** DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G . PARATHION . ETHREL

#### Cole Chemical Supply

DIVISION OF Hobkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers Flumes Conveyors (steel or aluminum) Shearing · Shop Welding Bending

### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM
- REINFORCEMENT ROD WIRE MESH \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*





TOP: Traffic came to a crawl and many fairgoers had to walk up to a quarter of a mile to reach the grounds. BOTTOM: A truck loaded with 18 tons of cranberries passed through Chatsworth at festival time. (CRANBERRIES photos by Cornelius Hogenbirk)



### NEW TEAM OF COMPACT TRACTORS

# •5 Models

We are proud to offer our customers a new team of specially tractors

During rigorous performance tests by White Farm Fauipment engineers these compact tractors demonstrated both their design quality and performance excellence We are confident you will be impressed with the operating efficiency of these tractors and their high quality workmanship.

Now no job is too large or too small for white Farm Equipment Webare just completed a full circle offering you a line of tractors ranging from 16 to 270 engine borsepower

All Models 2 or 4 Wheel Drive





21 H.P.



37 H.P.



45 H.P.

#### Plus 14 Attachments

- Loader
- Snow Thrower
- Post Hole Digger
   Mowers 4 Types
- Front and Rear Blade
- Roto Tiller
   Disc Harrow

### Ted's Farm Equipment

27 Alden Road Fairhaven, Mass. Phone 994-5312 Sales and Service

Blueberry Research Center has assembled a cranberry display consisting of a dozen or more glass jars filled with some of the different varieties of berries grown in New Jersey. Individual place cards have provided a brief history of each variety, along with its important characteristics, including strengths and weaknesses.

Phil has also judged the four category, biggest berry contests to find the largest Early Black, the largest Howe, the largest among other varieties, and the overall biggy. In 1986, the latter winner was a 5.2 gram, olive sized fruit that had been entered by Doug Vogel of Wading River.

In 1986, as in previous years, there was an early sellout each day of ticket reservations for bus transportation to a local bog, where the curious could see the fascinating harvest operations, Each tour concluded with a visit to the cleaning, drying, sorting sheds, which was interesting but also very, very noisy. It was explained to the visitors that the "Jersey Bounce" test was used to sort out the poor quality, soft berries, which either bounced too weakly or did not bounce at all. The good, healthy berries hopped right along to a conveyor belt, where they were transported to a shipping crate.

The Jersey crop averages a bit over a quarter of a million, 100 lb. barrels each year, most of which go to the huge Ocean Spray processing plant in Bordentown.

The harvest operation tours were without a doubt the festival's most popular event, resulting in a memorable fair highlight for those lucky enough to get a ticket. Sadly. the two available buses could not make enough tour trips each day to accomodate all who wanted to go. Volunteer drivers helped out wherever they could.



### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

#### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase Implementation & training
- Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acre Chemical applications
- Profitability/cost per barrel Sanding and damage

# **50** and still grow

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it

We admire the success of "Cranberries" and the many dedicated business people who are its readers As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



#### Gage-Wiley & Company Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 • 800-242-0263

Open Weekdays 9 a.m. to 5 p.m. Saturday 9 30 a.m. to Noon

Member of the Securities Investor Protection Corporation



### Serving Massachusetts Cranberry Growers

- CONTACT -

JOHN C. DECAS DECRAN AG SUPPLIES INC. 219 MAIN STREET WAREHAM MA 02571 OFFICE: 295-0147 EVENINGS: 763-8956 (WILLIAM CHAMBERLAIN)

Office 295-2222 BEATON'S

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

P. Beaton 947-3601



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

For example, Mrs. Elizabeth Morgan, a former president of the Ocean County Historical Society, made a number of trips to the bogs, using her own car to transport some of the hopeful tourists who had come to the fair. On one trip, Elizabeth assisted an Air Force colonel, his wife, and his mother, who was here on a visit from her home in Wichita, Kans. On another trip, she entertained a group of four visitors from Canada, Mrs. Morgan also rescued a group of 13 girl scouts amd four adult escorts from missing a tour by becoming their personal guide and tour leader.

THIS FAIR, like all country fairs, had its full quota of contests. In addition to the largest cranberry contest, there were a Pinelands photography contest, a cranberry floral arts contest, as well as one

for cranberry arts and crafts, and a classic car show that had special prize awards for the "most cranberry colored" car or truck and another prize for the oldest truck still being used in the bogs.

The hottest contest, of course, was the cranberry recipe contest. There were 10 categories ranging from cakes, candy, cookies and pie, on through jams, jellies, relishes and sauces, and ending with "variety," meaning anything goes, as long as it's got cranberries. Appropriately, each category winner received a case of Ocean Spray juice. The best of show award included a \$250 cash prize.

Toe tapping country music recordings kept the mood festive. Live bands included Waretown favorite Merce Ridgeway with his Pinehawkers. Merce sang such local ballads as the 300 year old "Mount Holly Jail." He also sang his theme song, "I Love My Jersey Home."







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available In a separate area, Mary Carty of Mount Holly and members of the Pinelands Dulcimer Society entertained groups of fairgoers with the hauntingly sweet sounds of their "mountain" dulcimers.

Due to the size of the crowds, one had to queue up for food and drink. Cranberry juice, ice cream and home baked cranberry muffins proved popular. Hot food and drink were available in an area behind a huge portal marked. The Cranberry Cafe.

Bags of fresh cranberries sold without letup. A far different story today, than it was in the days of England's King Charles II. It was said that when presented by the American settlers with 10 barrels of the then called crane berries, the king, after tasting one of the tart berries, remarked, "The cranes can have them."

The festival is mainly the result of the work and effort made by the Chatsworth Club II, its members

#### CRANBERRIES

THE NATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR
MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

#### ADVISORS & CORRESPONDENTS

MASSACHUSETTS — Irving E Demoranville, Director, Cranberry Experiment Station.

NEW JERSEY — Phillip E Marucci, Cranberry & Blue-

NEW JERSEY — Phillip E Marucci, Cranberry & Blueberry Specialist, Cranberry & Blueberry Laboratory, Chatsworth, Elizabeth G Carpeniar, Chatsworth NOVA SCOTIA — 1 V. Hail, Botanist, Research Station, Kantrulia

OREGON — Arthur Poole, Cooa County Extension Agent, Coquille WASHINGTON — Azmi Y Shawa, Horticulturiet and

Extansion — Azmi Y Shawa, noncluturins and Extansion Agent in Horticulture, Coastal Washington Research & Extension Unit, Long Beach WISCONSIN — Tod D Planer, Farm Management Agent, Wood County

CRANBERRIES is published monihily by Diversified Periodicals, Wellvyn Drivs, Portland CT 08480, Second class postage is paid at the Portland, Conn. Post Office. Price is \$10 a year, \$18 for two years, \$1 a copy in the U.S.; \$12 a year in Canada; \$15 a year in all other countries. Beccopies: \$2, including postage, Copyright.

and friends, and, most of all, Mary Ann Thompson, club president and festival chairperson. Cosponsors of the fair include the American Cranberry Association, Ocean Spray and Jersey Fresh, a New Jersey Department of Agriculture promotional agency.

Proceeds from the festival go towards the restoration of the White Horse Inn, a Chatsworth landmark that is in the National Register of Historic Places. This plain, unadorned Gothic building with double chimneys and gable roof, built c native cedar approximately 13 years ago, will be used as a con munity center and Pine Barren museum once it is reconstructed.

A 30-page festival cookbook cor taining a brief history of Chats worth area cranberry farming an a variety of unusual recipes i available for \$4 plus \$1 shipping Address your request to:

Chatsworth Club II Box 331 Chatsworth NJ 08019

### Pump Repairs

All Types
SALES

Field Service & Shop 20 Years Experience

## AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland. Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert littings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

### Answer Queries on Disease At Field Day in Washington

The questions below were stuffed into the question box at the 1986 Field Day held at the Coastal Washington Research & Extension Unit in Long Beach. Answers to the queries were given by Peter Bristow.

Q: Rose bloom seems to be increasing in severity. What is the control?

A: The severity of this disease varies from bog to bog and season to season. Areas with heavy rose bloom one year may be virtually disease-free the following

To date, control has been directed at drying up the rose blooms. The objective is to cause the fleshy structures to shrivel up before spores are produced on the surface. Growers have used Bordeaux mixture. Kocide and Ferbam, but with varying degrees of success. There has been no research that shows that fungicide sprays prevent infections which develop rose blooms the following spring. As many of vou know, rose bloom is caused by the fungus called Exobasidium (specifically E. oxycocci). Other species cause gall-type symptoms on other plants and there is some evidence that the fungus is systemic in these plants. That is, the fungus grows internally from old growth into new growth. It is not known whether this occurs in the rose bloom disease. If it does occur. control by protectant type fungicides may be of little value. At present, we have no fungicides with systemic activity registered for disease control on cranberry.

Q: You mentioned the fungicide, Benlate, at a winter meeting. Please tell me something about it.

A: Benlate is the Du Pont trade name for the fungicide benomyl, which they developed in the late 1960's. For many crops, it represented a dramatic step forward in disease control, because of its systemic activity. It also controls a rather broad spectrum of fungi. Dr. Allan Stretch, a USDA plant pathologist in New Jersey, conducted research on cranberries with benomyl. He found that when the fungicide was applied to newly planted bogs, vining over occurred much more rapidly, but as yet he doesn't know what the chemical was controlling.

We have included benomyl among the fungicides being tested this year for fruit rot control (field rot and rot that develops after harvest in cold storage). Hopefully, a year from now I will be able to give you more specific answers on performance of this fungicide in controlling rot on cranberries

Q: Would you mention a little about blossom blight? What causes it and how to control it?

A: The blighting of blossoms can be caused by several factors. including frost, lack of bee activity, excessive heat, damage from chemicals and, of course, fungi that are able to attack the cranberry plant during flowering.

Both cold and heat can be protected against by using your

### Niemi Electric Co.

ROBERT NIEMI

#### ELECTRICAL CONTRACTORS HEAT, LIGHT and POWER WIRING

- RESIDENTIAL.
- COMMERCIAL
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.



Vareham, Mass.

\* \* \* \* \* \* \* \* \* \* \* \* \* No one is more qualified to serve your Crop Insurance needs

×

×

×

×

⋫

than THE BUTLER **GROUP** 

1 Crop Hail policies on any commercial crops—Hail Fire Vandalism and Transit

2 Federal Crop Insurance Policies for Apples Potatoes Tobacco Corn Cranberries and others

3 Home Auto Business Life Health Call us for a quote or details

Call us for a quote or details

BUTLER Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512

\* \* \* \* \* \* \* \* \* \* \* \*

×

\*

\*

×.

×

\*

\*

뽜

\*

\*

\*

\*

sprinkler system. Pollination can be enhanced by having bees in your bog during the bloom time. Care must be exercised if insecticides need to be applied during flowering so that bees are not repelled or killed. Flowers are rather delicate structures and they may be injured directly by chemicals that are applied at rates greater than those on the label. A number of fungi can blight blossoms of cranberries. although there is little information about the conditions that cause them to be active at that

Based on research that has shown that fungicides can be toxic to cranberry pollen, growers have been advised to limit fungicide applications during bloom and then to use only materials that are least toxic to cranberry pollen. In some years, it may be necessary to apply other fungicides during bloom to control more serious diseases, such as twig blight. When this situation occurs, the decision has to be made as to whether it is more important to protect new growth from infection, which will affect next year's crop, or to risk injury to some flowers from the application of the chemical.

## J.A. JENKINS & SON CO.

Grower Service

MOWING (ALL TYPES)
SANDING

DITCHING WEED WIPING

Serving Cape Cod 227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018



# **Need Help?**

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



Taunton, Mass. 02780, Tel: (617) 824-7578 Located on Rt. 44 14 Mile West of Rt. 24



The scoop of the year!

Cranberry Flavor, Fact and Folklore in THE CRANBERRY CONNECTION, by Beatrice Buszek. Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries... you'll find this book a treasure."—Des Moines Register. Paperback, \$5, 9, 5

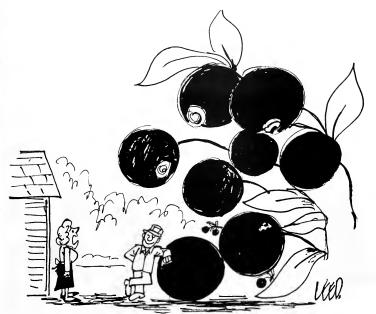
Please send \_\_\_\_ copies of THE CRAN-BERRY CONNECTION, \$8.95 each.

Address

10.1030

Add \$1.50 for postage; Conn. residents add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414



"EVERETT, YOU'VE BEEN USING STEROIDS AGAIN!!!"

### STAY INFORMED

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower grofiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine. Subscribe today! \$10 a year - \$18 two years

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414 R.D.GRASSI Cranberry SERVICES

\*\*\*\*

Herbicides Applied Sanding Wiping Wet Harvesting Mowing

(Mowing includes Hydraulic Arm Flail Mower.)

West Wareham, Massachusetts Ask for Rick at 295-5158



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 51st Year of Publication



New Bog Survives Storm — 3 II: Oxygen & Insects — 14



# Weather Destroys First Crop But New Bog Looks Promising

By CORNELIUS HOGENBIRK

Two-and-a-half years ago, the Lee family completed the planting of a new 10 acre cranberry bog, adding to their already existing 60 acres each in cranberry and blueberry fields.

The entire property, The Lee Brothers Farm, located four miles south of Chatsworth, N. J., on Route 563, dates back to 1869. In that year, Stephen Lee's great-grandfather, an Irish immigrant, purchased the land and placed five bogs into pultivation.

The new bog was planted with

#### **COVER PHOTO**

A FORMER Cambodian refugee separates rooted cuttings of Crowley prior to planting at The Lee Brothers Farm in New Jersey. A story about a new bog at the farm and how it held up under a fierce storm starts on this page.

(CRANBERRIES photo by Cornelius Hogenbirk)

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288



THIS IS what the new bog looked like before it was cleared. (CRANBERRIES photo by Cornelius Hogenbirk)

rooted cuttings of Crowley, a variety, as many growers know, that was first introduced by D.J. Crowley of Washington State University around 1960. Crowley quickly became popular on the West Coast, producing record crops.

It is now much sought after in the East. In 1986, a record yield of 420 barrels per acre was achieved on a plot in the Rutgers, State University of New Jersey, Blueberry/Cranberry Research Center near Chatsworth.

About 400,000 young Crowley vines were set in the new Lee bog. Four and a half days work, utilizing 2,244 man-hours, were required for the task. Most of the work was done by former Cambodian refugees who are now

(please turn the page)

itinerant farm laborers and who were brought in from Philadelphia.

While the Lee family had not expected a commercially viable crop in 1986, the members had looked forward to the first haryest as an indicator of what future crops of the Crowley would be like as to quantity and quality.

Unfortunately, Mother Nature had something to say at this point—and it wasn't nice. In the last few days of July, a series of violent thunderstorms swept through the Chatsworth region. Up to 5 inches of rain fell in sudden, torrential downpours.

Local flooding occurred, but the real damage came from a squall line of vicious hailstorms, with ice pellets as large as marbles. Traffic on Route 563 came to a halt as frightened drivers pulled their vehicles onto the shoulders to await the end of the rapid fire drumming from the skies. Several windshields were cracked.

What the hailstorms did to scattered cranberry fields was vet another grim story. Countless immature green berries had been knocked to the ground. Those that were left on the vines in the affected fields were severely impact damaged.

To help prevent the spread of fungal disease, the Lee's made

#### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair Cranberry Equipment

WARRENS WI 54666 (608) 378-4511



FORMER CAMBODIAN REFUGEES employed as itineran farm workers planted the new Lee Brothers bog in New Jer (CRANBERRIES photo by Cornelius Hogenbirk sev.

### WISCONSIN CRANBERRY **HEADQUARTERS FOR**

**SEVIN XLR** 



DEVRINOL 10G • EVITAL • GUTHION DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF Hopkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



LTHOUGH most of the berries were destroyed, the first crop on the new bog had to be harested. (CRANBERRIES photo by Cornelius Hogenbirk)

+++++++++++++++++++++++++++

n unscheduled fungicide treatnent of their bogs, as did other bocal farmers whose fields were ard hit. Nothing, however, was oing to save vastnumbers of badly carred or bruised fruits. Comounding the problem were sevral days of extreme humidity hat followed on the heels of the torms.

Severe crop damage occurred nroughout the Chatsworth egion in a rather spotty fashion. mong the bogs the worst hit as the new Lee bog. Neverthess, the field had to be harested, if for no other reason an to gather up the damaged erries as a preventive measure gainst the future spread of fungus sease.

And so, the new field was ooded for its first harvest. Sev-

### Big Wheel Truck Sales 42 Quanapoag

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England
All types of diesel repair

All types of diesel repair

Largest tow trucks on the East Coast

(617) 763-5927

Call Bob or Joe

(617) 763-8745

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*



ABBOTT LEE guides his father, Stephen, as their custom built harvester makes a pass in the firs harvest of their new Crowley bog last year.

eral spot checks of the floating berries confirmed what the Lee's had already suspected: the crop was beyond salvage. It just was not worth the effort to save the less than 30 percent good berries in a small first yield.

One ray of sunshine was how well the new vines had established themselves, and how well the first fruiting had set, as well as the beauty and size of the berries that had survived.

With proper care, the new Lee bog of Crowley should be among the most productive at the farm in due course. Then the memory of this first harvest would grow less harsh, just as the hill of scrapped berries would change from an unwelcome sight to sweet humus.

(CRANBERRIES photo by Cornelius Hogenbirk

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

#### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048



TEPHEN LEE holds a handful of the first berries from the first harvest. About 70 percent of the rries were bad. Even in this black and white photo, you can probably notice all the light lored ones.

(CRANBERRIES photo by Cornelius Hogenbirk)

# Bog Sand For Sale

Screened & Unscreened from C. Johnson's Bog in Carver, Mass.

WANTED: Quantities of subsoil, peat loom & gravel

Read Sand & Gravel 878-2955

#### VINES FOR SALE

Howes and Early Blacks

Available Early Spring

CALL

(617) 428-6101 (617) 428-0907

After 6 p.m.

*\$2555555555555555555* 

# Bristow Replies to Queries At Washington Field Day

Dr. Pete Bristow dealt with a variety of grower questions at the 1986 Field Day held at the Coastal Washington Research & Extension Unit in Long Beach, Wash.

Below are the queries and his replies.

Q: I understand that applying fertilizer too late in the season makes berries soft for harvest. What is the effect on the berries?

A: Nitrogen will enhance vegetative growth of weeds and vines and this growth shades berries by restricting sun and air. The result is the production of soft berries, which may break down faster.

#### **CRANBERRIES**



THE NATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

#### **ADVISORS & CORRESPONDENTS**

MASSACHUSETTS — Irving E Demorenville, Director, Crenberry Experiment Station

NEW JERSEY — Phillip E Marucci, Crenberry & Blueberry Specieliat, Cranberry & Blueberry Leboratory, Chateworth, Elizabeth G Carpenter, Chatsworth NOVA SCOTIA — I. V Hell, Botenist, Research

Station, Kentville
OREGON — Arthur Pools, Coos County Extension
Agent, Coquille

WASHINGTON — Azmi Y Shawa, Horticulturist end Extension Agent in Horticulture, Coastal Weshington Research & Extension Unit, Long Beech WISCONSIN — Tod. D Planer, Farm Menegement

WISCONSIN — Tod. D. Planer, Farm Menegement Agant, Wood County

CRANBERRIES is published monthly by Diversilled Periodicals, Nethryn Drive, Portland CT 08460. Second class postage is paid at the Portland. Conn. Post Office. Price is \$10 a year, \$18 for two years, \$1 e copy in the U.S., \$12 a year in Canada; \$15 a year in all other countries. Back copies; \$2, including postage. Copyright 1886 by Diversiled Periodicals.

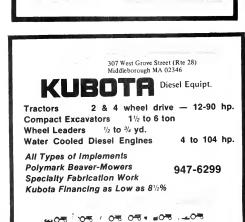
ISSN: 0011-0787
Postmester, send Form 3749 to:
CRANBERRIES
P.O. BOX 249
COBALT CT 06414

Q: If you stop putting nitrogen on the bog by the 1st of August, will the berries be firm?

A: The berries will be firm but small in size, which you can't afford. Nitrogen applications during August are essential for sizing up berries. Moderate application of nitrogen, not to exceed lebs act/A, will enhance size of berries, initiate fruit budfor next year, and still produce sound berries that will not break down. Avoid lat applications of nitrogen is the first week of September for they may cause soft ber



Ditching



# "HAVE WILL TRAVEL"



90 Precinct Street Lakeville, Massachusetts (617) 947-0300 ries and delay dormancy.

Q: If temperature rises to 80-90°F, should we irrigate to cool off the berries?

A: You bet-to prevent berry scalding.

Q: Would it pay to take a leaf analysis on a new bog?

A: Leaf analysis is recommended for a producing bog. A bog younger than five years is still in the developing years and leaf analysis is not required.

**Q**: Are cranberries of benefit for feeding pigs?

A: Pat Boyes, extension agent/chairperson at South Bend, says that cranberries would be classified as a low protein, high moisture and high fiber 15 percent product. Therefore, cranberries may be most appropriate for a ruminant (beef, sheep) or, if fed to swine, they would be best for mature sows and not for growing or finishing hogs.



### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

# C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM



### When you're serious about money, talk to a planner who takes you seriously.

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning Firm





#### Felker Flow Gates

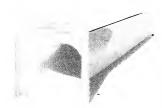
are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Pymouth MA 02360. Tel. (617) 748-6048









### The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC



#### Main Office

10 John Glass, Jr. Square, Middleborough



#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham

Telephone all offices 947-1313

#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

• LONG LASTING • GOOD LOOKING

MAINTENANCE FREE • WRITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT - CALL TODAY!

617 / 824-3826

**RAYNHAM CENTER, MA** MORTON BUILDINGS, INC.

### The Effect of Oxygen Deficiency In the Winter Floodwater on Cranberry Insects in New Jersey

By PHIL MARUCCI and HARRY J. MOULTER

Rutgers University Cranberry and Blueberry Lab (Part II of II Parts)

In Part I, we described observations made over a period of many years which demonstrated that oxygen deficiency in the floodwater causes tremendous mortalities of cranberry insects. In this paper, we present additional data on the lethality of oxygen deficiency to insects and we investigate the effect of low, dissolved oxygen content in the floodwater on the flowering and fruiting of cranberries.

In order to achieve different levels of dissolved oxygen in the floodwater in areas on a bog in close proximity to each other, we used large, semi-waterproof boxes to compartmentalize small areas on a bog. Wooden boxes treated with several coats of varnish were set on the bog.

The dimension of the boxes was 4' x 4' x 2'. The top of the box

Pump Repairs

All Types
SALES

Field Service & Shop 20 Years Experience

AAA INDUSTRIAL PUMP SERVICE INC.

> 66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

was a removable panel of thick, black plastic impervious to sunlight. The effective exclusion of light by the plastic reduced photosynthesis by the cranberries in the boxes and this inevitably induced low, dissolved oxygen contents. Keeping the top lid of the box off for variable periods provided a method of causing variable readings of oygen in the boxes.

Three boxes were set out in a line across Rutgers Bog #4(Early Blacks), equidistant from each other (12 ft), with the open, unboxed areas serving as checks. Before the boxes were deployed, it was determined that the flowering and fruiting in the area across the entire 60 ft. width of the bog was fairly uniform.

From 1970 thru 1975, the identical areas were covered with

# 50 and still growing.

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



### Gage-Wiley & Company Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 ● 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation

Table 1. Summary: Oxygen Deficiency Tests 1970 - 1975

vacRers	s Univ	ersit	y Expe	imental	Cranbe	rry Bo	gs, Chat	swor	th, New	Jerse	у.	ь
							÷.		. Selection	į.	# BC	upr.
		Oxy	gen co	ntent c	liter	Ve.	Mpr.	Set	781.5E	Berries/Sq.ft.	Zeros	old g
		1		period*	age	on 7	. i	ent	Berries/Bl upr.	ies,	Percent	ent Blsr
		Days	High	¥o.	Average	Season Ave.	Blsms./Blsmg upr.	Percent	Вегл	Berr	Perc	Percent old Blsmq.
1970- Box	1	59	2.40	0.73	1.31	1.31	2.80	41	1.31	307	10	57
DUK	2	59	1.87	0.61	1.08	1.08	3.17	34	1.08	204	18	65
	3	59	3.15	0.96	2.09	2.09	3.23	41	1.20	170	31	72
Ave. box	xes	59	2.47	0.77	1.49	1.49	3.07	39	1.20	227	20	65
CHECK		4	3.48	2.97	3.23	4.75	3.26	29	0.93	220	33	68
Otter 1 1971:	Pond	35	2.97	0.00	0.58	0.58	3.10	35	1.11	112	16	45
Box	1	39	3.31	0.00	1.21	2.42	2.94	33	0.98	252	20	76
	2	64	3.60	0.00	0.85	0.85	3.55	33	1.18	264	7	65
	3	29	2.61	0.40	1.31	2.73	2.66	35	0.93	204	10	74
Ave.bo:	xes	44	3.17	0.13	1.12	2.00	3.05	34	1.03	240	12	72
CHECK		6	3.56	3.56	3.56	5.32	3.29	35	1.15	288	22	67
1972:												
Box	1	15	1.32	0.69	1.01	4.35	3.13	38	1.18	271	15	67
	2	10	1.96	1.96	1.96	5.09	3.17	33	1.06	163	17	51
	3	10	1.99	1.99	1.99	4.95	2.92	33	0.98	253	25	68
Ave.bo	xes	12	1.76	1.55	1.65	4.80	3.07	35	1.07	229	19	62
CHECK		0				6.34	3.34	29	0.99	205	19	69
1973:												
Box	1	10	3.93	3.67	3.80	4.19	2.99	36	1.09	244	20	78
	2 3	5 14	3.61 3.99	3.61 0.54	3.61 2.33	4.91 3.11	2.65 2.58	38 41	1.00 1.05	160 179	21 26	61 52
Ave. box	Yes	10	3.84	2.61	3.25	4.07	2.74	38	1.05	194	22	64
CHECK		0	_		_	5.50	2.63	40	1.04	178	20	64
1974:											-	
Box	1	38	3.43	0.05	2.45	3.03	2.42	52	1.27	196	10	47
	2	50	0.67	0.00	0.29	0.5	2.29	45	1.05	127	16	40
	3	39	3.48	0.00	0.66	1.63	2.42	42	1.03	153	20	45
Ave. bo	xes	42	3.45	0.02	1.13	1.72	2.38	46	1.12	159	15	44
CHECK		17	3.88	2.21	3.19	4.73	2.38	48	1.10	154	12	54
1975:			2.76									••
Box	1 2	66 66	3.76 0.73	0.43	2.18 0.37	2.18	3.48	34	1.20	310	13	72
		66	1.04	0.14	0.61	0.37	3.39 3.49	34 29	1.16 1.01	261 257	17 25	70 74
	- 1							47	1.01	431	23	,4
	3			0.19	1.05	1.05	3.44	32	1.12	276	18	72

 <sup>\*</sup> below 4 cc. per liter
 \*\* Zeros - Uprights which blossom but do not produce berries.

#### Period of Critical Oxygen Content

	Days	lowest	Eggs dead	Eggs alive	% Mortality
2/17-511/70					
Rutgers Bog #4					
Box 1	59	0.73	757	55	93%
Box 2	59	0.61	778	26	97%
Box 3	59	0.96	632	23	96%
Open bog check	4	0.00	322	391	45%
Lower otter pond**	59	0.00	934	0	100%
1/27-5/10/71					
Rutgers Bog #4 Box 1					
Box 1	39	0.00	1122	17	99%
Box 2	64	0.00	770	0	100%
Box 3	29	0.40	595	0	100%
Open bog check	6	3.56	597	59	91%
Lower otter pond**	64	0.00	981	0	100%
2/19-5/10/71					
Rutgers Bog #4					
Box 1	19	0.59	694	14	98%
Box 2	40	0.00	870	9	99%
Box 3	12	2.61	824	0	100%
Open bog check	0	4.25	589	38	94%
Lower otter pond**	40	0.00	798	15	98%

<sup>\*</sup> In N.J. often erroneously called spotted fireworm.

boxes and used as checks. The boxes were placed out on the bog before the water froze over each winter. Samples were taken of the water in the three boxes and in the open check area throughout the winter, once or twice a week, depending on the variabil-

ity of weather conditions, which would cause appreciable fluctuations of oxygen in the water.

The oxygen was analyzed by the Winkler idiometric method. Occasionally, duplicate samples were taken to chemists at the New Jersey Agricultural Experiment Station at Rutgers to con firm accuracy.

The data on oxygen content ir the boxed and open areas, as well as the blossoming and fruit ing in these areas, is compiled in Table 1.

As shown in Table 1, there

<sup>\*\*</sup> A commercial bog noted for stagnant water and low oxygen content in floodwater.



#### Serving Massachusetts Cranberry Growers

- CONTACT -

JOHN C. DECAS DECRAN AG SUPPLIES INC. 219 MAIN STREET WAREHAM MA 02571

OFFICE: 295-0147 **EVENINGS: 763-8956** (WILLIAM CHAMBERLAIN)

22 years experience & Seconstruction lifts &



· MUD LIFTING ·



### **AERIAL LIFTING**

· BERRY LIFTING · nylon berry bags bulk bins



JOE RRIGHAM INC

lightweight durable

contact PETER - CHUCK 617-295-2222



mat rentals & sales

Table 3. Mortality of Overwintering Sparganothis Larvae in Winter Floodwater

Rutger	s Bog	#4 -	1975
Larvae	immer	sed*	1/22-4/3

	Days of critical oxygen content**	Larvae dead	Larvae aliv
Box 1	66	1654	0
Box 2	66	1315	0
Box 3	66	1588	0
Bog check	0	1048	2
Lab check (	at	29	71
40°F in re	frigerator)		

<sup>\*\*</sup> below 4cc per liter.

were vast differences in each of he six years in the oxygen conent in the boxed and unboxed treas. The much lower oxygen ontent and the much longer periods of critically low oxygen evels (below 4cc, per liter) did ot harm the flowering and ruiting capabilities of the cranerries boxed during the winter.

This was determined by careul examination of 3 one quarter quare foot samples of uprights ut out of each of the boxed areas ind the check areas at harvest ime. The flowering and fruiting haracteristics revealed in these xaminations are also compiled n Table 1

In four of the six years, there

**Private Party** Wishes To Buy Cranberry Bog

10 to 20 acres in Southeastern Mass.

CALL (617) 293-7346 7 a.m. to 5 p.m. was a slightly higher number of blossoms per blossoming upright in the check area than in the boxed areas. However, in four of the six years, there were slightly more berries per square foot in the boxed areas than in the check area. In the fruiting characteristic which probably reflects weakness and stress more than any other, "Zero" (a blossoming upright which produces zero berries), the check area had more

in three of the years, while the boxed areas averaged more in only two of the years, and the check and boxed areas had equal percentages in one year.

In actuality, the slight, insignificant differences shown in the data cannot be attributed to oxygen content. They are merely natural random differences that can be had by taking small samples from any uniformly highly productive Early Black bog.

The area where the oxygen deficiency tests were conducted on Rutgers Bog #4 was a prominent feature in the annual cranberry field day which is held by the American Cranberry Growers Association and the New Jersey Agricultural Station every last Thursday of August. The clearly marked oxygen deficiency plots were closely observed by growers. In each of the six years, no grower could discern any notable differences in appearance or production between the boxed areas and the open check areas. The practical extension purpose of the test was achieved.

The demonstration of the plots enabled the growers to see tang-

#### Niemi Electric Co.

ROBERT NIEMI

#### ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
  - INDUSTRIAL

TEL., 295-1880

Robert Niemi

Pinehurst Dr.

Vareham, Mass.

<sup>\*</sup> newly hatched larvae in cocoon (hibernacula)



### •5 Models

We are proud to offer our customers a new team of specialty tractors

During rigorous performance tests by White Farm Equipment engineers these compact tractors demonstra ted both their design quality and performance excellence. We are confident you will be impressed with the operating efficiency of these tractors and their high quality workmanship.

Now no job is too large or too small for White Farm Equipment, We bare just completed a full circle offering you a line of tractors ranging from 16 to 270 engine borsepower

All Models 2 or 4 Wheel Drive











37 H.P.



#### Plus 14 Attachments

- Loader
- Box Scraper · Roto Tiller
- Front and Rear Blade
- . Snow Thrower
- Post Hole Digger Mowers 4 Types
  - Disc Harrow

#### **Ted's Farm Equipment**

27 Alden Road Fairhaven, Mass. Phone 994-5312

Sales and Service

Table 4. Mortality of Cranberry Fruitworm Cocoons Immersed
Under the Winter Floodwater

Feb. 11 - May 10, 1972

		<u>May 20</u>			
Site: Bog #4	Days Critical oxygen content*	Dead Larvae in cocoons	Live Larvae in cocoons		
			_		
Box 1	12	100	0		
Box 2	6	100	0		
Box 3	6	100	0		
Check	0	94	6		
Lower otter por	nd 23	100	0		

<sup>\*</sup> below 4cc per liter

ible results and to make judgements of their own on whether the benefit of insect control by oxygen deficiency in the winter floodwater was exceeded by the costs in terms of loss of production. Just about all of the growers have concluded that it is more advantageous not to drop the ice during the winter.

The period covered by the tests, the winters of 1970-75, is fairly representative of winter weather conditions in the New Jersey cranberry region. Three (1970, 1971 and 1975) were below normal in temperature and three

(1972, 1973 and 1974) were warmer than normal.

One of the most severe Januaries in southern New Jersey occurred in 1970 when the average mean temperature was 24.0°F or 8.6°F below normal. As shown in Table 1, this type of weather

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue

> PTO shaft with

marine bearing

Phil Helmer 1060 3rd St. N.

1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue
North Dighton, Mass.
Phone 824-5607
AMES
Irrigation Systems
RAIN BIRD

Sprinklers HALE Pumps

Highest Quality Products with Satisfaction Guaranteed

### J.A. JENKINS & SON CO.

Grower Service

MOWING (ALL TYPES) SANDING DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018

all the second

#### Sparganothis Fruitworm Mortality under Winter Flood

Various New Jersey Bogs - 1978-1979

	Eggs set on bogs* Sept. 21, 1978	Evidence of Survival on 25 Sq.ft.** 6/8/1979		
		Webbings	Live larvae/sq.ft.	
Bog 1	30 masses - 1016 eggs	13	0	
Bog 2	30 masses - 1123 eggs	24	8	
Bog 3	45 masses - 1437 eggs	7	3	
Bog 4	76 masses - 2181 eggs	18	6	
Bog 5	130 masses - 4210 eggs	2	0	

<sup>\*</sup> All within a one square foot area.

produced only four days of oxygen at the critical level in the open check area.

Table 5.

It is unlikely that winter weather in New Jersey could ever get so severe that the oxygen content in floodwater could approach the long critical periods in the boxes of 59 days in 1970 and 66 days in 1975. Since no damage to cranberries in the boxes occurred during these periods, it may be inferred that New Jersey growers have a very large margin of safety in declining to drop the ice in the winter.

Since 1975, when the practice was discontinued, there have been several spells of unusually severe winter weather, especially in January 1977, when the mean temperature was 21.1°F or 11.5°F colder than normal, and February 1978, when the average temperature was 21.9 or 11.7 below normal.

The frequent spells of unusually severe weather, with their attendant thick layers of ice and low oxygen contents, have not

affected cranberry production in New Jersey. The yield per acre has continued to rise despite the fact that growers have abandoned the practice of dropping the ice in the winter. We have continued to look for evidence of oxygen deficiency damage and have failed to find any. On the other hand, we continue to see clear evidence of destruction of insects by oxygen



<sup>\*\*</sup> Circular area with the release poing at the center.

deticiency.

The low oxygen contents which occurred in the boxes enabled us to obtain further data on the mortality rates of insects under the flood. In Tables 2, 3 and 4, it is shown that sparganothis fruitworm, cranberry fruitworm and fruit tree leafroller are not able to survive well under conditions of low, dissolved oxygen content in the water.

Table 5 presents additional data from widely separated commercial bogs to show that only a very small percentage of the fragile, tiny, first instar larvae of sparganothis larvae are able to survive under floodwater in their flimsy cocoons (hibernacula).

In this test, egg masses obtained in the field and in insectary cages were kept in the laboratory until they were about to batch. They were then placed in

petri dishes with a hardware

cloth top from which the newly hatched larvae could escape when they hatched. The egg masses were later examined to determine precisely how many individual eggs had hatched. The

survival of the larvae on the commercial bogs, as shown on Table 5, was very poor.

It should be noted that on the commercial bogs, as in the box tests, the oxygen does not have



#### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

#### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase
   Implementation & training
- Software installationOngoing support

We have software for the cranberry grower who wants to track activity on his bogs.

*୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰୰* 

- Deliveries/barrels per acre
   Chemical applications
- Profitability/cost per barrel
   Sanding and damage

Office 295-2222 BEATONS

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

P. Beaton 947-3601



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

### LARCH MONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-25502



#### FOR EXAMPLE: —

Gorman-Rupp Self Priming Electric Sprinkler Pumps Proven Ouick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact:
Stearns Irrigation, Inc.
790 Federal Furnace Rd.
Plymouth MA 02360
(617) 746-6048









Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

> Plymouth Airpart Ect Squar Plymouth, iVA 0235

Stalla i icht Filosofo Filosofo Hift Tagu-130

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

to go extremely low to cause high mortalities of the three insects tested. Survival was poor even in the open check areas.

One cranberry insect, cranberry tipworm, exhibits unusual resistance to oxygen deficiency in its ability to survive under the winter flood. It belongs to a family of insects. Cacidomyidae (the midges), which has many members which are aquatic in the larval stage. This insect actually is more troublesome on bogs drawn in May than those drawn in April. The more lush, tender growth of the later drawing is the actual cause, but the insect must survive a longer period of oxygen deficiency

Two pests of cranberries in other regions, cranberry weevil and Southern red mite, are very common in New Jersey, but they do not occur on cranberry bogs. The cranberry weevil is so little known on cranberries and is so destructive on blueberries that it has been given a separate name—blueberry blossom weevil. It is found in abundance in wild blueberry bushes along the edges of cranberry bogs and is a major pest in poorly cultivated blueberry fields or where mulches are used and provide good hibernating quarters.

Southern red mite frequently becomes so numerous on sweet pepper bush, a common plant around the edges of cranberry bogs, that the leaves are bronzed and sere by the end of summer. This mite has never been destructive on cranberries in New Jersev.

Although we have no evidence, the inference is strong that cranberry weevil and Southern red mite are not able to survive the winter flood in this state.

CRANBERRIES is read by more than two-thirds of the growers in the U.S.

### Farm Bureau Files 13 New Bills for '87

The Massachusetts Farm Bureau has tossed 13 pieces of legislation into the hopper for consideration by the 1987 state General Assembly.

Some of the bills and their subjects are:

Recreational Vehicles: This

bill, sponsored by Sen. Webber and Reps. Hodgkins, Walrath and Buell, would require the registration of all recreational vehicles. It would also require the vehicle owner to carry liability insurance if he/she is going to tuse the vehicle on someone else's property.

Taxes on Farm Machinery and Animals: This bill would allow corporate farms, as well as

# COVERS THE FIELD

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance.



KUBOTA B AND L SERIES TRACTORS

Model	C.1 L.	rii.	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	€ Standard
B7200	3	17*	or
B8200	3	19*	Hydrostatic
B9200	4	22 5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
1.345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
1.2550	3	23.5*	Mechanical shuttle shift
1.2850	4	27*	Mechanical shuttle shift
t.3350	4	32*	(8x8
L3750	5	36*	₹ or
1.4150	- 5	40*	Hydraulic shuttle shift



PUROTA LAWN & CARDEN TRACTOR

Model	CYL	HP	Transmission
G3200	2	10	Standard
G4200	2	12	Standard
G4200H	2	12	Hydrostatic
G5200H	3	14	Hydrostatic
G6200H	3	16	Hydrostatic



KUBOTA M SERIES TRACTORS

Model	CYL	РТО НР	Speeds Forward/Reverse
M4030	6	43.00	8/4
M5030	6	49.00	16/4
M6030	3	57.00	16/4
M7030	4	68 00	16/4
M8030	4	76 00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85.00	24/8
Manutacturer v	rytimate	**Turbo averra	ited

Visit your Kubota dealer to find out which Kubota will be best in your field.



Nothing like it on earth."

### **ELLIS IMPLEMENT**

6639 HIGHWAY 66 STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111 small, part-time farmers, to take advantage of the tax exemption on farm machinery and animals. Sponsors are Sen. Webber and Reps. Angelo and Buell.

Payment for Losses Caused by State and Federally Protected Wildlife: The bill would establish reimbursement to Massachusetts farmers who suffer losses caused by protected wildlife. Sponsors are Sen. Webber and Reps. Hodgkins and Buell.

Betterment Assessments on Forest Land: Owners of forest land would not be assessed for betterments (public water mains, etc.) unless they benefit from the betterment, if this bill passes. Sponsors are Sen. Webber and Reps. Angelo and Buell.

Aquaculture: This bill would include aquaculture among agricultural zoning exemptions. Sponsors are Sen. Webber and Reps. Rauschenbach and Doane.

Land Preservation Committee: The nonexistent office of lirector of state planning would be replaced with a third farmer member on the Agricultural Land Preservation Committee. Sponsors are Sen. Webber and Reps. Hodgkins, Walrath and Buell.

Bees: The keeping of bees or agricultural purposes would be exempt from the Massachusetts Public Health Nuisance Law. Sponsor is Sen. Wetmore.

Have a piece of equipment you want to sell?

Write or call: CRANBERRIES P.O. Box 249 Cobalt CT 06414 (203) 342-4730

### R.D.GRASSI Cranberry SERVICES

Herbicides Applied Sanding Wiping Wet Harvesting Mowing

(Mowing includes Hydraulic Arm Flail Mower.)

West Wareham, Massachusetts Ask for Rick at 295-5158



#### **VINES FOR SALE**

Available Spring of 1987

Pure Prunings Of

Howes Early Blacks \$2,500/Ton - SOLD OUT \$2,500/Ton - SOLD OUT

Stevens

\$4,000/Ton \$2.000/Ton

Crowleys

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

#### CAPTAIN CRAN BERRY







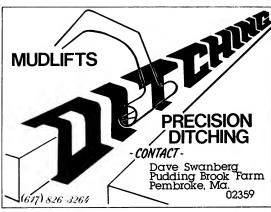


#### Cranberry Toddy

This toddy is from the book, The Cranberry Connection, by Beatrice Ross Buszek.

- 6 cups cranapple drink
- 1 cup bourbon
- 1 teaspoon each ground nutmeg and cinnamon
- 16 x ½ inch strip orange peel
- Mix in large pan. Heat but do not boil. Serve in mugs. Makes seven cups of warmth.

CRANBERRIES has been published continuously for 51 years.



THE PHOTOS on the opposite page were taken by Carolyn and Kirby Gilmore at last year's annual meeting of the Cape Cod Cranberry Growers Association.





The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer Our 51st Year of Publication



Cranberry History — 3
Cranberry Dieback — 14 & 24

#### $Know\ the\ Insects\dots$

The major cranberry insects: cranberry girdler, the fireworms, tipworm, blossom worm, cranberry fruitworm and Sparganothis fruitworm.

#### $Know\ the\ Insects\dots$

The periodic cranberry insects: cranberry scale, fire beetle, blossom weevil, armyworm and bluntnose leafhopper.

#### $Know\ the\ Insects\dots\dots$

Color photographs of all these insects and more are now arranged with text in a portfolio that is available.

The portfolio endeavors to bring together the words of research complementing the photographs and making a summary of cranberry insect information that will be of use to the cranberry grower for a lifetime.

The portfolio is available for \$100 and, if you wish to examine a copy, telephone (609) 894-8556 evenings around 6 p.m. or write to:

Walter Z. Fort
P.O. Box 183
Pemberton
New Jersey 08068

### Cranberries and Royalty

### Chapters in Bordentown's History

Community Once Home of Joseph Bonaparte, Brother of Napoleon

> By ELIZABETH G. CARPENTER

Here and there, scattered ranberries dot the roadside on the route to Ocean Spray's processing plant in Bordentown City, N.J. Flat-bed trucks laden with the fresh fruit turn off Route 206, then wend their way along ree-lined Park Street, past the ite of Joseph Bonaparte's 19th entury estate, to their destination. Harvest signals the addition of another year to the rich uistory of this New Jersey town.

LONG before anyone thought bout creating a Statue of Librty, even before the American levolution, residents of Bordenown City were speaking out for

000000000

#### COVER PHOTO

RANCIS Hopkinson (1737-791), signer of the Declaraon of Independence, lived
this brick home built in
750 in Bordentown, N.J., a
ommunity in the Pinelands,
thich embraces the state's
canberry growing region.
n article that deals with the
istory of Bordentown starts
n this page.

RANBERRIES photo by lizabeth G. Carpenter)

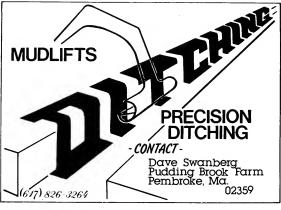


CLARA BARTON (1821-1912), founder of the American Red Cross, established Bordentown's first public school in May 1982 in this former Quaker schoolhouse.

(CRANBERRIES photo by Elizabeth G. Carpenter)

the right "to breathe free." Founded by Quakers, this Burlington County community has been the home of statesmen, artists, writers, and even a deposed monarch. One local res-

ident, Francis Hopkinson, was a signer of the Declaration of Independence, as well as the originator of the Great Seal of New Jersey, with its motto, "Liberty and Prosperity." How-



ever, the genius of this founding father never envisioned the world of today's carefully engineered cranberry bogs.

OVER the years, the degree of wealth and diversity of interests of Bordentown's residents have been reflected in the architectural styles of their homes. Perhaps the most fabled residence in this community and the one indirectly linked to Ocean Sprav is the mansion once situated on the former 1.700 acre estate known as Point Breeze. Only a remnant of the elegant structure that housed Joseph Bonaparteelder brother of Napoleon and king of Spain and Naples-still remains and even this is mystery-shrouded.

A quarter of a century before the concept of cultivated cranberry bogs became a reality in New Jersey, Bonaparte was planning his escape from Europe. In 1815, Napoleon was headed for his infamous defeat at the hands of the British and Prus-



ENOCH BILLS, cranberry grower and one time manager for Ocean Spray, lived in this elegant brick home on Farnsworth Avenue.

(CRANBERRIES photo by Elizabeth G. Carpenter)

#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING GOOD LOOKING
- MAINTENANCE FREE
   WRITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826

RAYNHAM CENTER, MA MORTON BUILDINGS, INC.

"Excellence - Since 190

ians in the Battle of Waterloo. It was not safe for the Emperor's rother to remain on the contitent; therefore, no time could be ost in finding a new home.

The United States seemed a good choice, since the War of 812 had strained Britishmerican relations. Feverish lanning for the king's deparure began.

First, Bonaparte and Louis Mailliard, his trusted private ecretary, went to Switzerland where they hid a fortune that yould later be retrieved and used o establish Bonaparte's stateide residence. Then, carefully isguised, and with a quantity of swels sewn in the linings of failliard's garments, the two set ail on a ship carrying Bordeaux

## The CHARLES W. HARRIS Company 451 Old Somerset Avenue

North Dighton, Mass.
Phone 824-5607
AMES
Irrigation Systems
RAIN BIRD
Sprinklers
HALE

Pumps
Highest Quality Products
with Satisfaction Guaranteed

# Howes Vines

April Delivery

(617) 994-8032



DR. FERNAND BEAUCOUR, author of a soon to be published work about Louis Mailliard, was recently honored at a reception held in Bordentown's historic Gilder House. Here Kathy Finch, president of the Bordentown Historical Society, left, and Susan B.G. Bradman, president of the Burlington County Historical Society, join him in the home's original kitchendining room.

(CRANBERRIES photo by Elizabeth G. Carpenter)

(CIMILIDE PROVE Ny EMPARETH G. Carpenter)

wines to New York City.

ONCE safely in New York City, Bonaparte and Mailliard used the jewels as credit for purchase of a 211 acre estate in Bordentown City, the heart of what was to become Point Breeze. The following year, Mailliard was dispatched to Switzerland to recover the fortune that would, in part, finance the acquisition of 10 adjoining farms, a land-





#### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360. Tel. (617) 746-6048



22 NORTH CHESTNUT AVENUE, MARSHEIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846



nolding befitting a deposed king who had, by this time, assumed the title of Compte de Survilliers. An ideal location, the estate was situated just south of New Jersey's capital, Trenton, within easy traveling distance to New York and Philadelphia, and at the confluence of Crosswicks Creek and the Delaware River.

During the next 23 years, Bonaparte spent much of his ime at Point Breeze. Visitors to the estate included John Quincy Adams, Henry Clay, Daniel Webster, Stephen Girard and Nicholas Biddle. The guest list read like a "Who's Who" in the American political and business world. Although many friends and family members joined him, Bonaparte's wife, Julie, fearful of a sea voyage, remained in Italy.

FACT AND FICTION con-

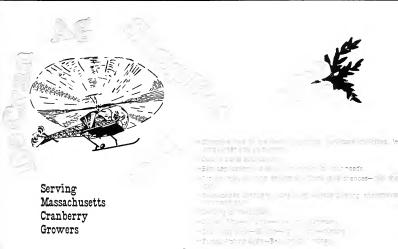
tinue to surround the stay of the ex-king and his entourage in this country. Their activities remain the subject of scholarly study as well as intriguing speculation.

One well documented business transaction, dated June 6, 1836. was destined to make national news 134 years later and link Bonaparte's elegant bygone era to today's world of modern cranberry processing. At that time, Bonaparte deeded 11 acres of his Bordentown estate to the Camden and Amboy Railroad and Transportation Company to serve as right-of-way for the state's first railroad. However, it was agreed that the land would revert back to the Bonaparte family and heirs if it "ceased to be used for railroad purposes."

Today, Edward V. Lipman, retired manager of Ocean Spray's Bordentown facility and current member of New Jersey's State Agricultural Society, recalls that, although Ocean Spray acquired the land in question from the railroad company, plant management did not think it wise to construct a new warehouse on the site and adjoining land "until the title was cleared and the reverter clause stricken from the books." This required extensive geneological research and legal action for which Henry B. Tutek, a Bordentown attorney, was hired.

The yearlong research effort was a necessary undertaking because it had to be learned if there were any living heirs to this estate. A July 22, 1970 New York Times article noted, "The clerk's files here have rarely seen such a notable list of princes, cardinals and counts."

The investigation even led to



Contact

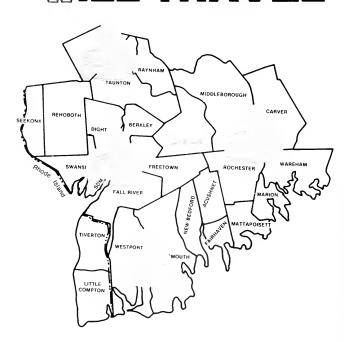
John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571

office: 295-0147 evening: 763-8956 (William Chamberlain)

### "HAVE WILL TRAVEL"

0000000000000000000

000



90 Precinct Street Lakeville, Massachusetts (617) 947-0300

0

0

00000000

0000

Rome, Italy. Finally, it was determined that the American branch of the Joseph Bonaparte family expired in 1945 and the European branch of direct descendants ended in 1949. There being no remaining heirs, the suit was tried in Superior Court in 1971 and settled in Ocean Spray's favor.

HOWEVER, as one chapter of the Bonaparte story ended, another began. When news of Ocean Spray's legal action reached Dr. Fernand Beaucourlawyer, historian, director of Napoleonic studies, and university professor-he decided to include Bordentown on the itinerary for his next visit to the United States. Beaucour, a resident of Levallois, France, has extensively researched the life of Louis Mailliard, aided by Mailliard's comprehensive diaries that enumerate the complex

#### **CRANBERRIES**



THE NATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206 ADVISORS & CORRESPONDENTS

MASSACHUSETTS — Irving E. Demoranville,

Director, Cranberry Experiment Station.
NEW JERSEY — Phillip E. Marucci, Cranberry & Blueberry Specialist, Cranberry & Blueberry Specialist, Cranberry & Blueberry Chateworth; Elizabeth G. Carpenter, Chateworth.

NOVA SCOTIA — I. V. Hall, Botanist, Research Station, Kentville.

OREGON — Arthur Pools, Cost County Extension.

OREGON — Arthur Pools, Coos County Extension Agent, Coquilla.

WASHINGTON — Azmi Y. Shawa, Horticulturist and Extension Agant in Horticulture, Coastal Washington Research & Extension Unit, Long Beach, WISCONSIN — Tod. D. Plener, Farm Menagement Agent, Wood County.

CRAMBERRIES is published monthly by Diversified Periodicals, Wellway Drive, Portland CT 08480, Second class postage is paid et the Portland, Conn. Poet Office. Price is 310 a year, 318 for two years, 31 a copy in the U.s.; 312 a year in Canada; 315 a year in all other countries. Back copies: \$2, including postage. Copyright 1985 by Diversified Periodicals.

ISSN: 0011-0787
Postmaster, send Form 3749 to:
CRANBERRIES
P.O. SOX 249
COBALT CT 06414



THE GRAVEYARD where Joseph Hopkinson (1770-1842), author of "Hail Columbia," is buried.

(CRANBERRIES photo by Elizabeth G. Carpenter)

### J.A. JENKINS & SON CO.

Grower Service

MOWING (ALL TYPES) SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018

alling to the





THE PLAQUES on the side of the Francis Hopkinson Iouse.

CRANBERRIES photo by Elizabeth G. Carpenter)

#### **Private Party** Wishes To Buy **Cranberry Bog**

10 to 20 acres in Southeastern Mass.

CALL (617) 293-7346 7 a.m. to 5 p.m. dealings and many associates of his employer—and father—Joseph Bonaparte.

Louise Hall Tharp notes the latter fact in her well researched biography of New York's distinguished Ward family, entitled Three Saints and a Sinner. As she writes. Louis Mailliard was "a son of his ex-Majesty's by a lady other than his wife." Their relationship was "no secret and considered no disgrace."1 The Mailliard family flourished in this country, with Louis' son. Adolph, marrying the lovely Annie Ward, Currently, many of their descendants reside in Califor nia.

BEAUCOUR explained during his most recent Bordentown visit that he is nearing completion of the first volume of a major work about the life of Louis Mailliard, Tentatively, he plans to title it, Diary of Louis Mail-

# **SERVICES**

**Herbicides Applied** 

Sandina Wiping Wet Harvesting Mowing

(Mowing includes Hydraulic Arm Flail Mower.)

West Wareham, Massachusetts

Ask for Rick at 295-5158



#### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

#### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase •Implementation & training
- Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- ·Deliveries/barrels per acre
- Chemical applications
- Profitability/cost per barrel Sanding and damage

liard, and he hopes to have volume one published in 1987.

Printed only in French, the events recounted will begin in 1833, when Bonaparte and Mailliard briefly returned to England in the hope that the former king would rise to power upon the demise of his younger brother, Napoleon. When this did not happen, they sailed back home to Bordentown, a city whose residents shared their hospitality with both men for almost a quarter of a century. Bordentown still is rich in Bonaparte lore.

Although many people have contributed to Bordentown City's fascinating history, none have done so with more flambovance than Joseph Bonaparte. Would he have approved of cranberries? Chances are their brilliant coloring and tangy flavor would have appealed to his sense of showmanship. He might well have declared them Magnifique!

'Tharp, Louise Hall, Three Saints and a Sinner: Julia Ward Howe, Louisa, Annie and Sam Ward. Boston: Little, Brown and Company, 1956



#### Krause Excavating, Inc.

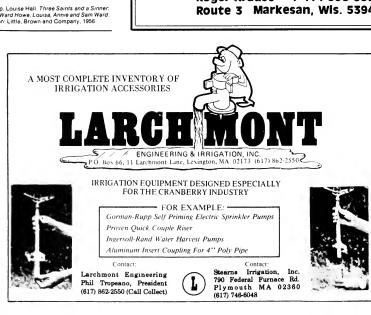
#### Canal Work **Pond Construction**

Ditching Land Clearing

1-1/4-3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946





### The **Business** Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC



#### Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham

Telephone all offices 947-1313

#### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\* C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers **Flumes** Conveyors (steel or aluminum) Shearing · Shop Welding Bending

#### STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM
- REINFORCEMENT ROD WIRE MESH

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# A Survey of What Is Known About Cranberry Dieback

#### By KATHARINE DARLINGTON

Many growers have been very concerned about dieback in the past few years. Various forms of dieback have been found here in New Jersey on both large and small farms and at the Rutgers Blueberry and Cranberry Research Center. These forms appear to be the same as those found in other states. Researchers who were recently gathered at the Cranberry Workers Conference in Nova Scotia spent considerable time on the complex problem of dieback.

WHAT causes cranberry dieback? We don't know all the answers yet, but dieback often seems to be a "stress disease." In at least some forms of dieback, one or more factors weaken the vines. The weakened vines then may be killed by some other factor that takes advantage of their weakened condition.

There appear to be at least four separate types of dieback. I. Patch Dieback in Summer, and II. Patch Dieback in April, are both insect-caused. III. Fairy Ring Dieback and IV. Upright/Runner Dieback are both caused by fungi. Both types of Patch Dieback completely kill the vines in the area it attacks. Fair Ring Dieback and Upright/Runner Dieback also destroy an area, or a portion, of vines, but the vines can recover.

These four types of dieback will be discussed separately here. At the end of the discussion, there will be a few comments about how various agents might interact to weaken the plant and ultimately kill part or all of it.

#### I. PATCH DIEBACK IN SUMMER

A. Symptoms:

This dieback is of particular concern in New Jersey. It first appears in the latter part of June. It continues to appear through

August. Both the new growth and the old growth die. Growth goes from green to brown in the course of several weeks. Areas which become brown do not always die, although they usu ally do, and the intensity of browning varies. Usually, brown ing is most intense surrounding areas which have previously died There is a characteristic "rug effect." The vines in the dead patch can be rolled up like a rug because the root zone has been sheared 1/2 inch to 1 inch below the surface. Each year, the deac patch gets bigger. The vines die back several feet more around the perimeter of the patch.

#### **B. Possible Causes:**

1. Insects

a. Girdler moth

Many observers have diagnose girdlers as the cause. Perhap application of Roundup® to kil

#### VINES FOR SALE

Howes and Early Blacks

Available Early Spring

(617) 428-6101 (617) 428-0907 After 6 p.m.

#### Niemi Electric Co.

ROBERT NIEMI

#### **ELECTRICAL CONTRACTORS**

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
  - INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.



Wareham, Mass.

grass has deprived girdlers of their preferred host (grass), leaving them to feed on their less preferred host (cranberries).

But there is still some question of whether the numbers of girdlers could account for as much damage as has been found. This spring, before any symptoms of vine damage. Phil Marucci (of the Rutgers Blueberry/Cranberry Research Center) experimentally released a high concentration of girdler moth larvae into a small area of one of his test bogs. So far, no extensive damage has been found, although more damage might be seen next year since the vines will go into the winter in a weakened state.

b. Scarab beetles
Al Stretch (also of the Rutgers
Blueberry/Cranberry Research
Center) and Gene Varney of
Rutgers University found 8-9
scarab beetles per square foot in
dieback areas. Beetles from the
scarab family cause a "rug effect"
in lawns, similar to that seen in

cranberries, by systematically feeding on grass roots. Stretch and Varney speculate that scarab beetles may cause cranberry dieback in some cases by feeding on the roots in June and early July.

#### 2. Nematodes

Ron Myers of Rutgers studied nematodes in dieback areas over two years. He treated some research plots with nematicides and fungicides. His finding: "The dieback disease was not controlled by the applied treatments since percentage cover and disease rating were similar in all plots. Nematode numbers did not correlate with percentage cover, disease rating, or berry yields."

Myers concluded that there was no evidence that connected nematodes to dieback disease.

#### 3. Poisoning of the Soil

a. Manganese and Iron Under grants from the New

#### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with

marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917 Marsh Number

Marsh Number (715) 593-2285

866-4429



RFD 5 Plymouth St Carver MA 02330

We Stock a Complete Line of:

Cranberry Insecticides • Fungicides • Herbicides

Miticides • Fertilizers

AGWAY

Authorized Agway Representative

AGWAY

#### **NYLON BERRY BAGS**

8-9 Barrel Capacity
 Cost Efficient
 Easy to Hendle
 No Wheel-Off Rigs
 No Bulk Bins
 No Fork Lifts

#### TRUCK COVERS

\* Custom Made \*
Allow 4-6 Weeks for Delivery

For further information, call

866-4429

Jersey Blueberry Cranberry Research Council and from Ocean Spray, Tom Cordrey (of Delaware Valley College) studied chemicals in the soil and in the fruit from both dieback areas and areas not invaded by dieback. He found high levels of manganese and iron in the berries coming from dieback areas. and lower levels of calcium in those berries. He reasoned that high levels of manganese and iron interfere with the uptake and utilization of calcium, Calcium deficiency is implicated in many physiological fruit disorders and terminal dieback of the plants is one of the major symptoms associated with a lack of calcium.

#### b. Aluminum

Paul Eck of Rutgers found twice the aluminum content in leaves and stems of dieback area plants, compared to good area plants. Tom Cordrey found similar levels of aluminum, and other heavy metals, in soil samples from both dieback and good areas.

#### Counterargument

There is a counterargument to the assertion that poisoning of the soil is the cause of summer patch dieback. This argument holds that mineral toxicity is not likely to be a factor in dieback because cranberry vines have

#### **CRANBERRY** GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland. Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617)888-1288

been grown in these types of soils for years.

#### 4. Water level/physical properties of the soil

++++++++++++++++++++++++++++

Al Stretch has noted that vines seem to have more trouble where the soil they're growing in was moved around or mixed when the bog was established. Perhaps soil compaction during bog development adversely affects 

the vines. The reasoning behind water level or physical property of the soil as a cause of summer patch dieback is as follows:

By late June, there is usually lower rainfall than earlier in the spring, but water and nutritiona needs of cranberries are high. I the vines don't get enough water dieback occurs. Vines growing in soil with low moisture holding

#### **Big Wheel** Truck Sales 42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors

Largest used truck dealer in New England

\*\*\*\*\*\*\*\*\*

All types of diesel repair Largest tow trucks on the East Coast

(617) 763-5927

Call Bob or Joe

(617) 763-8745

"We're Best on Earth" One vd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching

capacity (like coarse sand) and shallow rooted vines will be in the most trouble during a drought. Shallow-rooted vines include those growing in normally wet peaty soils, or those in compacted soils with poor drainage. Vines under these conditions will develop a limited root zone and not be able to handle drought without a sprinkler system. If there is a shallow hardpan under a bog, drainage will be poor, and water will stay close to the surface. As a result, here, too, roots will be shallow. So, during a drought, roots will be well above the moisture.

Tom Cordrey studied the moisture level of the soil in August and September at two sites: one with heavy, peatier soil and the other with sandy soil that drains much more rapidly. He found that the amount of available moisture did not differentially affect the dieback area versus the healthy area at either site.

area at either site.
(In the more rapidly draining

soil, there was a generally lower water table and percentage of available moisture. With the heavier soil, there was slower drainage, a higher level of available moisture, and a higher water table.)

He concluded that moisture levels maintained on the bogs did not contribute to the plant dieback or fruit rot.

#### Counterargument

There is another counterargument to soil or water involvement in dieback. This argument is based on the fact that summer patch dieback occurs in random patches and shows a characteristic peripheral spreading every year. If soil or water level were the cause, the whole area would either live or die. Also: Some bogs with soil which was compacted during bog development have good production records and some suffer considerable dieback.

#### C. Environmental Control:

Phil Marucci suggests sanding with "black sand." He cites one grower who used it to good effect.

Abbott Lee, a New Jersey grower, reports that the summer patch dieback in one of his bogs became worse the first year after sanding. However, two years after sanding and replanting, there was renewed growth.

Joe Darlington, another New

Paul's Machine & Tool

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

COMPLETE MACHINE SHOP SERVICE

Specializing in
Building & Repair
of
Cranberry Equipment

WARRENS WI 54666 (608) 378-4511







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

### 5 Models

We are proud to offer our customers a new team of specialty tractors.

During rigorous perfor mance tests by White Farm Equipment engineers these compact tractors demonstra ted both their design quality and performance excellence We are confident you will be impressed with the operating efficiency of these tractors and their high quality workmanship

Now no job is too large or too small for White Farm Equipment Webarejust completed a full or le offering you a line of tractors ranging from 16 to 27) engine borsepower

All Models 2 or 4 Wheel Drive









37 H.P

#### Plus 14 Attachments

- - Snow Thrower
- Post Hole Digger Box Scraper
- Mowers 4 Types · Roto Tiller
- · Front and Rear Blade
- - · Disc Harrow





#### Ted's Farm Equipment

27 Alden Road Fairhaven, Mass. Phone 994-5312

Sales and Service

Jersey grower, has had exactly he opposite experience. He eports that, after sanding, rowth was good at one site the irst year. However, the second ear after sanding, there was neavy dieback. Attempts at eplanting have had generally poor results.

# I. PATCH DIEBACK IN APRIL/WINTER DIEBACK

1. Symptoms: This form of dieback has been appearing throughout Massachuetts for the past three years and also occurs in Washington and Oregon. It appears in dry-picked ogs soon after the water is lrawn off the vines, in April. The vines go bronze, then die completely. There's a wholesale tripping of epidermal root cells and stripping of feeder roots.

### 3. Cause:

Frank Caruso of the Univerity of Massachusetts Cranberry Experiment Station reports that trawberry root weevils and plack vine weevils appear to be he major causes of April patch lieback. Black vine weevils ippear only in bogs that were ot winter flooded, while strawerry root weevils appear in looded as well as unflooded bogs. Both insects have been observed n the same bog. It is hypotheized that the residue of Diellrin®, which was sprayed in the 1970's and which was used to control root grubs, is wearing

### . Chemical Control:

For larvae in April, no chemial has been found yet for use in Iassachusetts, but Furadan is egistered for use on the West loast. For adults in July and lugust, Lorsban, Guthion and Inthene are possibly effective. arathion is not effective.

### ). Biological Control:

Nematodes are a potential biogical control at the larval stage.

### . Environmental Control:

Winter flooding should provide ontrol against black vine weevil. Flooding after dry picking may help control both strawberry root weevil and black vine weevil.

Late drawing off of water may be a useful control.

Sanding may or may not help.

### III FAIRY RING DIEBACK A. Symptoms:

Distinct rings of dead and dying vines occur. Fairy rings begin as small areas of dead vines, which advance outward in all directions by a foot or more per year. Weeds colonize the killed areas of vines. When a dead area is about 4 to 6 feet in diameter, healthy vines may begin growing back in the middle. This forms the "ring." Vine growth is stimulated on both the inner edge and the outer edge of ring. There may be overlapping rings within a bog. Fairy rings occur primarily in New Jersey and Massachusetts.

### B. Cause:

# Psilocybe Fungus.

This causes fairy rings in lawns and pastures also. It produces mushrooms under the proper environmental condtions. Death of the cranberry vines is caused by a dense mat of fungal mycelium or strands of the fungus. The soil mycelia get so thick that no water or food can penetrate. The vines suffer from drought and die. In addition, one type of fungus may even produce hydrogen cyanide, a toxin. Stimulation of vine growth on the inner edge of the ring is caused by microbial action which breaks down the fungus and releases nitrogen. Stimulation of vine growth on the outer edge of the ring is caused by nutrients from vines degraded by the advancing fairy

# difference

### With the new SALEN Sprinkler

The greatest development since man discovered water runs downhill.

- No vibrations
- No springs No bearing
- washers No problems
- with sand or silt





# ALEN IRRIGATION PRODUCTS

A Division of Thyssen Inc.

Sterns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

ring mycelium.

### C.Chemical Control:

1. Fungicides, Ferbam® is the only registered fungicide. Gene Varney and Frank Caruso are currently testing several systemic fungicides in bogs. Plantvax® (Oxycarboxin) and Ridomil 2E® were tried on two properties in New Jersey and caused plant damage. Bayleton 2E did show some reduction in fairy ring disease severity. Benodanil may also have some promise for future trial. But neither of these has been cleared for use on cranberries. And the problem goes beyond finding a fungicide which kills fungus without harming the vines. The soil mycelia are so dense that the soil must be pricked or spiked with a hydrogun to inject water solutions of fungicides. Control is usually partial or temporary.

Soil excavation and soil sterilization. These are too laborious to be warranted on cranberries.

D. Environmental Control: It is known that intensive watering plus fertilization will alleviate fairy ring symptoms by compensating for the deprivation produced by the fungal mycelium. Extremely wet soil conditions also overcome the hydrophobic properties of the fungus and stimulate bacterial activity which is antagonistic to the fungus. Gene Varney and Bill Hlubik at Rutgers are trying to stimulate these competing organisms by adding 2" of water per week to normal rainfall to control Fairy Rings on two properties in New Jersey.

# IV. UPRIGHT & RUNNER DIEBACK/TWIG BLIGHT/ SALT & PEPPER DIEBACK

A. Symptoms:

The distal portion of the upright or runner dies first. The dving back proceeds downward along the upright to the runner and usually stops, although the entire plant may be killed. One upright may be killed and not another on

the same vine. There may be entirely dead patches, especially in newly planted bogs. The uprights die off at different times in different bogs. Some die soon after the water comes off, some in June, some in late August. Early Black seems to be the most susceptible variety, but the disease can occur in other varieties as well.

### B. Causes:

Fungus (one or more different fungi may be involved. They include):

Phomopsis-found in New Jersey, Massachusetts and Wisconsin.

Gloeosporium-found in Massachusetts.

Cladosporium-found in Massachusetts

Possibly Pragmopycnis-found in Massachusetts.

Perhaps there are two kinds of twig blight, with different patterns of vine killing being caused by different fungi.

### C. Chemical Control

Control programs have stressed early and/or frequent applications of fungicide to prevent fungus development. Some grow-

# VINES FOR SALE

Available Spring of 1987

Pure Prunings Of

Howes \$2.500/Ton - SOLD OUT

\$2.500/Ton - SOLD OUT Early Blacks

\$4,000/Ton Stevens Crowleys \$2,000/Ton

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

# WISCONSIN CRANBERRY **HEADQUARTERS FOR**

# SEVIN XLR



DEVRINOL 10G . EVITAL . GUTHION DIAZINON 14G . PARATHION . ETHREL

# Cole Chemical Supply

DIVISION OF Hopkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707

608-221-1581

s have applied fungicide as rly as mid-April, shortly after d break. In a test plot at the niversity of Massachusetts anberry Experiment Station, ank Caruse did three applicams of Bravo before mid-bloom. the time of writing, Bravo 500 720 looks very promising. The periment is continuing, with any different fungicide applition treatments in the field, to e which are most effective.

In New Jersey, experimental of at the Darlingtons' were atted with Bravo and Difolan every 10 days, starting in one. They seemed to be benefiting from the treatment, until avy summer patch dieback oiled the twig blight experient.

## ONCLUSION

Recall that, at the beginning this piece, the point was made at dieback is more than one ndition. Not only are there at least four different types of dieback, but—at least in the case of Summer Patch Dieback and Upright/Runner Dieback—several different factors probably interact to weaken the plant. In short, cranberry dieback is a complex group of diseases. It belongs to the class of diseases in which Cause A plus Cause B, acting together, produce symptoms which are greater than,

# Bog Sand For Sale

Screened & Unscreened from C. Johnson's Bog in Carver, Mass.

WANTED: Quantities of subsoil, peat loom & gravel

Read Sand & Gravel 878-2955

Office 295-2222



K. Beaton 295-2207

D. Beaton 888-1288







Specializing in

OSANDING

P. Beaton 947-3601

o DITCHING

© CUSTOM
HERBICIDE
APPLICATION



15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

PUMPS

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

and different from, those produced by A and B acting separately.

The one simple truth about cranberry dieback is: It is enormously complex.

(Grower Katharine Darlington had her article reviewed for technical accuracy by Frank Caruso of the Massachusetts Cranberry Experiment Station and Phil Marucci and Al Stretch of the Rutgers Blueberry/Cranberry Research Center.)

# Weather Watch

# MASSACHUSETTS

December was warm and wet. Temperatures averaged 3.3 degrees a day above normal. Maximum temperature was 60 degrees on the 3rd and minimum 14 degrees on the 14th. Warmer than average days were the 3rd, 4th, 9th, 10th, 19th and 25th. Cooler than average days were the 13th, 14th, 21st, 28th and 29th

Precipitation totaled 6.67 inches or

nearly 21/2 inches above normal. This was the largest since 1977 and 8th largest in our records. There was measurable precipitation on 11 days with 2.50 inches on the 18th-19th as the greatest storm. We recorded 51/2 inches on snow on three days, above normal for us.

For the year 1986, our temperature averaged 0.3 degrees a day below normal Substantially warmer than normal month were January, March, April and December Cool months were February, June, Juli August, September and November, Mai imum temperature was 92 degrees on Jul

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

# Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

22 years experience 🧺 🍮 construction lifts 🧺





· BERRY LIFTING · nylon berry bags bulk bins

BEATON'.

JOE BRIGHAM INC

mat rentals & sales

· MUD LIFTING ·

lightweight durable

contact PETER ~ CHUCK 617-295-2222

22

Id minimum 0 degrees on Jan. 15. recipitation totaled 51.86 inches or 5 tes above normal and about 7% inches ve 1985. Above normal months were uary, July, November and December. ow normal were March, April and Sepber. Snowfall was slightly above norsunshine was again well below norwith April through August as the worst od.

I. E. D

### NOVA SCOTIA

e had excellent conditions for travelduring the last two weeks of December no snow. A light snowfall occurred after New Year's, so cranberry vines uld be in good condition at the time of

I. V. H.

★ ★ ★ ★ ★ ★ ★ ★ ★

No one is more qualified to serve your

Crop Insurance needs

THE BUTLER SROUP

1. Crop Heil policies on any commercial crops—Hail, Fire, Vandalism and Transit
2. Federal Crop Insurance Policies for Apples, Potalces, Tobacco, Corn, Cranberries and others
3. Home, Auto, Business, Life, Health

Call us for a quote or details

Call us for a quote or details

BUTLER Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512

\* \* \* \* \* \* \* \* \* \*

# Pump Repairs

SALES Field Service & Shop

20 Years Experience

AAA INDUSTRIAL
PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

# REGIONAL NEWS NOTES

### MASSACHUSETTS

By IRVING E. DEMORANVILLE

Dr. Joan Lasota attended the annual meeting of the Entomological Society of America in Reno, Nev., from Dec. 8-12.

Dr. Karl Deubert attended the 8th

mental Laboratory Techniques at the University of Minnesota/St. Paul Dec. 8-10.

CRANBERRIES has been published continuously for 51 years.

# **----KUBOTA----**COVERS THE FIELD

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance.





KUBOTA B AND L SERIES TRACTOR

Model	CYL	HP	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	← Standard
B7200	3	17*	or
B8200	3	19*	Hydrostatic
B9200	4	22.5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
L2550	3	23.5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8x8
L3750	5	36*	₹ or
L4150	5	40*	Hydraulic shuttle shift



KUBOTA LAWN & GARDEN TRACTORS

Model	CYL	HP	Transmission
G3200	2	10	Standard
G4200	2	12	Standard
G4200H	2	12	Hydrostatic
G5200H	3	14	Hydrostatic
G6200H	3	16	Hydrostatic



KUBOTA M SERIES TRACTORS

Model	CYL	РТО НР	Speeds Forward/Reverse
M4030	6	43.00	8/4
M5030	6	49.00	16/4
M6030	3	57.00	16/4
M7030	4	68 00	16/4
M8030	4	76.00	16/4
M4950	6	49 57	12/4
M5950	3	58.00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72.00	16/4
M7950	4	75.44	12/4
M8950	4**	85 00	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field.

# **EXUBOTA**

Nothing like it on earth."

# **ELLIS IMPLEMENT**

6639 HIGHWAY 66 STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

# An Alert for Possible Phytophthora Dieback

By FRANK CARUSO

Extension Plant Pathologist Cranberry Experiment Station East Wareham, Massachusetts

A possible new vine dieback disease has been found in several bogs during the past growing season.

At first, it was thought that the patches of dead and dying plants were caused by excessive wetness in these particular bogs. No obvious insect feeding was observed, dead areas continued to expand, and, when these areas were sanded and replanted with new vines, the replacement vines also died.

Isolations of roots and runners from affected plants turned up no pathogenic fungi when plants were sampled during July and August. However, when plants were sampled in October following water harvest, the fungus Phytophthora cinnamomi was

consistently isolated from for separate bogs.

The initial symptoms of th dieback are patches of plan which show a pale green discole ation during the summer an fall. In the spring, many plan in these patches lose their leave and die prior to bud break. Plan will also succumb throughout the summer. With some of our oth diebacks, areas of killed plan will be vined in during subset.

# STAY INFORMED

Stay up-to-date on all the news and views of the cranberry industry. Keep in touch with reports on new pesticides and herbicides, new equipment and services, new growing procedures and upcoming legislation that will impact on growers like yourself.

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine. Subscribe today!

\$10 a year - \$18 two years

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414

# **Need Help?**

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



P.O. Box 7, Taunton, Mass. 02780, Tel: (617) 824:7578 Located on Rt. 44 1/4 Mile West of Rt. 24



ent growing seasons, but this is not happen with this dieick. Dead patches expand in a, neighboring patches coae, and dead areas may occupy eral sections of a bog.

lose examination of dving nts reveals that the underund runners show a distince olive-black discoloration of ole segments. Discrete lesions be found on the runner and discoloration may extend the conductive tissue of the e (thus impairing the flow of er and nutrients in the plant). ese symptoms can only be n in stressed plants which are l alive (usually near the border dead patch). Plants which e been dead for awhile will e nearly complete decay-breakvn of the runner. Phytophra has only been isolated from former plants and not the er plants, which have a full iplement of saprophytic fungi bacteria inhabiting the dead

his dieback has thus far only



The scoop of the year!

Transerry Flavor, Fact and Folklore in HE CRANBERRY CONNECTION, by eatrice Bussek. Your favorite berry pops in kitchen-tested recipes for every defth from Cranberry Bog to Cranberry lanan Bread, Cranberry Avocado Dip, do countless other desserts, drinks, salads, trees. "A fascinating revelation of the any uses for cranberries... you'll id this book a treasure."—Des Moines visiter. Paperback, \$8,9,0

ease	send		copies	of	THE	CRAN
ERR	Y CO	NNEC	TION,	\$8,	.95 eac	h.

ddress \_\_\_\_\_Zip\_

dd \$1.50 for postage; Conn. residents id 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414 been observed in water-picked bogs. Phytophthora is a fungus which thrives in moist soils and requires water to reproduce and disseminate itself.

At this point, I am "on guard" on this potential disease. We have isolated the fungus from four bogs and are currently performing isolations from five other bogs showing typical symptoms. We are growing up inoculum of seven isolates of *P. cinnamomi* so that we can artificially inoculate cranberry plants in the growth chamber. Should we cause symptoms in these plants similar to what we have observed in the field and can repeat the experiment, then we can safely



# **50** and still growing.

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so many years.

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



# Gage-Wiley & Company Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 ● 800-242-0263 Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation



# When you're serious about money, talk to a planner who takes you seriously

Stock printouts are fine for department stores and bank lobbies, but out here in the real world, you're going to need all the help you can get.

Freedom Financial
Services is committed to
helping you build a secure
financial future. As a Freedom
client, you work with
seasoned financial planners
and investment analysts.

Freedom Planners are independent professionals whose expertise and understanding are the keys to developing the one plan that is right for you. Your planner stays with you, offering guidance over the rough spots and opportunities for greater income and profit.

Freedom people understand how providing for a secure future means making serious decisions. Start today, send in the coupon below for free information or call: 1-800-442-4468 for a free, no obligation interview with a Freedom Financial Planner.



The South Shore's Leading Independent Financial Planning In



sy we've got a problem we must al with very carefully. This ingus is a destructive pathogen d many other woody and herlecous plants.

Chuck Kusek (Ocean Spray thologist) and I have already

CRANBERRIES gives yu the news and views of the industry.

CRANBERRIES is read was more than two-thirds the growers in the U.S.

No matter how small our business, you can ford to place an ad in the agazine that serves the dustry: CRANBERRIES!

ARE YOU INVOLVED WITH CRANBERRY GROWING, PROCESSING, MARKETING,

Then you ought to read CRANBERRIES, the national ranberry magazine. Each nonthly issue contains informative news and feature tricles about the industry.

Ceep informed. Read

ETC.?

Mail your check or noney order to:

CRANBERRIES P.O. Box 249 Cobalt CT 06414

\$10 one year; \$18 two years

ADDRESS \_\_\_\_\_

ATE \_\_\_\_ZIP \_\_\_

set up fungicide plots in two of the plots where *Phytophthora* was isolated. We will be looking at various aspects of the infection process of this fungus, should it prove to be pathogenic. Chuck and I are interested in knowing the extent of this problem. Should you have a bog or bogs which have vine damage as described above, please contact me.

I will keep all of you informed of our findings, whether they be positive or negative. If we have a new disease, we will all need to work together to keep it localized or we could have a serious catastrophe on our hands.





Equipment Inc.
307 West Grove Street (Rte 28)

Middleborough MA 02346

# KLIBOTA:

Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp. Compact Excavators 11/2 to 6 ton

Wheel Leaders 1/2 to 3/4 vd.

4 to 104 hp.

Water Cooled Diesel Engines
All Types of Implements

Polymark Beaver-Mowers Specialty Fabrication Work Kubota Financing as Low as 81/2%

947-6299

\*Sales \*Service \*Parts \*Leasing

### The scoop of the year!

Cranberry Flavor, Fact and Folklore in

THE CRANBERRY CONNECTION, by Beatrice Busek. Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries... you'll find this book a treasure."—Des Moines Register. Paperback, S8, 95





Please send	_ copies	of THE	CRAN-
BERRY CONNE	CTION,	\$8.95 ea	ch.
Name			

Address \_\_\_\_\_Zip\_

Add \$1.50 for postage; Conn. residents add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

 $Our \, 54st \, Year \, of \, Publication$ 



Pruning: A Goda ruea? — 3
Too Many Cranberries — 14



# A Rationale for the Pruning of Cranberries

By PHIL MARUCCI

R gers Cranberry and Blueberry Lab Chatsworth, New Jersey

ancient Greece, philosophers is I to have scholarly but heated ruments over the question of viether turtles had teeth or not. doourse, they knew that just ening a turtle's mouth and oxing would settle the arguant but that would spoil the . Cranberry growers do have Flosophical inclinations but by are, most of all, pragmaiss, and profit, not fun or schohip, is their game. It is therestrange that, after 150 years fcranberry culture, little is nwn about the pruning of rnberries: there are all shades fopinion and "gut feelings," no real facts.

ixiomatically, the pruning of t crops is essential for mainning vigorous vegetative and roductive growth and obtain continuous optimum yields. cranberry's companion crop, eberry, pruning is regarded the single most important ration. In the vineyards of ince and Italy, workers must we an apprenticeship before y can qualify as pruners. For h fruit crop, standard proce-

# COVER PHOTO

ORGIA Decas Chambern and her late husband, seph Adrian Chamberlain, and their lives concerned th three C's: cranberrying, aservation and commun. A story on Georgia and seph Chamberlain starts page 20.

(Photo by Glenn)

dures have been developed as the result of extensive research which has also established variations in pruning for each cultivar and for various environmental conditions.

In cranberries, the need for pruning has long been recognized, mainly for the purpose of reducing the entangled mass of runners and vines to facilitate harvest. A wide variety of pruning treatments are used, with great variations in the amount of runners and uprights removed. Even the methods of pruning are controversial. Most of the acreage in New Jersey is now pruned by machine, but some growers stick to the old, traditional hand pruning with knife rakes, convinced that higher labor costs are easily offset by higher production.

Recently, a few growers in New Jersey have started to use the Furford dry picker, which not only harvests but prunes uprights as well as runners. They have been pleased with the reduction in vineyness and an improvement in production. A very small test with this harvester on the Rutgers Bog was impressive.

Researchers' efforts in the area of cranberry pruning have been negligible. In Professor Gunther Liebster's booklet, "Cranberry = Die Kulturpreselbeere," there are 155 pages of text (including numerous photographs) and a disproportionate 44 pages of references. In this typically Germanic display of thoroughness, only one (Doehlert 2) of the 524 references listed is on the subject of cranberry pruning. Only one other article (Chambers 1) could be found in a search of the cranberry literature in the Rutgers library.

A review of the two references on cranberry pruning is interest-

# VINES FOR SALE

Available Spring of 1987

Pure Prunings Of

Howes Early Blacks \$2,500/Ton — SOLD OUT \$2,500/Ton — SOLD OUT

Stevens Crowlevs \$4,000/Ton \$2,000/Ton

FOB Massachusetts

MORSE BROTHERS, INC. (617) 699-2588

Table 1. Franklin Chambers' Experiment on Pruning of Cranberries. (From Proceedings of ACGA - January 26, 1918)

	Crop	per acre in b	ushels -	1917
	Check plots	Prune	d plots	1915 Pruning per acre in poun
plot		plot		
9	130	2	170	7,760
1	115	10	170	5,200
6	110	8	155	4,160
7	110	3	140	6,080
4	80	5	135	3,600
12	60	11	110	10,320
Average 1917	101		146	
Average 1916	74		67	
Two-year avera	ige 87.5		106.5	

ing and enlightening. Franklin Chambers, a son-in-law of Joseph J. White, conducted his test at Whitesbog from 1915 to 1917. Very vegetative vines on an Early Black bog were pruned heavily or very heavily to reduce the density of uprights as well as runners. The experimental area of 24 square rods was divided into 12 plots of 2 square rods each, six of which were pruned in December 1915, and six of which were left as unpruned checks.

As shown in Table 1, the pruning was indeed very heavy, with up to 5 tons of vines per acre being raked. The year after the pruning, the check plots outvielded the pruned plots by 10 percent. but in 1917 the pruned plots produced 45 percent more berries than the unpruned ones. Over the two year period after the pruning, the average yield on the pruned plots was about 106 bushels per acre compared to 88 for the check plots. Mr. Chambers also observed that the pruned plots had many fewer rotten and frosted berries.

A lapse of 37 years occurred before any experiment on cranberry pruning was published again (Doehlert 2). Charles Doehlert also conducted his tests at Whitesbog, beginning in 1954. with the enthusiastic cooperation of Tom Darlington, who was developing a pruning machine. The objective of the tests was devise a method of pruning whi would "help in harvesting a saving the vines from hars damage with the greatest beril to the plant as well as the Ls immediate reduction of the cro.

It is interesting to note he stigma attached to pruns

# **BIG WHEEL** TRUCK SALES

# 42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617) 763-5927 or

(617)763-8745

ble 2. Charles Doehlert's Pruning Test, Whitesbog, N.J. - 1954 Condition of all uprights and fruit buds on November 4, 1954 after pruning on June 10.

			Fru	it Buds			
runing reatment	Uprigh Old	hts per s New	q. foot Total	Ratio of new upr. to old	Per square foot	Percent of total uprs. w/fruit Buds	
lemoval of unners only	267	141	408	0.53	199	47	
inch strip n 8" centers	209	114	323	0.55	171	53	
inch strip n 4" centers	200	156	356	0.78	174	49	
inch strip n 8" centers	208	139	347	0.67	165	48	

anberries; it was almost conded that pruning would cause ome immediate damage to anberries. Whereas growers of her fruit crops prune every year, specting immediate benefits very year, most cranberry owers have the attitude that runing can reduce the crop eause it necessarily reduces euprights which bear the fruit. rowers of other crops know that ducing the flowering and fruitgunits definitely can increase ie quantity and quality of the op.

Charlie's well organized tests itailed meticulously hand uning small plots with hand lears on an Early Black bog. our types of pruning were cared out on June 10: a) lightest ssible pruning with removal runners only; b) cutting a strip rough the mass of vines 1 inch ide and spread 8 inches apart; 1 inch strip, 4 inches apart; d) 2 ch strip, 8 inches apart.

A bad frost invalidated any eld data in the year of the runing. A perusal of the data nown in Table 2 will show that no appreciable harm was done by the three severe strip pruning methods.

Unfortunately, Mr. Doehlert retired before he could pursue his tests further. We still do not know if the new uprights stimulated by the pruning are naturally more productive than those generated in the unpruned areas.

My main interest in pruning was originally focused on the probable higher susceptibility to the attack by cranberry tipworm of the tender, lush growth which ensues after pruning. Later, as we studied the honeybee's role in cranberry pollination, our observations indicated that pruning could be important in helping to promote the setting of fruit. We observed that even where honeybee activity was intense, the set of berries could be very poor in areas where the vines were very dense, especially where they are

# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

# Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581 entangled with runner growth.

Two factors combine to militate against the probability that a flower on an upright in a crowded area will be visited by a bee:

a-the behavioral pattern of the honeybee. These marvelously organized creatures have builtin "computers" in their hairy little, pollen-carrying heads. These natural computers enable them to work in such a manner that they will expend the least amount of energy while gathering up the maximum amount of nectar and pollen in the least amount of time. There are foolish members in any society and you will see and hear some bees buzzing away down deep in the vines, struggling through the jungle of uprights, but most of them will be working more efficiently on the more accessible flowers.

b-the length of life of the flowers. Under very crowded conditions on a bog, the vines stav very wet and warm for very long periods after dews and rain. Flowers in very dense spots probably do not function as well as flowers in the open and definitely have much shorter lives. Not even leaves can live long in this environment and the flowers are much more fragile. They are very likely to become infected with various fungi. Some flowers become infected even before they open, while others succumb after they open. Often, dead corollas, still affixed to the ovary, can be seen on uprights late in the season. They die so quickly that the corolla cannot form the abscission layer which causes it to shuck off, as is done in healthy, normal flowers.

(Christine Constantelos, our pathology assistant, has cultured various fungal organisms from flowers that have been taken in crowded, poorly pollinated areas. That the fungi actually cause flowers to die has not been proven.)

A cranberry upright which

nature made strong enough to produce a flower bud may be assumed to have the inherent strength to produce a berry. However, uprights which bear flowers but no berries are very common, even on very productive bogs which have had excellent bee activity during flowering. These flowering, nonfruiting uprights are called "zeros." (It is a less cumbersome designation and has more of a tone of disdain and failure.)

After having sampled many bog areas of widely varying degrees of density, it has become very clear that a much higher percentage of uprights are zeros in the very dense areas. Table 3 illustrates this point.

Despite the fact that these good bogs on a commercial property had been pruned by a mechanical pruner, there were many areas where the vines were entirely too dense and vegetative. As shown in Table 3, the potential of flowering uprights to produce berries in these crowded areas was greatly suppressed. Many poorly pruned areas could be found where most of the uprights were

The inevitable effect on yield is also seen in Table 3. Although the bogs in these observations had very good production, it is apparent that with better pruning the yields could have been better. On less productive properties, similar conditions could be found. Better pruning should help improve the crop on comparatively poor as well as good bogs.

We are using the term, "bette pruning," without knowing exact ly how to achieve it. We know, in general terms, that it is desirable to reduce the density of upright when they are too crowded, bu we have no standards and we cannot even define precisely whs

# Disc ver the difference

# With the new SALEN Sprinkler

The greatest development since man discovered water runs downhill.

- No vibrations
- No springs
- No bearing washers
   No problems
- with sand or silt
- No maintenance



US Patent 444034

# ALEM IRRIGATION PRODUCTS

△Division of Thyssen Inc. Sterns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

le 3. Early Blacks Commercially Pruned - very dense <u>vs</u> moderately gense Average of four, one square foot areas

	Flowering uprights	Flowers	% set	Berries per upright	Zeros	% Zeros	Total berries	Total weight
Very dense, tall uprights, flowershidden, many runners	237	857	16%	0.55	129	55%	129	120
Moderately dense uprights, shorter uprights, flowers less hidden, few runners	179	617	34%	1.13	31	17%	203	189
very dense, very tall with many	261	1060	16%	0.64	145	56%	168	140
dense, short vines with no runners	232	1073	27%	1.25	41	18%	291	229







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Box 3446
Pirmouth, MA 0256

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

Table 4. PRODUCTION - Very dense vines vs moderately dense vines

	Weight of	f berries s in grams *	sq. fe
	BOG 1	BOG 2	BOG
Vines very dense, tufted uprights very long, flowers deep, hidden and inaccessible to bees	76	82	- 9;
Vines moderately dense, not tufted, relatively short, flowers visible, and accessible to bees	159	199	15

# \* average of 10 - one square foot areas

is dense or too sparse.

Charlie Doehlert (2) suggested that 500 uprights per square foot (new uprights + old uprights) could be a starting point from which cutting out strips of uprights 1/2 inch wide every 8 inches might be beneficial. From our observations we are inclined to think that this might be suitable for Early Blacks, but might be too high for other varieties. Our guess is that an acceptable tentative standard could be: "Vines are too dense, when with good weather, cultural practices and bee activity, more than 10 percent of the flowering unrights fail to set berries (zeros)." Much basic work is needed before standard procedures can be set

Upon the suggestions of growers, we tried using a Furford picker on a strip of very productive Stevens vines on Rutgers

Bog #7. This machine was used by an experienced operator, following the training pattern of the previous water harvestings. After the crop was harvested.

the Furford was run over halff the plot again, with the purpos of removing more uprights. Te machine efficiently harvestl the big crop of berries, but s

307 West Grove Street (Rte 28) Middleborough MA 02346 Diesel Equipt. 2 & 4 wheel drive - 12-90 hp. Compact Excavators 11/2 to 6 ton Wheel Leaders 1/2 to 3/4 vd. Water Cooled Diesel Engines 4 to 104 hp. All Types of Implements Polymark Beaver-Mowers 947-6299

Specialty Fabrication Work

Kubota Financing as Low as 81/2%

FO→. FO≥ > FO FO / FO

Pruned October 1984 Counts October 1985

F	Furford Harvester (once over)	Furford Harvester (twice over)
Yield per Acre 1984 (Picked by Furford)	284 bbls.	284 bbls.
Yield in 1985 estimated	354 bbls.	381 bbls.
Flowering uprights per square foot before pruning	203	223
Flowering uprights per square foot after pruning	155	166
% flowers set	29%	36%
% zeros	14%	8%
Berries per upright	1.27	1.27
Berries per square 1	ft. 197	205
Weight of berries	368 grams	396 grams
Estimated bbls./Acre	e 354	381
Fruitbuds set for 19	986 217	295

e ive performance as a pruner as a bonus of serendipity.

A shown in Table 5, although eield in 1984 was excellent, ear after the pruning was eletter and the potential for ellowing year still better. Emprovement in yield came of despite the elimination of ercent of the flowering this in the once over plot deprecent in the twice over this is in accord with the piences in pruning of other i rops, in which the pruning come fruiting spurs results ager crops.

Is one small test with the rd has limited value, but—

added to the experiences of growers—it gives encouragement for further, more extensive investigations. A machine with the Furford mode of action might serve as a prototype for a new pruning machine for bogs which are water harvested.

Pruning remains a much neglected subject in cranberry culture. Cranberry growers will not be obtaining optimum yields of

CRANBERRIES has been published continuously for 51 years.

# Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

# AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

# Possible Advantages & Disadvantages Resulting from Pruning Cranberries

Pruning may have beneficial results by:

- 1. Making flowers more accessible to bees.
- 2. Increasing the length of life of flowers.
- 3. Giving more sunlight & nutrition to remaining uprights
- Enabling vines to produce more sturdy new uprights.
- End results:
  - a. higher percent set of flowers
  - b. higher percent of upright bearing fruit
  - c. higher number of berries per flowering upright
  - d. larger berries
  - e. better coloration of berries
  - f. dry harvesting and possibly water harvesting is mae more efficient
  - g. better disease and insect control

Pruning may have damaging results:

- Mechanical damage
  - Too many uprights removed may cause reduction in the co the first year after pruning.

cranberries until pruning is improved. Standard procedures and guidelines need to be developed. Every bog and each variety will probably have its unique requirements as to the type of pruning needed.

A better understanding of the productivity of a bog, in terms of concentrations of blossoming and nonblossoming uprights, is basic to the development of standard criteria and the improvement of pruning machines. In the modern age of high technology, it might be possible to invent a precision machine, which could cleanly cut swaths of uprights ½ to 2 inches wide through the vines.

Some brainstorming and preliminary tooling was done in the early 1950's to develop such a machine, but it was abandoned when it was thought to be impossible not to cut uprights in the same swaths in successive years. The beneficial effect of pruning would be counteracted if the new, vigorous uprights generated would be eliminated before they reached their maximum productive potential. Each excised swath should remain uncut for at least two or three years.

A ground leveling machine employing laser beams is now in use on cranberry bogs. It might be possible to apply this principle in a pruning machine to precisely direct the cutting paths through the vines.

In conclusion, the advantages and disadvantages of pruning are summarized in Table 6.

### References

(1) Franklin S. Chambers. Pruning Estiments. Proceedings of the American Craniny Growers' Association. June 26, 1918.
(2) Charles A. Doehlert. Pruning Cranbs 85.

Proceedings of the American Cranberry (weers' Association. February 1955.

# CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

### DOUGLAS R. BEATO E. Sandwich, Mass

02537

(617) 888-1288



# Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360. Tel. (617) 746-6048





2 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846



# NEW TEAM OF COMPACT TRACTORS

# •5 Models

We are proud to offer our customers a new team of specialty tractors

During rigorous performance tests by White Farm Figuipment engineers these compact tractors demonstrated both their design quality and performance excellence We are confident you will be impressed with the operating efficiency of these tractors and their high quality workmansby

Now no job is too large or too small for White Farm Equipment Webaw just completed a full circle offering you aline of tractors ranging from 16 to 270 engine bossepower

All Models 2 or 4 Wheel Drive



16 H.P.

21 H.P.





37 H.P.



45 H.P

# Plus 14 Attachments

- Loader
- Post Hole Digger
- Box Scraper
- Front and Rear
- Front and Re Blade
- Snow Thrower
   Mowers 4 Types
- Roto Tiller
- Disc Harrow

# MITTE FARM EQUIPMENT

# Ted's Farm Equipment

27 Alden Road Fairhaven, Mass. Phone 994-5312

Sales and Service

# C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

# STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM

A MOST COMPLETE INVENTORY OF IRRIGATION ACCESSORIES

# LARCHMONT

P.O. Box 66, 11 Larchmont Lane, Lexington, MA 02173 (617) 862-2550



FOR EXAMPLE: -

Gorman-Rupp Self Priming Electric Sprinkler Pumps Proven Quick Couple Riser

Ingersoll-Rand Water Harvest Pumps

Aluminum Insert Coupling For 4" Poly Pipe

Contact:

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)



Contact:
Stearns Irrigation, Inc.
790 Federal Furnace Rd.
Plymouth MA 02360
(617) 746-6048



# She Doesn't Want More Cranberries

By JEFFREY D. PETERMAN

Every season, the same problem occurs. It is a problem of bounty, of rare prosperity with high prices when the vines yield the correct quantity of berries matching supply and demand, and of trouble in those years when famine caused by the heat of drought or pestilence eat at profits. There is no recourse. There is no miracle cure. There is no use complaining. People who live on a working farm get used to the routine.

"How do you get used to the everyday routine," I asked, turning toward Marion Minotia, 44-years-old, wife of Dave and mother to three children. "And at the same time, the instabiltiy of never knowing whether the season will be profitable or a disaster?"

"You just get used to the routine," she began, "And hope for the best. Better equipment, computerization with crop management and conservation have made the continuance of our way of life possible. I thank God for that. Most days, the positives outweigh the negatives. Not to say that it's easy. Pollution, corporate farming, and still too high interest rates have kept us working hard. Guess we would have it no other way. But I can't lie, and say that there aren't moments when I'd like to shuck

# STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years Send check or money order to:

> CRANBERRIES P.O. Box 249 COBALT CT 06414

this lifestyle, eat in some nice little French restaurant in Paris . . ,

"Sorry for interrupting," her husband Dave offered from the rear porch door. "Got more cranberries, honey."

"Thanks, I'll make cranberry bread for supper," Marion replied. She left the davenport where we sat and retrieved a box. "Now... where was I."

"You were saying that, sometimes, you'd like to change your lifestyle," I reminded.

"Yes... but I don't think about it that much. We don't have much time for dreaming. Simple.

daily tasks keep us busy. The couldn't be a better place to ra e a child. Fresh air, open spact, the right atmosphere for learing the right values. Not that is perfect. I'm sure there are a atmore problems in our school in the problems of the parents belies. But it's a great place to live. Ad keeps you busy, both us and echildren. Chores have to be doe before and after school; we aup early, go to bed early, and athearty meals. Fresh food, rint off the farm."

"Sorry again, folks," Dive Minotia apologized. "Marin we just picked the front bog or



A CRANBERRY GIFT BOX
Measure: 1/24 U.S. Standard Cranberry Barrel 112/471/4x49/4

The UNIQUE GIFT from WISCONSIN
This had craited but of white join had craited but of white join had craited but of the latter as he toget and unihoral somewhat is toget and unihoral craited with trained but of had but of the latter and latter and

# Bog Sand For Sale

Screened & Unscreened from C. Johnson's Bog in Carver, Mass.

WANTED: Quantities of subsoil, peat loom & gravel

Read Sand & Gravel 878-2955



Marten's Packing Plant, and tow they're closed 'til next 'uesday and can't take them. Brought in a bushel of cranberies for tonight. Maybe you could aake that berry roast we like so auch."

"Thanks, Dave," Marion repled. "Excuse me," she then said o me, moving toward her husand with an expression etween a smile and frown. I ould not tell what was wrong.

"Sorry," she said, when she sturned.

"It seems that there aren't nany choices to make, that most f them are already made for ou," I went on.

"Oh ... well ... at times I wish rechoices. But that's being self-h. Dave and I have worked so ard for the past 25 years to take everything good. I'm toud of that. One thing we are



here is proud. People sometimes mistake that for disliking or mistrusting others, but it's just that we get so isolated, get used to getting by because of close friends and family, that it becomes second nature to rely on them, and get a little independent."

"Marion," Dave called from the door, motioning for his wife to come

"Excuse me," she repeated, striding toward the honeycomb screen which protected the old farmhouse from insect storms. "What do you want?"

"Got some crushed cranberry out there. I was wondering if you'd want to come and get some, then make a bowl of your homemade pudding for dinner."

"Dave," she said, her voice strong, between anger and displeasure. "I don't want more

cranberries!"

"It's good to see that you and your husband fight like my wife and I do," I said, when she came back.

"We have our disagreements, usually over simple things. You probably argue about where to go out to dinner, or what you buy in the supermarket ... you know. .. making the same thing all the time. That's what Dave and I do. Living on a farm you get used to living with what you earn, using what you raise, and not wasting a drop. We're having cranberries tonight, because we planted too many cranberries, harvested too many cranberries, and sold too few cranberries. That's the way it is on the farm. You get used to it. We can't afford to pay supermarket prices for food when we have it here for free."

"Doesn't it get a little boring?"

"I don't mind."

"Are you sure?" I prodded, recalling the look on her face upon the last disruption.

"Really I don't."

"Honestly."

"Well, to be honest," she whispered as if afraid for others to hear, "As much as I like them there are times when I'd like to take every last cranberry, and just . . . just toss them all away.

# Paul's Machine & Tool

......

COMPLETE MACHINE SHOP SERVICE Specializing in Building & Repair

ofCranberry Equipment

WARRENS WI 54666 (608) 378-4511 0000000000000000

866-4429



RFD 5 Plymouth St Carver MA 02330

We Stock a Complete Line of:

Cranberry Insecticides • Fungicides • Herbicides Miticides • Fertilizers

AGWAY

Authorized Agway Representative

AGWAY

# NYLON BERRY BAGS

.8-9 Barrel Capacity · Cost Efficient · Easy to Handla . No Wheel-Off Rigs . No Bulk Bins . No Fork Lifts

# TRUCK COVERS

\* Custom Made \* Allow 4-6 Weeks for Delivery

For further information, call

866-4429

# Weather Watch

# MASSACHUSETTS

January temperature was unusual-it vas just normal.

Maximum temperature was 49 degrees n the 15th and minimum minus 3 degrees n the 29th. Warmer than average days ere the 10th, 11th, 15th, 16th and 22nd. cooler than average days were the 3rd, 7th, 19th, 20th and 324th-29th.

Precipitation totaled 7.82 inches or about 1/2 inches above normal. This is the highst total for January since 1979 and fourth ighest in our records. There was measuable precipitation on 13 days with 2.32 iches on the 2nd as the greatest storm. here was a total of 27.2 inches of snow on ight days with a blizzard on the 26th that ft 14 inches.

I. E. D

### NOVA SCOTIA

The monthly weather summary indicates at the month of January was slightly older than the 30 year average. Snowfall as markedly up, to 1,336 cm. With the

# CRANBERRIES

HENATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

# **DVISORS & CORRESPONDENTS**

MASSACHUSETTS - Irving E. Demoranville. ector, Cranberry Experiment Station. NEW JERSEY - Phillip E. Marucci, Cranberry & Blue-

rry Specialist, Cranberry & Bluaberry Laboratory, istaworth; Elizebath G. Carpentar, Chatsworth. NOVA SCOTIA - I. V. Hall, Botanist, Rasearch

DREGON - Arthur Poole, Coos County Extension

WASHINGTON - Azmi Y. Shewa, Horticulturist and tension Agent in Horticulture, Coestal Washington search & Extension Unit, Long Beach. VISCONSIN — Tod. D. Planer, Farm Management

ANBERRIES is published monthly by Diversified fodicals, Wellwyn Drive, Portland CT 06480. Second se postage is paid at the Portland, Conn. Post Office. sa postage is paid at the Portland, Conn. Post Urrice.
ce is \$10 a year, \$18 for two years, \$1 a copy in the
l.; \$12 a year in Canada; \$15 a year in all other
mitries. Back copies: \$2, including postage. Copyright
6 by Diversified Pariodicals.

> ISSN: 0011-0787 Postmester, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

amount of snow we now have, growers should take steps to alleviate oxygen deficiency

# LV H. REGIONAL **NEWS** NOTES

### MASSACHUSETTS By IRVING E. DEMORANVILLE

The latest crop report from the New England Agriculture Statistics Service indicates the 1986 Massachusetts cran-

berry crop totals 1,800,000 barrels. This is unchanged from August but not the final

Other areas show New Jersey at 325,000 barrels; Oregon, 120,000 barrels; Washington, 100,000 barrels, and Wisconsin, 1.225,000 barrels National total is 3,750,000 barrels

Dr. Robert Devlin of the Cranberry Experiment Station attended the annual meeting of the Northeastern Weed Science Society held in Williamsburg, Va., from Jan. 5-8. Bob presented two papers.

# -KUBOTA-**COVERS THE FIELD**

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance.

Multi-cylinder design makes them



KUBOTA B AND L SERIES TRACTORS

Model	CYL	HIL	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	( Standard
B7200	3	17*	or
B8200	3	19*	Hydrostatic
B9200	4	22.5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
L2550	3	23.5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8x8
L 3750	5	36*	₹ or
L4150	5	40*	Hydraulic shuttle shift

KUBOTA LAWN & GARDEN TRACTORS

Model	CYL	HP	Transmission
G 3200	2	10	Stanuard
G4200	2	12	Standard
G4200H	2	1.2	Hydrostatic
G5200H	3	14	Hydrostatic
G6200H	3	16	Hydrostatic



KUBOTA M SERIES TRACTORS

Model	CYL	РТО НР	Speeds Forward/Reverse
M4030	6	43.00	8/4
M5030	6	49.00	16/4
M6030	3	57.00	16/4
M7030	4	68.00	16/4
M8030	4	76 00	16.4
M4950	6	49.57	12/4
M5950	3	58 00	12.4
M6950	3	06 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85.00	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field.



# **ELLIS IMPLEMENT**

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

### CORRECTIONS

It has been pointed out, much to our embarrassment, that there were several errors in part I of Phil Marucci's fine article, "The Effect of Oxygen Deficiency in the Winter Floodwater on Cranberry Insects in New Jersey," which appeared in the January issue of CRANSERRIES.

The last sentence on page 4 reads: "He took me to Mayetta Bogs, near Barnegat Bay in Massachusetts, where he had seen a very heavy infestation the previous autumn." Barnegat Bay is actually in New Jersey.

The sentence, on page 6, second paraph, "There have been sporadic and very destructive outbreaks of this disease in the state," should have read, "There have been sporadic and very destructive outbreaks of this insect in the state."

Tables 3 and 4 were reversed.

CRANBERRIES regrets these errors and has taken steps to block similar occurrences in the future.

# Niemi Electric Co.

ROBERT NIEMI

# ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehurst Dr.

Wareham, Mass.



22 years experience & Seconstruction lifts

**AERIAL LIFTING** 

° BERRY LIFTING ° nylon berry bags bulk bins

BEATON'S

JOE BRIGHAM INC

mat rentals & sales

· MUD LIFTING ·

lightweight durable

*contact* PETER ∽ CHUCK 617-295-2222



# SANDOZ, USSR SIGN AGGIE JOINT VENTURE

Sandoz A.G., a Swiss manufacturer with a plant in Chicago, recently signed I etter of intent with the Soviet Union's Ministry of Fertilizers Production to nitiate joint construction and operation of a herbicide manufacturing facility.

The project will take place under the suspices of a new Soviet concept regarding joint enterprises in the USSR, says Sandoz.

# VINES FOR SALE

# Howes and Early Blacks

Available Early Spring

CALL (617) 428-6101 (617) 428-0907 After 6 p.m.



# Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

# 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING
   GOOD LOOKING
- MAINTENANCE FREE WRITTEN WARRANTY •

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826

**RAYNHAM CENTER, MA** 

**MORTON** BUILDINGS, INC.

"Excellence - Since 1903"

# TODAY HELICOPTERS ROUTINE

# The Idea Drew Laughs a Decade Ago

### By CAROLYN GILMORE

Georgia Decas Chamberlain has to chuckle when she recalls her late husband Joe's idea to use helicopters to lift bins and perform other operations on cranberry bogs.

Oh, there were lots of scoffers,

she remarks.

But Joseph Adrian Chamberlain, superintendent for the Decas Cranberry Co. Inc. of Wareham, Mass., had spent plenty of time talking to a retired California grower who spoke about how they'd lift stringbeans and other vegetables from the field by helicopter in his home state.

Both Joe and Georgia had seen copters used to haul logs from mountaintops in Montana.

Why couldn't it be done here? Joe asked. It'd be efficient and spare the bogs from buggy damage.

"He even built a miniature bin at one stage," recalled Mrs. Chamberlain, speaking to CRAN-BERRIES at her home in Rochester, Mass.

At first, Joe's plan was tried out at harvest on an experimen-

tal basis.

Today, use of copters to lift the harvest is commonplace on the Decas properties and they also are used on other bogs.

Not only do they lift the bins. They also are used to remove ditch mud and the Decas company even has used them for sanding.

Georgia says her husband always was looking for ways to save on labor, cut costs and generally make the operation

more efficient.

SHE was the daughter of Wil liam Decas, who, with his two brothers, Nicholas and Charles founded the Decas Cranberry Co in the late 1930's.

He had seen plenty of potat farms-Joe had grown up in Sinclair, Me., part of potat growing Aroostook County, Bu he'd never seen a cranberry bo until after he'd gotten wounde in Africa during a clash wit Rommel's troops and was sent t Camp Edwards on Cape Cod fc less dangerous service duty.

There he saw his first bog an there, too, he was introduce to Georgia Decas. The rest is family history which include four children and two grand children. One son, William, now a partner in DeCran A



# MIDDLEBOROUGH TRUST COMPANY

# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham

Telephone all offices 947-1313



THE LATE Joseph A. Chamberlain refused to think along conventional lines. He thought helicopters could be used to haul the harvest out of bogs. Some people laughed. Now they're believers.

Supplies Inc.

THE CHAMBERLAIN'S became involved with other businesses after World War II. They owned two Dairy Queen stores. They also opened one of the first self-service laundromats in the area and later started another.

In the early 70's, they decided to take an active part in the family cranberry business and sold their other holdings.

(Mrs. Chamberlain today is president of Decas Cranberry Co. Inc.)

Joe, says Mrs. Chamberlain, gained a great deal of background through regular visits to the Massachusetts Cranberry Experiment Station.

"He thoroughly enjoyed the cranberry industry," she

# Massachusetts Growers

Financial assistance is available for SCHOLARSHIPS and MEDICAL ASSISTANCE for Cranberry Growers, their Employees and the families of both when financial need can be shown. For information contact:

URANN FOUNDATION P.O. Box 1788 Brockton MA 02403

Telephone 588-7744

Office 295-2222 BEATON'S

K. Beaton 295-2207



Specializing in

P. Beaton 947-3601

888-1288 C COMPLETE BOG

D. Beaton

SWETTH G

DM CHIVE

KLIA DAUDOSINIO

SANDING

HERBICIDE

(Wet & Dry)

APPLICATION



Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

remarked. "One reason he liked it, he said, is that you never do the same thing twice. Harvest was his favorite time. He often remarked that even after he semi-retired, he'd always want to come back at harvest time.

"The adrenalin would start to run in August"—and the kitchen would fill up with cups of cranberries from various bogs.

JOSEPH AND GEORGIA also devoted themselves heavily to community affairs. He had been a member of the town's volunteer police department for 22 years, the last 13 as a sergeant. He also served on the town's finance committee, the Plymouth County Industrial Development Commission, the Southeastern Regional Planning and Economic Development District, the Boy Scouts of America and the town Memorial Day Committee, among other organizations.

"Maybe it's because he came from a small town in Maine and he had this notion that everyody should help everybody else out, Mrs. Chamberlain said. "He's the reason I became involved in community affairs."

When Joe succumbed to a heart attack two years ago, Georgia was asked to take his place on the planning board, on which he had served 10 years. Recently she became elected for a five vear term.

Mrs. Chamberlain has been a member of the Rochester Conservation Commission for 23 years, 12 of them as chairperson. She also is a trustee of the Plymouth County Cooperative Extension Service and a member of the Pilgrim Recreation and Development Council.

Under her stewardship, the conservation group has succeeded in having 291 acres set aside under the Massachusetts Preservation Act. Also, through the group's efforts, 10 acres of beach have been purchased for townspeople on pristine Mary's Pond.

"I am trying hard to enhance the quality of life in the town," Georgia Chamberlain says. "I hope we can preserve its rural characteristics for posterity."



# CRANBERRY CHOCOLATE CANDY

This recipe is from "The Cranberry Connection" by Beatrice Ross Buszek.

11/2 cup cranberries

1/2 cup sugar

16 oz. package semi-sweet chocolate

16 oz. can evaporated milk

½ teaspoon vanilla

4 cups graham crackers

2 cups tiny marshmallows

1/2 cup pecans

Combine berries, sugar and 1/2 cup water. Bring to boil, then simmer 3 minutes. Drain, reserv ing 2 tablespoons syrup. Me chocolate with milk. Stir ti smooth. Add vanilla. Stir i remaining ingredients, crar berries and reserved syrup. Pt in well-greased 9 x 9 x 2 inc. dish. Chill to firm.



Call us if you are facing:

# Cranberry girdler Black headed fireworn Cranberry Sparganothia

These and over 50 other pest insect pheromones are available to aid the professional fieldman and grower in detecting insect pest problems.

For your free catalog of high quality, low cost insect traps, pheromones, and IPM supplies, call or write today.

10220 Church Road NE Vestaburg, MI 48891 Phone 517-268-5693

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line, Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

# Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048



Fruit rot diseases can easily undo all the hard Sot work you've put into your cranberry crop.

But it doesn't have to happen. Because now into you there's a better way to control fruit rot. Brayo

fungicide.
With Bravo, you'll get first-rate control of all
With Bravo, you'll get first-rate control of all
the major fruit rot diseases that attack cranberries.
In fact, eight years of testing clearly shows
that Bravo is more effective on fruit rot diseases

than captafol or ferbam.
Yet Bravo does not adversely affect fruit color.
Nor does it leave any lingering odor after application.

You can apply Bravo with conventional equipment or through sprinkler irrigation equipment and the flowable formulation of Bravo is easy to handle and mix.

So this season, be sure you get out what you've put into your cranberry crop. Make timely applications of Bravo to control fruit rot diseases. Bravo. Because you give it all you've got. Fermenta Plant Protection Company. 77528 Auburn Road. P. O. Box 348. Paniesyile, Ohio

Brayo 500

FERMENTA PLANT PROTECTION

PLANT PROTECTION

# Don't Fall Into The Unemployment Insurance Trap

# By JOSEPH ARKIN

Businesses throughout the ountry are paying needlessly tigh unemployment insurance ates because of ignorance, nelect or both.

Statelaws vary but—essentially—an employer who files a report obtermine status and is advised hat liability exists for state nemployment insurance is, in

effect, establishing an account with the State Unemployment Insurance Fund. A rate is assigned for the payments to be made each quarter, based on taxable payroll.

All contributions (a great misnomer to give to a forced payment) are credited to the employer's account. Any payments made to an eligible terminated employee are charged against the account.

If, at the end of a specified accounting period, the payouts exceed the amounts paid to the fund, the rate is raised for the next periods until such time as the account shifts over to a credit balance.

Like insurance companies, states don't want to pay out more than



Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956 (William Chamberlain) they take in, taking into account administrative costs and overhead

To see how you can fall into the unemployment insurance tax trap, let's take the case of a businessman we'll call Tom Blake.

In business several years, with a relatively stable work force and no charges against his account (all terminated employees left voluntarily and there were no firings), the rate set by his state for his account was 1% of taxable wages up to \$6,000 per employee annually.

Blake had a taxable payroll last year of \$36,936 and paid \$369.36 to the state as unemployment insurance contributions.

Early in the year, one of his employees gave notice of leaving and asked Blake for a favor—not to contest the granting of unemployment benefits-which, in this case, amounted to \$90 a week. State law provided for a 26 week payment, but, because of high unemployment in the country, the federal unemployment decision was that payments should be made for another 13 weeks. Thus, the employee received 39 weeks of unemployment insurance benefits for a total of \$3,150.

This sum far exceeded the few hundred dollars paid by Blake into the fund. In the early years, the payroll was far below the

> Howes Vines

April Delivery

(617) 994-8032

\$36,936, resulting in very small payments for prior years.

At the beginning of the following year, Blake got a shock. A notice of rate for the new year indicated that forthcoming payments would be at the rate of 4.5%.

Based on an approximate taxable payroll of \$45,000 for the new year (based on some raises and hiring of a part-time worker), the payments would amount to \$2,025, or \$1,575 more than would have been paid if he hadn't agreed to be a "good guy." And, because the contributions would not erase the deficit in his account in one year, it was likely that he'd get stuck with the 4.5% rate for at least another year.

In some states, the employer is

sent a notice that unemploymen benefit payments have been approved for a named worker and, if no objection is made, the benefits will be paid. Other state send a form asking the employe to state the reason for termination

A worker who voluntarily quit is not eligible for unemploymen insurance benefits in most states if not all. Also, benefits will b denied for wilful misconduct refusal to follow orders, bein disruptive, stealing, use of fou language, repeated absenteeisn among other reasons.

When the form is received, it: imperative that someone i authority, either the owner manager, partner or corpora officer, has the final say in whi

# **50** and still growing.

Gage-Wiley and Company congratulates "Cranberries" on its 50th anniversary. Having celebrated our Golden Anniversary in 1983, we also know the satisfaction of being able to serve your public successfully through so

Gage-Wiley was established in 1933 as an investment securities firm dedicated to the special needs of individual investors and small independent businesses. In a world dominated by large organizations, these two groups still provide the entrepreneurial spirit that is essential to progress. For more than 50 years, Gage-Wiley has believed in this philosophy and has been dedicated to helping others who also share it.

We admire the success of "Cranberries" and the many dedicated business people who are its readers. As part of the same "50 and growing" club, we at Gage-Wiley look forward to serving you during your next 50 years.



# **Gage-Wiley & Company** Incorporated

Village Landing ● P.O. Box 3507 ● Plymouth, MA 02361 617-746-3322 • 800-242-0263

> Open Weekdays 9 a.m. to 5 p.m. Saturday 9:30 a.m. to Noon

Member of the Securities Investor Protection Corporation

nswer is to be given. After all, he one in authority has to sign he form, so why should somehing as important as this be elegated to an office clerk or yen the firm's bookkeeper?

Hundreds, even thousands, of ollars hinge on the proper filing f the claims form. In the hyponetical case of a small business, we saw how one error led to an acrease in costs likely to exceed 3,000.

Something to consider is that ne objection to an ex-worker colcting or not collecting is not inding on the ex-worker. If enied benefits, the former nployee can ask for a hearing, t which time both former nployee and employer will ppear before an examining ficer. In effect, the hearing

An employer also has the portunity to ask for a hearing try to have overturned a decion that would grant an exprker unemployment insurance

presents a trial.

nefits.

The hearing examiner, somenes called a referee, will render tyerdict, copies of which will be tailed to both parties.

Usually, this settles the matte because legal fees to appeal a adverse decision are likely to excessive in view of the dollar founts involved.

PCS Reports Ltd. of New York



th Satisfaction Guaranteed

City conducted an extensive study of 1,500 benefit claim case histories. The finding was that American businesses spend nearly 40 percent more than is necessary for state unemployment insurance contributions because of ignorance, loose controls and sloppy record keeping.

Roy Johnson, president of this

tax consulting firm, in a tele-

phone interview with this writer, said: "Most of the dollar waste is attributable to management carelessness and this kind of laxity attacks the work ethic even if no fraud is present or intended.

"In many instances, the peo-

ple who handle the unemployment benefit paperwork for an employer simply don't know how the system works and therefore





have no incentive to challenge the claims of ex-workers who are not legally entitled to benefits."

The illustrated case given before was for a relatively small business. Yours may be smaller, perhaps larger. But, either way, you can see how these figures could relate to your own tax expense and how your firm could make mistakes under the same or similar circumstances.

Each state unemployment insurance program has printed literature available for employers that spells out exactly who is eligible for benefits and under what conditions benefits could be withheld. Also, these booklets will advise the means by which a claim award can be challenged at a local office hearing, with no legal expenses involved.

In some cases, it will be necessary to bring along a company employee to testify with respect to misconduct-gambling or drinking on premises, refusal to follow instructions, etc.

It is your hard earned dollars, not the state's, going down the drain. So don't let ex-workers who are ineligible collect. Plug that gap and your bottom line on the profit and loss statement will not have an unnecessary bite taken out of it.

(Joseph Arkin is a CPA and MBA who has written extensively for trade and professional journals.)

CRANBERRIES gives you the news and views of the industry.

CRANBERRIES is read by more than two-thirds of the growers in the U.S.

No matter how small your business, you can afford to place an ad in the magazine that serves the industry: CRANBERRIES!

### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

marine bearing Marsh Number (715) 593-2285



# Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

## Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

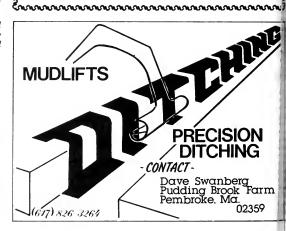
 Coordinate hardware purchase Implementation & training

 Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

· Deliveries/barrels per acre Chemical applications

 Profitability/cost per barrel Sanding and damage



# S. COMPANY EXPORTS HOPSTICKS TO JAPAN

Should this item come under the headg of carrying coals to Newcastle or eat?

t seems that Lakewood Industries of bbing, Minn., will send more than \$8 llion worth of chopsticks to Japan this

The secret? Seems that the area around being is blessed with an abundance of pen trees. Aspen trees, apparently, educe good chopsticks.

## /isconsin Wants olunteers for PM Program

loting that growers from Wood, kson and Juneau counties took part an experimental Integrated Pest nagement Program in 1986, the iversity of Wisconsin Extension is king growers from other parts of consin to volunteer for the 1987 gram.

oseann Kachadoorian, Cranberry
I Coordinator at UW Extension
VEX), says anyone interested in
rormation can reach her at (608) 262-67 or 262-6444.

WEX has prepared the following cription of the program:

#### ow does the UWEX Cranberry Il program help growers?

re Cranberry IPM program assists vers in making more informed pest brol decisions. Growers are provided ally with a report from a scout stating presence, population and damage because the process of th

#### ogram Methods

scout or trained observer visits each sh weekly. Several sites on each bed ampled, using a sweep net, and the ber of insects are recorded. Twenty perries at each site are inspected for t and disease damage. Damage ting from pest activity is indicated nap of the property. Also, pheromone for the following insects are placed ch marsh; Sparganothis Fruitworm. theaded Fireworm and Cranberry er. In addition to weekly scouting. lant tissue and two soil samples e collected during the season and zed for nutrient content. In August, imap and control recommendations



# "I USED TO DO THAT, BUT BACK THEN WE CALLED IT "GOING TO THE OUTHOUSE . . . '!"

will be made.

#### UWEX Cranberry IPM Newletter A "UWEX Cranberry IPM Newsletter"

will be available for the first time in 1987. The purpose of the newsletter is to increase grower knowledge of pest biology and identification. Growers participating in the program automatically receive a subscription.

#### Program Size and Cost

The cost of the program for 1987 will be \$40 per scouted acre. This fee will only partially defray the program expenses. The program will be limited to a total of 340 acres in Central and Northern regions. Each participating grower will be limited to 15-25 acres. Therefore, we will select six-seven growers from each region. Ideally, the beds should be reasonably producing and over five years old.

#### Recommendations

Scouts do not make control recommendations; they are providers of biological information. The Cranberry IPM Coordinator and other extension specialists make any necessary recommendations.





The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer UM . T. HASS.

Our 51st Year of Publication



Ditch Stonecrop — 3
Burglary Protection — 14



## Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360.





22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846

# **Ditch Stonecrop** And Its Control

By MALCOLM N. DANA and L. T. RAKE

enartment of Horticulture niv. of Wisconsin/Madison Ditch stonecrop (Penthorum doides L.) appeared as a probn weed species in Wisconsin anberry marshes in 1983. It is native species that has been und occasionally in scattered pulations on ditch banks and arsh edges for many years.

The sudden appearance of maging populations may be lated to a rapid increase in wly planted marshes with bstantial soil exposure and e use of sprinkler irrigation for il moisture maintenance

rather than the saturation flooding widely used before 1970. The plant apparently did not tolerate soils that were frequently saturated.

Penthorum sedoides is an erect perennial, scarcely succulent herb, with alternate sessile, serrate, thin leaves. The mature plant ranges from 6 to 24 inches in height. Leaves are lanceolate or narrowly elliptic, sharply pointed at both ends with finely toothed margins, 2-4 inches long and 0.5 to 1.0 inch wide.

Flowers are borne on forked branches that are coiled and straighten as the flowers unfold; the branches are 1 to 3 inches long. The flowers are borne on very short pedicels (stems) and are about 3/16 inch across. Each flower has 5 sepals, no petals, and 10 stamens. The star shaped flower and seed capsule with 5 points provide the name for the

#### COVER ILLUSTRATION

FIG. 1. Approximately life size drawing of ditch stonecrop flowering plant. From Britton, N.L. and A. Brown, 1913. An illustrated flora of the Northern U.S., Can., and the Brit. possessions. Vol. 1, p. 362. Charles Scribner's Sons, New York.

# RANBERRIES

ENATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO:

#### P.O. BOX 249 **COBALT CT 06414** (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR INKETING DIRECTOR: CAROLYN LABAN

SOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

#### **IVISORS & CORRESPONDENTS**

ASSACHUSETTS — Irving E. Demorenville, il tor, Cranberry Experiment Station. W JERSEY — Phillip E. Merucci, Crenberry & Blue-

Specialist, Cranberry & Blueberry Leboratory, worth; Elizabeth G. Carpenter, Chatsworth. VA SCOTIA - I. V. Hali, Botaniat, Rasearch

in, Kentville. t EGON - Arthur Pools, Coos County Extension

SHINGTON - Azmi Y. Shawa, Horticulturist and sion Agent in Horticulture, Coastal Washington in rch & Extension Unit, Long Beech. CONSIN - Tod. D. Plener, Ferm Menegement

Wood County.

BERRIES is published monthly by Diversified Scale, Wellwyn Drive, Portland CT 06480. Second restage is paid at the Portland, Conn. Post Office. A cotage is paid at the Portland, Conn. Post Office.

• \$10 e year, \$18 for two years, \$1 e copy in the

• 112 e year in Canada; \$15 a year in all other

• sa. Back copies: \$2, including postage. Copyright

• Tolveraffied Periodicals.

> ISSN: 0011-0787 ester, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

# the difference

With the new SALEN Sprinkler

The greatest development since man discovered water runs downhill.

- No vibrations No springs
- No bearing washers
- No problems
- with sand or silt No maintenance



ILE / IRRIGATION PRODUCTS A Division of Thyssen Inc.

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

genus, Penthorum. Each capsule (seed pod) contains many minute, light brown seeds.

The plant spreads vegetatively by stolons at the soil surface. Stolons may extend to 6 inches from the parent. At the end of the rhizome, a new leafy shoot develops which becomes the erect stem for the following year. Stolon tips will have several small, modified leaves in the fall. These leaves are green and appear functional at the time of spring flood removal-mid April. The erect shoots are 2-3 inches

The erect shoots are 2-3 inches tall when the cranberry buds are in the white bud stage. Ditch stonecrop shoots reached their mature height and produced flowers in late June. Mature seed was found in the earliest ripening capsules in late July.

Mature seed collected in early August and stored dry at room temperature until December 1 germinated in moist peat moss from 14 days after placing in a greenhouse at 70°F (21°C). Maintaining these seedlings under a 14 hour day with natural daylight extended by tungsten filament and cool white fluorescent lights resulted in stolon production 70 days after germination.

CONTROL of ditch stonecrop was accomplished in the field by a spray application of the triethanolamine salt of 2,4-D at 1.09 kg ai ha on May 15. The solution was applied at 40 gallons per acre. There was no regrowth of the weed during the season. This application did not interfere with growth and development of the cranberry plants.

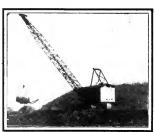
It is expected that an application of 2,4-D as a granular would give control comparable to the spray application. Applications of granular chlorpropham at 8.17 kg ai/ha or dichlobenil at 2.18 kg ai/ha provided 95% control to August 1 and practical suppression throughout the season.

Vigorous growth of the cran-



Fig. 1. Penthorum sedoides L. in flower.

berry plants to give complete ground cover effectively prevents invasion or reestablishment of the dib stonecrop stand in the mater cranberry planting.



#### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact-

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946



# NEW TEAM OF COMPACT TRACTORS

# •5 Models

We are proud to offer our customers a new team of specialty tractors.

During rigorous performance tests by White Farm Equipment engineers these compact tractors demonstrated both their design quality and performance excellence We are confident you will be impressed with the operating efficiency of these tractors and their high quality workmansby.

Now no job is too large or too small for White Farm Equipment Webawe just completed a full circle offering you a line of tractors ranging from 16 to 270 engine borsepower

All Models 2 or 4 Wheel Drive



0 0

11 H.P.



37 H.P.

# Plus 14 Attachments

- Loader
- Snow Thrower
- Post Hole Digger
   Box Scraper
- Mowers 4 Types
   Poto Tiller
- Front and Rear Blade
- Disc Harrow



45 H.F



## **Ted's Farm Equipment**

27 Alden Road Fairhaven, Mass. Phone 994-5312 Sales and Service

# Growers to Vote on Marketing Order

By CAROLYN GILMORE

Cranberry growers will vote this month on whether to continue the Cranberry Marketing Order.

A referendum on the order is scheduled every four years. Results are announced after the

Ballots will be mailed from the USDA Marketing Service in late

Under changes recently made by the Secretary of Agriculture, the secretary can now consider termination of the order if voting growers produce less than 67 percent of the cranberry crop. This is an increase from the previous 50 percent requirement.

Base quantity certificates for 1985 were mailed by the Cranberry Marketing Committee growers in February this ver The USDA Agricultural Mark ing Service delayed approval

Cranberr **SERVICES** 

Herbicides **Applied** 

Sanding Wiping Wet Harvesting Mowina

> (Mowing includes Hydraulic Arm Flail Mower.)

West Wareham. Massachusetts

Ask for Rick at 295-5158



MIDDLEBOROUGH TRUST COMPANY

\*\*\*\*

# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313

ne certificates pending proceedugs on proposed rules for base
uantity adjustments and bona
deeffort, said David Farrimond,
MC manager. Approval for 1986
ase quantity adjustments is
spected "on time" from USDA
May I this year, he added.

The CMC is working to alleviate me of the problems with the esent means of assigning base antity by introducing a rolling se amendment.

"Inequities are now in the stem that were not there when e system was initiated," rrimond said. "The committee moving forward on the rolling seamendment. The rolling base toept does not penalize or favor yone. It takes base quantity the average of the best four t of the latest six years duction."

# BIG WHEEL TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

 $(617)\,763-5927$ 

or (617) 763-8745

## 

# Irrigation Equipment Designed Especially for the Cranberry Industry

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polyethylene Main Lines, 3" – 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

# LARCHMENT

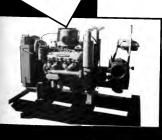
P.O. Box 66, 11 Larchmont Lane

P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550

#### Contact

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048







Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571 office: 295-0147 evening: 763-8956

(William D. Chamberlain)

## THE WELDING BOOTH

Portable heli-arc welding for aluminum, stainless and steel

Repairs and fabrication done at shop also

23 Kingman St. East Taunton, Mass. 02718 307 West Grove Street (Rte 28) Middleborough MA 02346

#### KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive -- 12-90 hp.

Compact Excavators 1½ to 6 ton Wheel Leaders ½ to 3/4 vd.

Water Cooled Diesel Engines

4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers Specialty Fabrication Work 947-6299

Kubota Financing as Low as 81/2%

FO=. FO≥ FFO FO \ FO¹ FO≥

## IANAGER REQUIRED

a large cranberry operation on Canadian West Coast. Ist be fully experienced in all pects of cranberry production.

(604) 278-6271



"We're Best on Earth"
One yd. CAT backhoe

Bog Construction

Land Clearing

Canal Work

Flume Setting

Pond Construction

Ditching

Grow at its sittings arraliable Equitors with stramp man

Office 295-2222 BEATON'S

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

P. Beaton 947-3601

- o COMPLETE BUJ MANAGEI (ENT
- O HARVESTING (Wet & Drv)





Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

## REGIONAL NEWS NOTES

#### **MASSACHUSETTS**

#### By IRVING E. DEMORANVILLE

The latest crop report from the New England Agriculture Statistics Service indicates the 1986 Massachusetts cranberrycrop totals 1,829,000 barrels, slightly above the August estimate and nearly 150,000 barrels above the 1985 record.

Other areas show New Jersey at 322,000 barrels, a record; Oregon, 122,000 barrels, a record; Washington, 99,000 barrels, and Wisconsin, 1,317,000 barrels, a record. National total is 3,888,713 barrels.about 5 percent more than the record 1985 crop.

As of April 1, there are 5 points of a possible 10 that favor keeping quality in the 1987 Massachusetts crop. The forecast is for good keeping quality. Growers are reminded that a quality control program utilizing late water or fungicide treatments is always a good investment, particularly on bogs that are dry harvested. Keep in mind that a warm, wet spring and warm, wet, humid weather in the summer are ideal conditions for most disease funglit to develop. Some of our cur-



PEST LERT

Call us if you are facing:

#### Cranberry girdler Black headed fireworm Cranberry Sparganothis

These and over 50 other pest insect pheromones are available to aid the professional fieldman and grower in detecting insect pest problems.

For your free catalog of high quality, low cost insect traps, pheromones, and IPM supplies, call or write today.

10220 Church Road NE Vestaburg, MI 48891 Phone 517-268-5693 rent cultural practices can also affect quality adversely. Even with all of these warnings and precautionary measures, we had problems with soft berries from nonfungal causes in 1986.

Dr. Robert Devlin of the Cranberry Experiment Station attended the annual meeting of the National Weed Society of America in St. Louis from Feb. 2-5. Bob presented a paper.

Dr. Devlin also attended a meeting of CAST in Washington, D.C., from Feb. 17-19.

Dr. Karl Deubert and Carolyn DeMoran-

ville attended the National Cranberr Nutrition Conference and the New Jerse Cranberry Growers Association wint meeting in Pemberton, N.J., from Feb. 1( 12. They participated in panel discussion and presented research data at the nutr tion conference.

#### WASHINGTON

By AZMI Y. SHAWA

The Washington State University, Coatal Washington Research & Extension Ul Cranberry Field Day will be held Frida June 26 at the CWREU station in Lo Beach.



# J.A. JENKINS & SON CO

Grower Service

MOWING (ALL TYPES)
SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018





#### Weather Watch

#### MASSACHUSETTS

The month of February was cold, averaging 3.0 degrees a day below normal. coldest February since 1980, Maximum temperature was 45 degrees on the 2nd and 7th, minimum was minus 3 degrees on the 15th. The only warmer than average days were the 2nd and 7th. Cooler than average days were the 5th, 10th and 12-15th

Precipitation totaled only 1.30 inches or 21/2 inches below normal. There was measurable precipitation on only four days, with 1.11 inches on the 7-10th as the greatest storm, and not much else. This was the driest February since 1980 and the fourth driest in our records. We are about 1¼ inches above normal for 1987 but about 1% inches behind 1986. There was a total of 13 inches of snow; 10 inches came on the 10th. Total sunshine was the highest ever recorded for February.

March was just slightly on the warm side, averaging 0.4 degrees a day above normal. Maximum temperature was 69 degrees on the 25th and minimum 14 degrees on the 5th. Warmer than average periods were the 7-8th, 24-27th and 29-31st. Cooler than average periods were the 2-5th, 10-17th and 21st.

Precipitation totaled 4.48 inches or about 1/3 inch below normal. There was measurable precipitation on 12 days, with 2.09 inches on the 1-2nd as the greatest storm. We are about an inch above normal for the year to date and about an inch behind 1986 for the period. There were only 3% inches of snow recorded.

I.E.D

#### NOVA SCOTIA

We experienced a tough winter. The mean temperature for February was minus 6.6 degrees C, which is colder than the 30 year average of minus 5.2. We had no rain in February but a snowfall of 55.8 cm. On March 2 we had another big snowstorm. making us well supplied with the white stuff. People in low lying areas were keeping their fingers crossed for a moderate spring thaw.

The grip of our winter was somewhat broken by March 31. A few sunny days during the latter part of March did much to reduce our snow accumulation. To date, flooding had not been a problem.

I.V.H.

was 54 degrees on the 12th, 22nd ld 25th. Minimum of 24 degrees on the 1h and 16th. Rainfall totaled 9.65 inches. Vin the greatest of 1.68 on the 12th.

February mildness enhanced the daring of frost injury, so most growers actived their systems. Maximum was 67 degree on the 9th and minimum was 28 degree on the 25th, Rain totaled 7.90 inches, vin the greatest on the 1st of 2.42 inches

In the first six days of March, 6.30 inc s

A mild winter continued through a March. The maximum temperature wa 8 degrees on the 31st and the minimum is 29 degrees on the 29th. There were en days with a bog minimum of 32 degis and below, with 27 degrees on the 291 \*

Rainfall totaled 12.17 inches, 3.39 inches above normal for March; yet, the totati the year up to the end of the month is 29.72 inches, .81 inches below normal A.S.



#### WASHINGTON

Our below 40 degree days were few during dormant time for the vines. January brought two days with damaging winds. three days with hail, some thunder and glaze days. The maximum temperature

10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING
   GOOD LOOKING
- MAINTENANCE FREE WRITTEN WARRANTY •

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

> 617 / 824-3826 **RAYNHAM CENTER, MA**

**MORTON** BUILDINGS, INC.

# RANBERRY WORLD

A Kite Festival on June 13 from 2 4 p.m. will be the major June ent at Cranberry World in Plyouth, Mass.

Other events this season include:

July 8, 7-9 p.m.—Music Makers. July 12, 2-4 p.m.—Rix Royal cus.

cus. July 17, 7-9 p.m.—Green Grass

uly 22, 7-9 p.m.—Waldo Wood-

d Show. uly 26, 2-4 p.m.—Festival Brass

uly 29, 7-9 p.m.—Summer Wind semble of the South Shore

ug. 5, 7-9 p.m.—Blarney Stone.

ug. 9, 2-4 p.m.—Colgate 13

ug. 16, 2-4 p.m.—Gus the germeister and his German

ct. 11 and 12, 10 a.m.-4 p.m. vest Bus Tours.

ct. 25, 12 noon-Halloween

nis marks the 10th season for oberry World, which is sponsored Ocean Spray Cranberries.

anberry World is open to the ic 9:30 a.m. to 5 p.m. April 1 ugh Nov. 30. Special summer >s-9:30 a.m. to 8 p.m. Monday ugh Friday—will run from June 1 rough the end of August.

### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511 Located on Water Street in Plymouth, Cranberry World is a major free exhibit. It is stop 6 on the prestigious Americana Trail and a 10

minute walk from Plymouth Rock and Mayflower II.

For further information, call (617) 747-2350.



# **EXAMPLE AND STATE FIELD**

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel

efficient, and require little maintenance.

Multi-cylinder design



KUBOTA B AND L SERIES TRACTORS

Model	CYL	HP	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	
B7200	3	17*	or .
B8200	3	19*	Hydrostatic
B9200	4	22 5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shurtle shift
L2550	3	23.5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8x8
L3750	5	36*	or
I 4150	- 5	40.0	Hadroules chambs chafe

KUBOTA LAWN & GARDEN TRACTORS

Model	CYL	HP	Transmission	
G3200	2	10	Standard	
G4200	2	12	Standard	
G4200H	2	12	Hydrostatic	
G5200H	3	14	Hydrostatic	
G6200H	3	16	Hydrostatic	



KUBOTA M SERIES TRACTORS

Model _	CYL	РТО НР	Speeds Forward/Reverse
M4030	6	43 00	8/4
M5030	6	49.00	16/4
M6030	3	57.00	16/4
M7030	4	68.00	16/4
M8030	4	76 00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85 00	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field.



Nothing like it on earth."

# **ELLIS IMPLEMENT**

6639 HIGHWAY 66 STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

# **BURGLARS ARE BAD BUSINESS**

By JOSEPH ARKIN

Burglars are not neat and will reduce your premises to a shambles if it means gaining access to cash, merchandise and other valuables.

With the rate of burglaries on the upswing, it can mean large monetary loss to you, increased insurance premiums, and even possible loss of your coverage. Thus, it is important to pay attention to preventive

# Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

> STEVE (715) 593-2358

measures, no matter how repetitious.

The harder you make it for a burglar to get in, the less chance is that he'll waste time on you. He's always looking for easy pickings.

Here are some things you can do to make your establishment an unhappy hunting ground for criminals.

Always remember to lock all doors securely when leaving your place of business. This is an elementary point, but one that is often forgotten.

Be certain to protect all side and back windows of lower floors with heavy bars or grilles. These must be well-anchored and must be constructed so that they cannot be pried loose or bent out of shape.

Always have the interior of your premises partially lighted at night. An automatic timer that can be preset to turn lights on at dusk and off at daw makes this job positive and ec nomical. Thieves fear well-l interiors more than any sing obstacle, as their activities ca be seen from the street. All ou side entrances should also be liespecially those at the rear sides of your premises.

A common mistake of many to have rear and side doors wiglass panels and a spring lat on the door. The burglar simp breaks one of the panes, reach inside, and turns the latch. Al door with glass in it should protected by a lock which ope with a key from the inside well as the outside. Or the gle door should be wired so that alarm will be tripped if the gle is broken.

Warded locks (those that or with a "skeleton" type k won't stop a burglar either. A prowler can buy keys to fit at hardware store for less the

# 

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

Detrashers · Flumes
Conveyors (steel or aluminum)
Shearing · Shop Welding
Bending

# STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM



The burglar gets a lot of aid Fram falks whase store he plans to raid.



Pin tumbler locks inside and out Will make a glass door very staut.





Be sure to lock ALL kinds of doors Like ceiling traps and chutes in flaors



To keep your safe untouched at night.

Be sure to keep it bothed in light.



rained watchman knaws thieves' ruses vaid the tired type who snaazes.



The burglar laughs at window glass But strong steel bars are hard to pass.



Sturdy lacks show at a glance Burglars never stand a chance,

twenty-five cents.

Make sure your locks are good ones. Modern pin-tumbler cylinder locks provide the greatest security. In resistance to being picked, and with almost unlimited capacity for key changes, they are unequalled.

Police throughout the country can tell countless stories about locks that can be opened by merely inserting a matchbook cover or business card between the door and the jamb, and jiggling until the bolt eases open. People with these types of locks make it a field day for thieves.

The most securely locked business premises aren't safe unless you yourself possess the only keys, a fact often overlooked by new occupants. Builders, rental agents, or previous owners may have keys to your quarters and they may fall into the wrong hands. When moving into new quarters, it is the wise thing to do have the tumblers on the locks reset. This should also be done when employees with access to door keys are no longer in your employment.

Check the classified section of your telephone directory for a qualified locksmith. If your city licenses locksmiths, as most cities do, make sure you engage the services of a licensed one. He can reset the tumblers in a matter of minutes at your premises for a

The CHARLES W. HARRIS Company

> 451 Old Somerset Avenue North Dighton, Mass

Phone 824-5607

AMES

Irrigation Systems

RAIN BIRD Sprinklers

HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed modest fee and furnish duplicate sets of keys.

The Associated Locksmiths of America has issued a word of warning about bogus locksmiths. In past years, there have been many cases of criminals posing as locksmiths in order to gain access to homes, apartments and places of business. ALA members carry an identification card, registered with the Association, so that you can be sure that you are getting an honest deal from a qualified expert.

Other pointers: Be certain your safe is securely locked by spinning the dial at least twice. Your safe should be easily visible through the front windows of your establishment. A lamp above the safe is a good idea. If it is a light model, it should be securely bolted to the floor. A steel pipe encasing a large boli that attaches the safe to the floor is recommended by the Nev York Police Department as a measure against burglars Always change the factory com bination when you buy a safe

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried lust below bog surface. No insert littings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

# Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048



# Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase
- Software installation
- •Implementation & training
- •Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acreChemical applications
- Profitability/cost per barrel
   Sanding and damage

and never use your birthday or anniversary date as the combination; these are too easy for interlopers to discover. Never open your safe in the presence of a stranger and keep the combination to yourself.

Burglars will attempt to break into business premises through every possible entrance. Even though doors and windows are secure, you must pay equal attention to roof doors, skylights and basement doors. One weak point is all that the burglar needs, so every means of entry must be equally well protected.

A good burglar alarm, periodically checked to keep its efficiency high, is a strong deterrent to thieves.

A good night-patrol service manned by well-trained and alert personnell provides another source of efficient protection. Careful investigation of the agency is necessary, as some

## Niemi Electric Co.

ROBERT NIEMI

# **ELECTRICAL CONTRACTORS**

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- **COMMERCIAL**
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.

22 years experience construction lifts

· MUD LIFTING ·

# **AERIAL LIFTING**

· BERRY LIFTING . nylon berry bags bulk bins

JOE BRIGHAM INC

lightweight durable contact

PETER - CHUCK 617-295-2222

mat rentals & sales

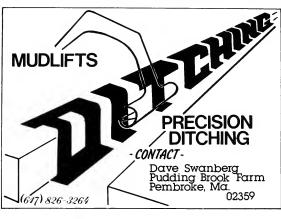
$\overline{}$				
Score Yourself HOW BURGLAR-PROOF IS			( ONE)	SCORE FOR
	Your place of business?	Yes	N <sub>0</sub>	"YES" ANSWER
1	Do you always lock all exterior doors at closing time?			15 points
2	Are your windows protected by well- anchored bars or grilles, and are all miscellaneous entries such as skylights, sidewalk openings, cellar entrances, and transoms locked securely when not in use?			15 points
3	Is the interior of your place of busi- ness adequately lighted during the night after closing?			15 points
4	Is your safe visible from the street through your front window?			15 points
5	Do you have Yale pin-tumbler locks with deadlocking features on all exterior doors and do you have double cylinder pin tumbler locks on all doors with large panes of glass?			15 points
6	Have you a good burglar alarm system, and is it inspected regularly?			10 points
7	Do you always leave your cash register unlocked with drawer open after closing time?			5 points
8	If you use a night watchman, have you had him carefully investigated and is he thorough in his duties?			5 paints
9	Do you keep up-to-date lists of serial numbers of valuable merchandise?			5 points
My Business Protection Score Is:				100 points*

<sup>\*</sup>A scare of 90 or better indicates you ore doing a good job of failing burglors; a scare of 85 means that you are daing a fair job; a scare of 80 or less means that your place of business may become a burglar's delight.

agencies are used by professional gangs to gather information by having members take employment to learn of vulnerable spots of people on their route. Check firms with your local chamber of commerce. the Better Business Bureau and your local police department.

In doing all you can to "burglar-proof" your premises, you may be saving yourself a lot of money and trouble. Insurance companies require evidence of forced entry before paying losses due to burglary. If a thief has to resort to smashing windows or breaking down doors to get into your business premises, you can collect from your insurance company.

But if a burglar succeeds through your own carelessness-a door or a window left unlocked or a lock that is picked without showing any evidence of its having been picked—you will have a fight on your hands to try to recover losses incurred. The insurance company will stick to the terms of the policy-there must be forced entry or it is not liable. Insurance company files are bulging with reports of successful burglaries, most of which are possible only through careless-





Available For: \*SPRING\*

**Pruners** 

**Pump Frames** Irrigation Repairs

Herbicide Spreaders

·SUMMER ·

**Flumes** 

Wipers

·FALL·

Hydraulic Water Pickers **Hydraulic Conveyors** Ditch Reels

Berry Pumps

**Detrashers** 

CONTACT:

Dump Bodies

Mower Decks & Gas and Diesel Engines

P. D. BOX 398. BRYANTVILLE MA. 02327

JIM OR RICK 617 - 293 - 6070 ness. It is almost an axiom that a burglar's principal ally in his victim

These brief paragraphs do not include all the preventive steps necessary to make your establishment burglar-proof. But it does make you aware of the problem and some of the steps you can take to protect yourself.

A Small Business Administration report entitled, "Crime Against Small Business," reveals the startling fact that burglaries account for almost \$1 billion annually, of which some 68 percent is lost by the business community.

A booklet, "Protection Against Burglary," written by a former police officer, Prof. Richard L. Holcomb, is available from the Institute of Public Affairs, University of Iowa, Ames. Iowa.

Joseph Arkin holds a BBA degree from St. John's University, an MBA degree from Pace University. He is licensed by the state of New York and Florida as a CPA. He has written extensively for trade and professional magazines.

#### CONNECTICUT AGENCY AWARDED AD ACCOUNT

Ocean Spray has given all its cranberry products advertising to North Castle Partners of Greenwich, Conn.

The agency has been working on Ocean Spray's cranberry sauce and some other products since 1984. It will now pick up bottled cranberry drinks, chilled drinks and other cranberry products that had been

Enjoy Reasonable Rates NEW ARM FLAIL Call Brook Holmes

(617) 293-5353

handled by Bozell, Jacobs, Kenyon & Eckhardt of Boston.

A cooperative spokesman said "growing business needs" were the reason for the shift.

Ocean Spray's cranberry products billing amounts to \$25 million.



## High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

# **Need Help?**

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



P.O. Box 7. Taunton, Mass. 02780, Tel: (617) 824-7578 Located on Rt. 44 1 Author Mile St. of Rt. 24





"SINCE WHEN IS A SCARECROW CLASSIFIED AS AN ILLEGAL ALIEN?"

Charles of the substantial way and the substantial and the substan

CRANBERRIES
Has Served the
Cranberry Industry
for 51 Years.

**产业的政策和政策等的的政策等的以外的政策的关系的政策的对抗** 

# WISCONSIN CRANBERRY HEADQUARTERS FOR

**SEVIN XLR** 



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

#### Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581

21



#### CRANBERRY COOKERY WITH A FRENCH ACCENT

America's "love affair" with French cuisine is hardly surprising since it's considered the finest in the world—and for good reason.

For centuries in France, cooking has been thought of as an art. Whether the cook was a chef to nobility or simply a provincial housewife, he or she would adapt and refine variations of recipes both logically and with imagination. By varying ingredients

and preparations, new and extraordinarily tasteful dishes would be created.

"Cranberry Pâtê Maison Lafayette" is a perfect hors d'oeuvre to serve with cocktails or as a first course. Combining chopped ham, butter, onion, parsley, fresh cranberries, black olives and liverwurst, it blends quickly into a taste sensation. It can be made ahead of time and kept chilled in the refrigerator. Serve it in the French manner with biscotte, or with thinly cut slices of toast.

French to the core, and superbas an entreé, "Berry Boeuf Bourguinnone" can be served either formally at a dining table or buffet-style. Elegantly complemented by "Yellow Rice Timbales," it is a most handsome platter to set before your family and guests. The excellence of flavor derives from the combination of bacon, onion, garlic, beef chuck, fresh cranberries, thyme, condiments, red wine, beef

broth, onions, potatoes, mushrooms and carrots. To round out this fine dish, make a salad of crisp greens with a light dressing and serve a full-bodied red wine.

For a dessert with a French flair, "Cranberry Orange

☆☆☆☆☆☆☆☆☆☆☆ → No one is more qualified ☆ to serve your

\*

蚞

ø

zi.

\*

×

Crop Insurance needs
than
THE BUTLER
GROUP

\*

\*

⋫

\*

1. Crop Hail policies on any commercial crops—Hail, Fire, Vandalism and Transit
2. Federal Grop Insurance Policies for Apples, Potaloes, Tobacco Corn, Cranberries and others
3. Home, Auto, Business, Life, Health

Call us for a quote or details

\* \* \* \* \* \* \* \* \* \*

Call us for a quote or details

BUTLER
Fiorists' & Growers' Insurance
Agency of New England, Inc.
20 South St., Westborough MA 01581
617-366-1512

RFD 5
Plymouth St
Carver MA
02330

We Stock a Complete Line of:

Cranberry Insecticides • Fungicides • Herbicides
Miticides • Fertilizers

AGWAY

Authorized Agway Representative

AGWAY

**NYLON BERRY BAGS** 

● 8-9 Barre Capacity ● Cost Efficient

● Easy to Handle

● Easy to Handle

No Wheel-Off Rigs
 No Bulk Bins

• No Fork Lifts

TRUCK COVERS

★ Justom Made ★

Allow 4-6 Weeks for Delivery

For further information, call

866-4429

Savarin" is both enticing to the eye and to the palate. The base is molded bundt cake prepared with eggs, sugar, vanilla, rum flavoring, cream and flour. After the cake is baked, it is soaked with glazed cranberries, and then topped with cranberry poached orange slices, and orange flavored whipped cream. Additional glazed cranberries can be placed around the cake. Serve your savarin with demitasse cups of coffee, and cordial glasses of an orange liqueur.

ham, onion, parsley and cranberries for 5 minutes. Stir in olives and fines herbes. Cool. Mash liverwurst in a bowl until fluffy, Beat in cranberry mixture until páté is well blended. Pack mixture into a crock or small souffle dish, cover and chill until ready to serve. Serve spread on biscotte or thinly cut slices of toast.

BERRY BOEUF BOURGUINNONE WITH YELLOW RICE TIMBALES (Serves 6)

6 strips bacon, diced 2 onions, chopped

1 clove garlic, chopped

4 pounds beef chuck, cut into 1 inch cubes

2 cups fresh cranberries

2 teaspoons salt ½ teaspoon thyme

¼ teaspoon pepper

#### CRANBERRY PATE MAISON LAFAYETTE ¼ cup butter 1/2 cup finely chopped ham 1 large onion, minced 2 tablespoons minced parsley

Contact Dan Sullivan 23 Rear Chauncy St. South Weymouth MA 02190 (617) 337-4728

1/2 cup chopped fresh or frozen fresh cranberries 1/2 cup chopped pitted black olives

1/2 teaspoon fines herbes

11/2 pounds good quality liverwurst

In a skillet heat butter and cook







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting - Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photographu

cups dry red wine (burgundy) cups beef broth

/3 cup all-purpose flour mixed with 1/2 cup water

new potatoes, peeled

12 small white onions, peeled

12 button mushrooms, stems trimmed

package (10 ounces) frozen baby whole carrots

2 packages (6 ounces each) yellow rice

In a large Dutch oven or large saucepan, cook bacon, onion and garlic until golden, stirring occasionally. Add beef chuck and stir until cubes are browned on all sides. Add cranberries, salt, thyme, pepper, wine and beef broth. Cover and simmer gently for 1 to 1½ hours or until beef is tender. Skim excess fat and stir in flour mixture. Cook, stirring until stew thickens. Add potatoes, onion, mushrooms and carrots. Simmer for 20 minutes, stirring occasionally until vegetables are tender. Season to taste with salt and pepper. Cook yellow rice according to package directions. Pack hot rice mixture into oiled timbale molds or into straight sided cups, glasses or other molds. Let stand 5 minutes. Loosen edges with a knife, tap to loosen and place unmolded rice around edge of deep large platter. Spoon stew onto platter and garnish with finely chopped parsley, if desired.

CRANBERRY ORANGE SAVARIN

(Makes 1 12 cup bundt size cake)

11/2 cups sugar

2 teaspoons vanilla

2 teaspoons rum flavoring 2 cups (1 pint) heavy cream

3 cups self-rising cake flour

3 cups fresh cranberries, rinsed and drained

11/2 cups sugar

1/2 cup water

2 navel oranges, peeled and cut into thin slices

1 cup (1/2 pint) heavy cream, whipped 2 tablespoons orange liqueur

In a bowl, mix eggs, sugar, vanilla, rum flavoring, cream and flour. Beat until smooth. Pour batter into a greased and floured 12 cup bundt pan. Bake in a preheated slow oven (325° F) for 50 to 55 minutes or until cake tester comes out clean when inserted into cake. Cool in pan 5 minutes. then unmold onto a cake rack. In a saucepan, mix cranberries. sugar and water. Boil for 5 minutes. Drain berries, reserving syrup. Heat syrup and poach orange slices for 3 minutes. Place warm cake onto a shallow serving plate. Slowly spoon syrup over cake, allowing syrup to be absorbed into the cake. Fill center of cake with drained cooked cranberries. Place orange slices on top of cake. In a bowl, whip cream with orange liqueur until stiff. Top cake with peak of whipped cream. Place remaining cranberries at sides of cake.



# Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

#### AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

#### CRANBERRY **GROWERS** REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537

(617) 888-1288

#### The scoop of the year!

Cranberry Flavor, Fact and Folklore in

THE CRANBERRY CONNECTION, by Beatrice Buszek, Your favorite berry pops up in kitchen-tested recipes for every delight from Cranberry Bog to Cranberry-Banana Bread, Cranberry Avocado Dip, and countless other desserts, drinks, salads, entrees. "A fascinating revelation of the many uses for cranberries . . . you'll find this book a treasure."-Des Moines Register. Paperback, \$8.95

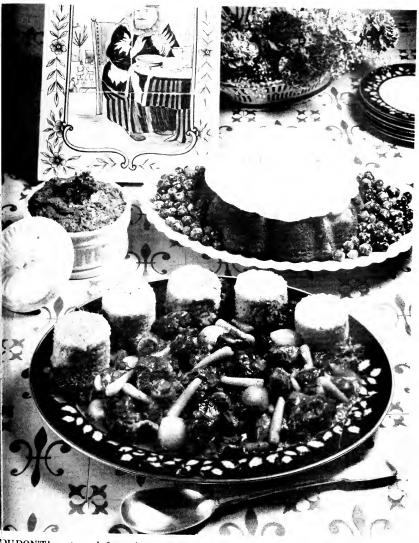




	copies of THE CRAN- ONNECTION, \$8.95 each.
Address	Zip
Add \$1.50	for postage; Conn. residents

add 7% sales tax.

CRANBERRIES MAGAZINE P. O. Box 249, Cobalt, CT 06414



DU DON'T have to *parle francais* to prepare these classic French dishes which have been allied , th native American fresh cranberries for delectable piquancy. They include: "Cranberry Pāté I fayette," "Berry Boeuf Bourguinnone with Rice Timbales," and "Cranberry Orange Savarin."



THE PHOTOS above and on the next page were taken by Carolyn and Kirby Gilmore at the 1980 annual meeting of the Cape Cod Cranberry Growers Association. At the 1987 meeting in August the association will celebrate its 100th anniversary.

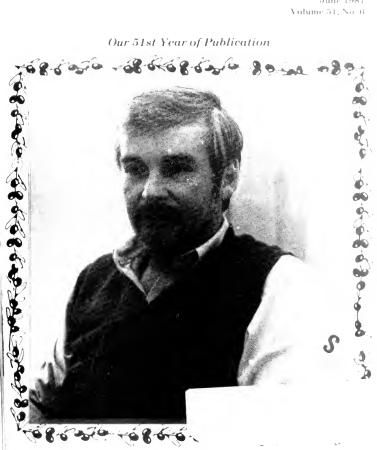




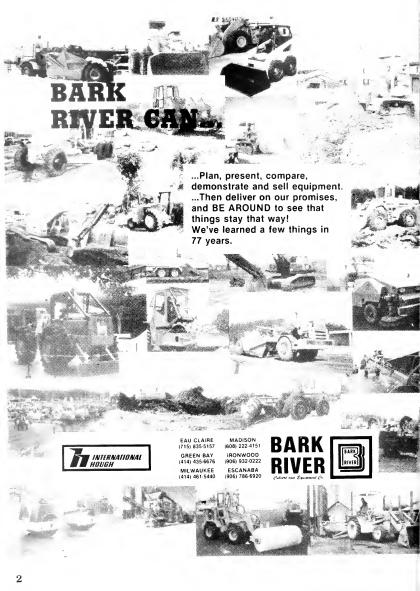


The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer



Peavey As PR Man — 3 Control With Fydulan — 10



# New CCCGA Director Is Avid Industry Spokesman

By CAROLYN GILMORE

When the Cape Cod Cranberry Growers' Association hired Dwight Peavey as executive director last February, it also got an active public relations spokesman for Massachusetts cranberries.

Dr. Peavey engages in grower contact as well as intensive lobbying regarding state regulations affecting the cranberry industry. He also is available to answer questions at his office in the Massachusetts Cranberry Experiment Station in East Wareham. And he speaks to local groups.

Peavey has been representing

Peavey has been representing the industry in cases where regulations are being formulated with

# COVER PHOTO

AS executive director of the Cape Cod Cranberry Growers' Association, Dr. Dwight Peavey has become a major spokesman for the industry. A story on Peavey starts on this page.

(CRANBERRIES photo by Carolyn Gilmore) respect to water management, pesticides, farmland reevaluation, encroachment and bog reclamation and expansion.

Of these matters, the Massachusetts Water Management Act will produce "a substantial impact" on the cranberry industry, Peavey noted. The CCCGA, he adds, supports the act "in principle," because it favors any measure to conserve and preserve clean water.

"In fact," the executive director says, "the industry has been doing water management for 100

# IT IS INSECT TIME . . .

Color photographs of cranberry insect pests and more are now arranged with text in a portfolio that is available.

The portfolio endeavors to bring together the words of research complementing the photographs and making a summary of cranberry insect information that will be of use to the cranberry grower for a lifetime.

The portfolio is available for \$100 and, if you wish to examine a copy, telephone (609) 894-8556 evenings around 6 p.m. or write to:

Walter Z. Fort
P.O. Box 183
Pemberton
New Jersey 08068

years, because, without good quality and quantity of water, we can't grow cranberries."

Pesticides are also a very sensitive area for the cranberry industry, Peavey notes. As CCCGA spokesman, he is working with other user groups that also want their say with respect to HR 3015, the bill which would restructure the Massachusetts Pesticide Bureau. The agency deals with pesticide registration, enforcement, health and safety, welfare and assessment.

The CCCGA backs regulations that would both allow aerial application of pesticides and protect public health and environment.

"Aerial application, done correctly, reduces the amount of pesticide used," Peavey says.

Encroachment is another industry issue which requires positive public relations, according to the CCCGA spokesman. Increased development pressures in the cranberry growing region of the state result in more building adjacent to bogs, bringing in new neighbors initially unaware of cranberry growing practices.

Peavey is available to address local groups or to answer specific questions dealing with the encroachment issue or any other matters regarding cranberrying. He can be reached at the Cran-

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288 berry Experiment Station, P.O. Box 569, East Wareham MA 02538 or by calling (617) 295-4895.

Prior to assuming his CCCGA post, Peavey worked as a consultant to the Pesticide Bureau, U.S. Department of Food and Agriculture, developing a herbicide program on rights of way in the state. He has a Ph.D. in plant physiology and biochemistry from Brandeis University, served as a professor of biology at the

State University of New Yorki Genesco, and completed postdo toral research at the Woods Ho Oceanographic Institution.



# ——KUBOTA—— COVERS THE FIELD

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance.

Multi-cylinder design

Charge of Transmission





B5200	3	13*	Standard
B6200	3	15*	€ Standard
B7200	3	17*	or .
B8200	3	19*	Hydrostatic
B9200	4	22 5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L 355 SS	4	29*	Hydraulic shuttle shift
1.2250	3	21*	Mechanical shuttle shift
L2550	3	23.5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8x8
1.3750	5	36*	₹ or
L4150	5	40*	Hydraulic shuttle shift





KUBOTA M SERIES TRACTORS

Model	CYL	PTO HP	Forward/Rever
M4030	6	43 00	8/4
M5030	6	49 00	16/4
M6030	3	57 00	16/4
M7030	4	68 00	16/4
M8030	4	76 00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	400	85 00	24/8

Visit your Kubota dealer to find out which

Kubota will be best in your field.



# **ELLIS IMPLEMENT**

6639 HIGHWAY 66 STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111



## Felker Flow Gates

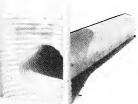
are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality Iluminum materials.

Dur standard size conduits range from 15 -48 nches in diameter, with widths from 24 to 72 nches. The height of each unit built depends in your requirements. Custom sizes as well as ingle, double and triple log channel designs re available for virtually any water ontrol application.

Vhen you choose Felker, you get time ested reliability.

he flow gate specialists or generation after generation.

In Massachusetts
contact Stearns
irrigation Inc., 790
Federal Furnace Rd.,
Plymoath MA 02360.
Tel. (617) 746-6048





## Martina Loves Cranberry Juice —and Perrier Water

Recently, Tennis magazine wrote up the diet of Martina Navratilova, arguably the best woman player to ever pick up a tennis racquet.

A typical Martina diet, noted the magazine, consists of raspberry vogurt, two bowls of cornflakes sweetened with fruit juice and a glass of water for breakfast.

A noontime snack is a fruit smoothie, consisting of juice, bananas and blueberries mixed in a blender.

Lunch is at 1 p.m. and spinach soup with tortellini and two slices of pizza is typical fare.

Supper, at 5:30 p.m., includes half a pound of pasta with ham, peas and Parmesan cheese.

Dinner, at 9 p.m., consists of split pea soup and scrambled eggs with mushrooms.

Throughout the day, Martina sips a beverage. The beverage? Equal parts of cranberry juice and Perrier water.



\*\*\*\* **DIKE MOWING** 

Enjoy Reasonable Rates **NEW ARM FLAIL** Call Brook Holmes

(617) 293-5353

\* \* \* \* \* \* \* \* \* \* 1

Contact Dan Sullivan 23 Rear Chauncy St. South Weymouth MA 02190 (617) 337-4728

22 years experience 😂 construction lifts 🤝

· MUD LIFTING ·



## **AERIAL LIFTING**

· BERRY LIFTING ·

nylon berry bags

bulk bins



JOE **BRIGHAM** INC



mat rentals & sales

lightweight durable

contact PETER - CHUCK

617-295-2222

### REGIONAL **NEWS** NOTES

#### MASSACHUSETTS

By IRVING E. DEMORANVILLE

. Joan Lasota attended an Extension nnology Conference at Virginia Polynic Institute and State University in ksburg, Va., from April 25-30.

#### Weather Watch

#### MASSACHUSETTS

oril was warm in our area, averaging 1 ree a day above normal. Maximum perature was 70 degrees on the 18th 24th, minimum was 29 degrees on the and 15th. Warmer than average days the 4th, 10th-12th, 18th, 19th, 21st 24th. Cooler than average days were 1st, 2nd, 6th-9th, 14th, 16th, 17th, 25th

ainfall totaled 11.08 inches, a record nearly triple our normal. There was surable precipitation on 16 days, with inches from the 5th to 7th as the greaand about 7 inches ahead of 1986.

First frost warnings of the spring were issued on April 25th and 26th. Temperatures generally were in the range of 18-20 dearees.

I. E. D



307 West Grove Street (Rte 28) Middleborough MA 02346

#### Diesel Equipt.

**Tractors** 2 & 4 wheel drive - 12-90 hp.

**Compact Excavators** 11/2 to 6 ton

Wheel Leaders 1/2 to 3/4 vd.

Water Coaled Diesel Engines 4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers

947-6299

Specialty Fabrication Work

Kubota Financing as Low as 81/2%

**₹0.**. **₹0.** ₽₹0 ₹0 ↑ ₹0 1 ₹0 ...

866-4429



**Plymouth St** Carver MA

02330

RFD 5

We Stock a Complete Line of:

Cranberry Insecticides • Fungicides • Herbicides Miticides • Fertilizers

AGWAY

Authorized Agway Representative

AGWAY

#### NYLON BERRY BAGS

- ●8-Q Barrel Capacity
  - Cost Efficient
    - Fasu to Handle
      - No Wheel-Off Rias
        - No Bulk Bins
          - No Fork I ifte

TRUCK COVERS

★ Custom Made ★

Allow 4-6 Weeks for Delivery

For further information, call

866-4429

# How to Make Your Wife A Widow (and Vice Versa)

By JOSEPH ARKIN

Are you so intent on making a success that you put aside all other considerations and are leading your wife to widowhood without even knowing it? If you are not yet a candidate for membership in the Coronary Club you can become one very soon if you assume the role of the following characters:

1-The Workhorse. This part is a snap; all you have to do is try to get to the top of the heap in the shortest possible time, and put your work ahead of all personal consideraions. Go to the office evenings, Saturdays, Sundays and holidays. Or, at least take home some work with you; it's a good opportunity to review all the worries of your working day. It's also wise to stay up late

working every night, because too much sleep may dull your senses.

Never say "No" to a request—no matter how "beat" you are, and don't delegate responsibility. You're the only one that can be counted on, so carry the ball yourself at all times. And, it's also a poor policy to take a vacation of more than a day or two.

2-The Weekend Athlete. When you assume this role, you'll be joining thousands of others who are on their way to "the happy hunting grounds" in a hurry! It's far easier to kill yourself having a good time than you realize—especially if you've spent all week doing nonstenuous work. Tempt the fates by lifting weights, running a mile or two before Sunday breakfast, or

by indulging in a fast game c basketball or handball with th kids. And if you feel that lack c supervised exercise is the reaso: for that spare tire around you middle, join a 3-hour calisther ics class at a local gym — but b sure to indulge only on th weekends.

3-The Jet-Setter. When you travel, make sure you wear your self to a frazzle. One good way it to get up at the crack of dawn catch a plane to your destination, work all day, then late a night jet back home — to save; few bucks a hotel or motel would cost you. If you drive on business or pleasure trips, instead of lying, drive all day and night to see your business associates of your friends, then head back immediately to the office ohome.

If you sometimes feel that you can't catch up with yourself and that you're out of tune with your surroundings, you're probably a victim of "Jet Age Fatigue," — a

#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

• LONG LASTING • GOOD LOOKING

MAINTENANCE FREE
 WRITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826 RAYNHAM CENTER, MA

MORTON BUILDINGS, INC.

"Excellence - Since 1903"

very common occurence. But don't bother listening to medical opinions saving that jet travel which crosses back and forth over time zones, upsets the body's metabolism. And don't follow the advice of the American Hotel & Motel Association. which says that adequate rest and comfortable lodgings are important to your health during a long trip. After all, it's your life and what do they know anyhow?

4-The Meal-Misser. Here's another easy ticket to the Coronary Club: just forget about your eating habits. A balanced diet at three regular meals is great for kids, but you're a busy, grown man. A restful meal is a waste of time for the man-on-the-go. You'd probably get more done by working at your desk or cramming an extra conference into

#### CRANBERRIES



SEND CORRESPONDENCE TO:

P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOR TAYLOR MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

**ADVISORS & CORRESPONDENTS** 

MASSACHUSETTS — Irving E. Demorenville,

Director, Crenberry Experiment Station.

NEW JERSEY — Phillip E. Merucci, Crenberry & Blueberry Specialist, Cranberry & Blueberry Laboretory, Chataworth; Elizebeth G. Carpenter, Chetsworth.

NOVA SCOTIA - I. V. Hall, Botenist, Research Station Kentville OREGON - Arthur Poole, Coos County Extension

Agent, Coquille. WASHINGTON - Azmi Y, Shewa, Horticulturiat and

Extension Agent in Horticulture, Coastel Washington-Research & Extension Unit, Long Beach.

WISCONSIN - Tod. D. Planer, Ferm Menagement Agent, Wood County

CRANSERRIES is published monthly by Diversified Periodicals, Wellwyn Drive, Portland CT 05480. Second class poetage is paid at the Portland, Conn. Post Office. Price is \$10 a year, \$18 for two years, \$1 e copy in the U.S.; \$12 e year in Canada; \$15 a year in all other countries. Back copies: \$2, including postage. Copyright 1986 by Diversified Periodicals.

> ISSN: 0011-0787 stmaster, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 08414



BEING A WORKHORSE is one sure way to join the Coronary Club, says the author. Other ways are being The Weekend Athlete. The Jet-Setter, The Meal-Misser and The Teacher.

the meal hour. Missing meals has a way of making you hungry between regular meal times. So keep plenty of sweets around to nibble on during the day. In the process of feeding your frustrations, you may eat yourself into the hospital - and maybe even an early grave!

5-The "Teacher." When you go on the road make sure you're the fellow who teaches the other guys a lesson on how to drive. It's really important. After all. the teacher should feel that he alone has the job of protecting the public - and that's a great service. On the highway, he zooms out around the offending

driver to sound off, or refuses to dim his lights if the other guy doesn't. He is often a "knight in an older model" for new car owners rarely do this. His common curse is, "I'll teach those dopes!" He's already worked himself into a wreck: the next wreck may be his own car!

If you find yourself falling into any of these five roles, get out your shovel and start digging. The standard size for graves, by the way, is nine feet by thirty inches.

©Arkin Magazine Syndicate

#### **Massachusetts Growers**

Financial assistance is available for SCHOLARSHIPS and MEDICAL ASSISTANCE for Cranberry Growers, their Employees and the families of both when financial need can be shown. For information contact:

> URANN FOUNDATION P.O. Box 1788 Brockton MA 02403

Telephone 588-7744

# Control of Certain Resistant Weeds In Cranberries With Fydulan

By AZMI Y. SHAWA
INTRODUCTION

Cranberry is a low-growing, trailing, woody, evergreen plant of the Ericaceae family.

The root system consists of a mass of fine, fibrous roots confined chiefly to the upper 10 to 15 cm of soil (1). Cranberry bog soils are acid in nature and either very high or very low in organic matter. Soil organic matter can absorb certain herbicides, with a reduction in weed control potential. High rates of herbicides may cause vine injury when applied to soils at either extreme of organic matter content. The intertwining of vines over the bog surface precludes soil incorporation of herbicides other than by irrigation and percolation of solution into the soil (5).

Herbicides presently registered for use in cranberries do not adequately control certain resistant weeds such as dogwood and seashore saltgrass (6). Previous unpublished work with the highest allowed amounts of dichlobenil, dalapon, and their combination

## Pump Repairs

All Types
SALES

Field Service & Shop 20 Years Experience

## AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394 on all resistant weeds, including dogwood and saltgrass, showed no effective control of these weeds without injuring cranberry vines.

## MATERIALS AND METHODS

The purpose of this study was to determine the effect of fydu-

lan G on dogwood, seasho, saltgrass, and cranberry vine Fydulan G is unique in that bot active ingredients are uniform distributed throughout eac particle, not just attached to the surface of the granule. Treatmen were applied to a section 'McFarlin' cranberry bog the was infested with dogwood ar



# Coordinated investment management programs.

Gage-Wiley and Company has been serving New England investors since 1933. As a special service for our clients seeking full-time investment management, Gage-Wiley works closely with a team of selected non-affiliated investment advisors. This association enables Gage-Wiley to give clients access to the expertise of institutional investors and the personalized service that has become Gage-Wiley's trademark.

Call a Gage-Wiley investment counselor today to learn more about coordinated investment management programs and the wide variety of other investment opportunities and financial services we offer to meet our client's varying needs.



## Gage-Wiley & Company Incorporated

Village Landing Box 3507 ● Plymouth, MA 02361 617-746-3322 ● 800-242-0263

Member Securities Investor Protection Corporation

seashore saltgrass at the Coastal Washington Research and Extension Unit, Long Beach. Granules were applied at 18 and 27 kg/ha in February and to other plots in March 1982 and at 13.5, and 18 kg/ha in February and March 1983. Fydulan was applied with a hand-held shaker to 3 x 3 meter plots, repliated three times in randomized complete block design.

Dogwood and seashore saltgrass were about 10 cm high (about 5 m below vine level) in February, and 15 cm high in March. Seashore saltgrass was growing with numerous leaves on all treatment dates. Dogwood was dormant in February.

Plots were rated visually in September for weed control and cranberry vine phytotoxicity with 0= no control or phytotoxicity and 100= complete control or death, respectively.

All plots of the 1983 experi-

## Niemi Electric Co.

ROBERT NIEMI

## ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

TEL. 295-1880

Robert Niemi

Pinehurst Dr.

Wareham, Mass.



New England Bog Equipment

Specializing In 4-Wheel Drive Sanders

Custom Welding and Fabricating

Flumes

Available For: \*SPRING\*

Pruners

Pump Frames Irrigation Repairs

Herbicide Spreaders

Wipers

Dump Bodies Gas and Diesel Engines

·SUMMER ·

·FALL·

**Hydraulic Water Pickers Hydraulic Conveyors** 

Ditch Reels

Berry Pumps **Detrashers** 

CONTACT:

JIM OR RICK 617 - 293 - 6070



P. O. BOX 398. BRYANTVILLE MA. 02327

Mower Decks

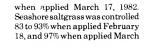
logical maturity with a cranberry scoop, when daily respiration rates of the fruit reached a minimum level (2). They were screened by hand to remove trash and soft berries and weighed to determine marketable yield. Samples of sound berries were analyzed for soluble solids using a refractometer and for acidity with a pH meter. Berry volume was measured using a pycnometer and individual berry weight was calculated.

ment were harvested at physio-

Pigment was analyzed using a modified spectrophotometer method (4), and the absorbance was measured by a spectrophomoter at 535 mu for total anthocyanin content. Readings were converted into milligrams of anthocyanin per kilogram of fresh fruit (3).

## RESULTS AND DISCUSSION

Fydulan at 18 and 27 kg/ha controlled dogwood 80 to 83%



17, 1982 (Table 1).

In the 1983 experiment, fydulan at 9, 13.5, and 18 kg/ha controlled dogwood 73 to 97% when









Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

## C.R. LEONARD & SONS INC.

890 MIDDLE ROAD ACUSHNET, MASS. 02743 TEL. 763-2712

**Detrashers** Flumes Conveyors (steel or aluminum) Shearing · Shop Welding Bending

## STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON I BEAM
- REINFORCEMENT ROD WIRE MESH \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Office 295-2222 REATON'S

K. Beaton 295-2207





Specializing in

P. Beaton 947-3601







Also

15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers



Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes



381 West Grove St. (Rte. 28) Middleboro, MA 02346

(617) 947-6299



Tractors, Excavators and Diesel Generators



Wheel Loaders 3/4 Yd - 6 1/2 Yd



Screening Equipment

applied March 15; seashore saltgrass was controlled 70 to 97% when applied February 1, and 77 to 93% when applied March 15 (Table 2). No phytotoxicity was observed on cranberry vines in either year and no adverse effect. on vield, berry size, weight, acidity, soluble solids, and anthocvanin concentration was found in the fruit from fydulan applied in 1983. Both yield and anthocvanin were increased when competition and shading of weeds to cranberries were controlled (Table 3).

Time of application of fydulan is critical for controlling dogwood. Under the conditions of this research, fydulan applied at 9, 13.5, and 18 kg/ha in March controlled dogwood and in February and March controlled seashore saltgrass effectively without any adverse effects on the cranberry vines, yield or quality of berries.

#### LITERATURE CITED

- Cain, J. and P. Eck. 1966. Blueberry and cranberry, p 101-129. In N.F. Childers, ed. Fruit Nutrition. Somerset Press, Inc., Somerville, N.J.
- Doughty, C.C., M.E. Patterson and A.Y. Shawa. 1968. Storage longevity of 'McFarlin' cranherry as influenced by certain growth retardants and stage of maturity. Proc. Am. Soc. Hort. Sci. 91:192-204.
- Fuleki, T., and F.J. Francis. 1968. Quantitative methods of anthocyanin.
   Extraction and determination of total anthocyanin in cranberries. J. Food Sci. 33:72-77.
- Servadio, G.J. and F.J. Francis. 1963. Relation between color of cranberries and color and stability of sauce. Food Tech. 17:124-128.
- Shawa, A.Y., C.H. Shanks Jr., P.R. Bristow, M.N. Shearer and A.P. Poole. 1984. Cranberry Production in the Pacific Northwest. PNW 247. 50 pp.
- William, R.D., R. Parker and D.G. Swan. 1986. Pacific Northwest weed control handbook. p. 138-40.

# . : ?

## Irrigation Equipment Designed Especially for the Cranberry Industry

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
  - Proven Quick Couple Riser
  - Polyethylene Main Lines, 3" – 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories



P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550



Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect) Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048

Table 1. Effect of Fydulan G Rate and Application Date on the Control of Dogwood and Seashore Saltgrass in 1982

	Control of	Dogwood <sup>a</sup>	Control of saltgrass <sup>a</sup>		
Fydulan rate	Application date		Application date		
	February 18	March 17	February 18	March 17	
(kg/ha)	(%)	(%)	(%)	(%)	
0	0 с	0 b	0 c	0 b	
18	33 b	83 a	83 b	97 a	
27	43 a	80 a	93 a	97 a	

 $<sup>^{</sup>a}$ Means in the same column followed by the same letter are not significantly different at the 5% level as determined by Duncan's multiple range test.

	Control o	f Dogwood <sup>a</sup>	Control o	f saltgrass <sup>a</sup>	
Fydulan rate	Applica	tion date	Application date		
	February 1	March 15	February 1	March 15	
(kg/ha)	(%)	(%)	(%)	(%)	
0	0 с	0 ъ	0 c	0 ъ	
9	30 b	73 c	70 b	77 b	
13.5	40 b	83 b	73 b	83 ab	
18.0	60 a	97 a	87 a	93 a	

 $<sup>^{</sup>a}$ Means in the same column followed by the same letter are not significantly different at the 5% level as determined by Duncan's multiple range test.

Table 3. Effect of Fydulan G on Yield, Berry Volume, Berry Weight, pH, Soluble Solids, and Anthocyanin Content of 'McFarlin' Cranberries when Applied March 15, 1983

Rate	Yield	Berry volume	Berry weight	рН	Soluble solids	Anthocyanin
(	kg/ha)	(m1)	(g)		(%)	(mg/kg)
0	14,400 c	1.1 a	0.63 a	2.9 a	2.0 a	133 с
9.0	19,500 a	1.3 a	0.58 a	2.8 a	2.1 a	160 b
13.5	15,200 bc	1.2 a	0.70 a	2.9 a	2.1 a	185 a
18.0	19,200 a	1.3 a	0.70 a	2.9 a	2.2 a	171 b

 $<sup>^{</sup>a}$ Means in the same column followed by the same letter are not significantly different at the 5% level as determined by Duncan's multiple range test.



#### CRANBERRIES BANANAS SWEET MEETS TART

Have the urge for a tropical ling? You don't have to go south of the border, or sit with a sunamp under a potted palm - or even fantasize a trip below the equator to an exotic island.

With hardly any expense at all, you can splurge your desires on delectable dishes which are easy to make and will bring not only taste delight to your table, but also a feeling of sultry, tantalizing days.

Here are some recipe ideas that you can create with ease and pleasure combining the tart flavor of the native North American cranberry and the naturally sweet South American banana.

For a sumptuous main course, "Berry Stuffed Shrimp with Banana Curry Sauce" is a zinging mixture of cranberry-orange relish, mashed bananas, curry, bits of bacon and spices. You'll find it not only a perfect entree for any season, but might consider serving it as an elegant hors d'oeuvre.

"Cranbanana Aspic" can be served as a dessert or a salad. It is a colorful mold which will entrance the eves of the

## WISCONSIN CRANBERRY **HEADQUARTERS FOR SEVIN XLR**



**DEVRINOL 10G • EVITAL • GUTHION** DIAZINON 14G + PARATHION + ETHREL

### Cole Chemical Supply

DIVISION OF Hobkins AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707



# MIDDLEBOROUGH TRUST COMPANY

## The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





#### Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313



CRANBERRIES and bananas blend to a veritable tropical fiesta of exotic flavorsome fare including "Berry Stuffed Shrimp with Banana Curry Sauce," "Cranbanana Aspic," "Cranana Rum Chiffon Pie" and a "Berrybanana Shake."

satisfy their palates. Its berrypink glow, made from cranberry apple drink, tangily encases a bounty of sweet and savory banana slices.

For a spectacular dessert, "Cranana Rum Chiffon Pie" is a light and luscious creation prepared with cranberry juice cocktail, mashed bananas, rum, coconut flakes and fluffy cream. Garnish its plush pink surface with jellied cranberry cubes, banana discettes, and puffs of whipped cream.

And, last but not least, a drink the whole family will love is "Berrybanana Shake." It can be made in the wink of an eye in an electric blender with cranberry apple drink, bananas, vanilla ice cream and rum flavoring. If you're serving a crowd have a





Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147

evening: 763-8956 (William D. Chamberlain)

18

pitcher-full on hand. You might like to add a bit of actual rum to the glasses of the grownups in the group.

With all these recipes you can really have a veritable fiesta... so put together a Carmen Miranda outfit, and throw a dandy tropical party. Your guests are bound to shout ole, and go bananas over your fabulous creations.

#### BERRYBANANA SHAKE (Makes about 2 quarts)

- 4 cups (1 quart) cranberry apple
- 3 ripe bananas
- 1 quart vanilla ice cream, slightly softened
- 1 tablespoon rum flavoring

Combine half of all ingredients in a blender and whirl until smooth. Repeat with remaining ingredients. Pour into tall glasses. Serve with straws. (It

## Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

> STEVE (715) 593-2358

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass.

> Phone 824-5607 AMFS

Irrigation Systems

RAIN BIRD Sprinklers

HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed

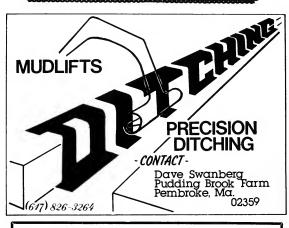
### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft

> with marine bearing

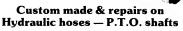
Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285





Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel may be necessary to blend onehalf of each ingredient at a time for some blenders do not hold 2 quarts).

CRANBANANA ASPIC

(Makes 1 - 2 quart mold)

3 envelopes unflavored gelatin 4 cups (1 quart) cranberry apple iuice

3 cups lemon-lime soda

6 bananas, sliced 2 bananas, sliced diagonally

## THE WELDING **BOOTH**

Portable heli-arc welding for aluminum, stainless and steel

Repairs and fabrication done at shop also

> 23 Kingman St. East Taunton, Mass. 02718

(617) 824-4780



Call us if you are facing:

Cranberry girdler Black headed fireworm Cranberry Sparganothis

These and over 50 other pest insect pheromones are available to aid the professional fieldman and grower in detecting insect pest problems.

For your free catalog of high quality, low cost insect traps, pheromones, and IPM supplies, call or write today.

10220 Church Road NE Vestaburg, MI 48891 517-268-5693 Phone

Lettuce Leaves Lemon juice

Dressing:

1/2 cup sour cream 1/2 cup plain vogurt

In a saucepan mix gelatin and 1 cup of the cranberry juice. Stir constantly over low heat, until gelatin is completely dissolved. Stir gelatin mixture into remaining cranberry apple iuice. Stir in lemon-lime soda. 

Chill mixture until slightly thickened. Fold in sliced bananas. Pour mixture into a lightly oiled 2-quart mold, Chill gelatin until firm. To unmold, dip mold into lukewarm water for a few seconds, tap to loosen and invert onto a serving platter. Dip banana slices in lemon juice; drain. Surround molded gelatin with lettuce leaves and sliced bananas. In bowl combine sour cream and plain vogurt, serve as dressing over gelatin mold.

# Cranberr **SERVICES**

Herbicides **Applied** 

Sanding Wipina

Wet Harvesting Mowing

(Mowing includes Hydraulic Arm Flail Mower.)

West Wareham. Massachusetts

Ask for Rick at 295-5158 the state of the s



Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

#### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

Coordinate hardware purchase

 Software installation Ongoing support

•Implementation & training

We have software for the cranberry grower who wants to track activity on his bogs.

 Deliveries/barrels per acre Chemical applications

 Profitability/cost per barrel Sanding and damage

20

BERRY STUFFED SHRIMP
W/BANANA CURRY SAUCE
½ cup cranberry-orange relish
1 cup soft bread crumbs
2 tablespoons chopped parsley
½ cup chopped celery
1 egg, well beaten
24 raw jumbo shrimp
½ pound bacon, each slice halved
crosswise

Sauce:

½ cup butter or margarine ½ cup all-purpose flour 3 cups milk

½ cup ripe, mashed banana 2 teaspoons curry powder Salt and pepper

In a bowl, mix relish, crumbs,

## MANAGER REQUIRED

for a large cranberry operation on the Canadian West Coast. Must be fully experienced in all aspects of cranberry production.

(604) 278-6271

### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511 parsley, celery and egg. Remove shells from raw shrimp. Cut each shrimp lengthwise down back but not cutting all the way through. Remove dark vein and stuff slit with relish mixture. Wrap each stuffed shrimp with 1 piece of bacon. Place shrimp side by side, in a broiler pan having seam side of bacon resting on pan. Broil shrimp slowly until bacon is crisp and shrimp are cooked. It will not be necessary to turn shrimp during broiling. While shrimp are broiling, heat

butter in a saucepan. Stir in flour. Gradually stir in milk, banana and curry. Stir constantly over low heat, until sauce bubbles and thickens. Stir in curry. Season sauce to taste with salt and pepper. Drain shrimp on paper towels and place on warm serving platter. Spoon curry sauce over each serving. Serve garnished with parsley sprigs, if desired.

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow. for buried laterals.

## Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers
Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

# BIG WHEEL TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617) 763-5927

(617) 763-8745

#### CRANANA RUM CHIFFON PIE

(Makes one 9" pie)) 2 envelopes unflavored gelatin

½ cup sugar

3 cups cranberry juice cocktail 3 ripe mashed bananas

1 cup (1/2 pint) heavy cream, whipped 1 tablespoon rum flavoring

2 cups flaked coconut

1/4 cup melted butter or margarine

#### Garnish:

4 cup heavy cream, stiffly whipped Cubes of jellied cranberry sauce Slices of banana brushed with lemon

In a saucepan, mix gelatin and sugar. Stir in 1 cup of the cranberry juice. Stir constantly over

#### GETS CRANBERRY ROLE

Marketing specialist Patricia Petrella was recently assigned to the cranberry program by the USDA Agricultural Service.

Petrella also oversees California raisins, prunes and interior district

Florida grapefruit.

She has been with USDA for two years and is a graduate of Pennsylvania State University with a BS in general agriculture and an associate degree in agricultural business.

STAY

## INFORMED

For 50 years, we've been the source growers turn to for the latest industry news. regional reports, grower crofiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES. The National Cranberry Magazine. Subscribe today!

\$10 a year - \$18 two years

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414 a low heat until gelatin is dissolved. Stir gelatin mixture into remaining cranberry juice. Chill gelatin until slightly thickened. Fold in bananas, whipped cream and rum flavoring. Chill gelatin until it mounds. While mixture is chilling, place coconut in large skillet. Stir constantly over low heat, until coconut is lightly browned. Stir in butter, Pour coconut mixture into a 9-inch pie pan. Press coconut mixture into an even layer lining the bottom and sides of pan. Chill coconut pie shell 1 hour. Spoon cranberry mixture into pie shell. mounding filling high. Chill until firm, Garnish edge with spoons of stiffly whipped cream. Garnish center of pie with 1/2 inch cubes of jellied cranberry sauce. Press banana slices into whipped cream. Chill until ready to serve.

## J.A. JENKINS & SON CO.

Grower Service

MOWING (ALL TYPES) SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018





#### Krause Excavating, Inc.

Canal Work **Pond Construction** 

Ditching Land Clearing

1-1/4-3 vd. draglines with 80' boom and matts, 2 vd. backhoe, swamp dozer and other related equipment.

Contact:

1-414-398-3322 Roger Krause Route 3 Markesan, Wis. 53946

## HAVE YOU MISSED THESE ARTICLES?

Cranberry Magazine's Reader's Service makes available copies of the articles listed below which have appeared in past issues. Order the articles you want to update your library. Please send cash or check with each article requested. ORDER BY NUMBER.

#### **GENERAL**

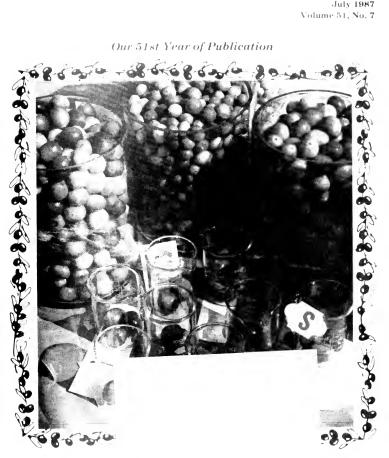
536	Volume 1, Number 1-Cranberries Magazine (Reprint)
1065	Our Changing Value in Cranberry Culture
1066	Early History of Massachusetts State Cranberry Bog
1166	New Jersey Research Center at Oswego
1266	Whitesbog, New Jersey
867	Cranberry Growing in Washington
568	New Direction in Harvesting Techniques
668	New Variety in Nova Scotia
768a	History of Cranberry Industry in Wisconsin
969	Operation and Maintenance of Darlington Picking Machine 1.75
969a	Operation and Maintenance of Western Picking Machine
570	Cranberries Greeted our Forefathers
870	Pesticides and Progress
671	Christmas Trees—A Cash Crop
871	Another Point of View Concerning Pesticides
472a	Federal Examiner says DDT Not Environmental Threat
572	Banning DDT is a Big Mistake
975	DDT Ban Justified According to New EPA Report
1175	Rebuttal to "DDT Ban Justified"
	750,000
	TECHNICAL
864	Casoron and Weed Control in Cranberries
265	Evaluation of Newer Fungicides in Massachusetts
265a	Application of Granular Herbicides
365	Fertilizer Requirements of Cranberries
465	Encouraging the Bumble Bee in Washington
565	Research and Problems in Weed Control in Wisconsin
865	New Cranberry Varieties for Processing
1165	Observations on the Symptoms and Control of Cranberry Red-Gall Disease 1.25
166	Cranberry Pollination
266	Casoron Retention in Cranberry Soils
666	Progress Report of Trace Elements Studies on Cranberries
766	Objective Measures to Determine Cranberry Yields
866	Cranberry Speckling Can be Controlled
167	Telephone Frost Warning Device
167a	Cranberry Ring Spot Disease Injuring Searles Variety
367	Cranberry Vine Injury
467	Control of Red-Gall in Cranberries
567	Miscellaneous Thoughts on Cranberry Insects
1167	Cranberry Pollination
1267	Frost Forecasting in Bandon, Oregon
168	Die Back of Cranberry in Wisconsin
268	Control of Fairy Ring Disease
368	Cranberry Varieties in Nova Scotia
368a	Wisconsin Cranberry Research Report
468	Nitrogen Fertilization and Crapherries



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 51st Year of Publication



Bay State Water Act — 3 Furloe and Fusilade — 10



# Learning to Live With the Rules

By CAROLYN GILMORE

While the overall effect of the fassachusetts Water Management Act of 1985 is expected to the the protection of agricultural vater rights, the water-conscious ranberry community may ask or some changes in the regulations.

Benjamin Gilmore, an engineer nd grower and member of the Jater Resources Commission, ays that the Cape Cod Cranberry Growers Association may petition to "more precisely define emergency use" in the act's regulations so that agriculture gets preferential allocation in emergency situations.

Under the act, all water rights are assumed by the Commonwealth of Massachusetts. As its title implies, the act is a management tool to direct the commonwealth's use of water resources.

Water use in each aquifer is controlled through a registration

and permit system under the act. The legislation replaced a system used by the state for 300 years. That system was known as the "English Water Law." Aspects of the comparatively new Massachusetts act first were used in the western U.S. and, for the last 95 years, in New Jersey.

Both the Massachusetts Farm Bureau and the Cape Cod Cranberry Growers Association (CCCGA) have come out in favor of the act.

John Bragg of the Farm Bureau says that the act "will have a positive effect on farmers."

The CCCGA favors the act "in principle," says Dr. Dwight Peavey, CCCGA executive director.

"In fact, the industry has been doing management for 100 years, because without good quality and quantity of water we can't grow

#### RANBERRIES

HE NATIONAL CRANBERRY MAGAZINE

P.O. BOX 249
COBALT CT 06414
(203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR IARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

DVISORS & CORRESPONDENTS
MASSACHUSETTS — Irving E. Demorenville,

rector, Cranberry Experiment Station.
NEW JERSEY — Phillip E. Marucci, Cranberry & Bluerry Specialist, Cranberry & Blueberry Laboretory, natsworth; Elizabeth G. Carpenter, Chatsworth.

NOVA SCOTIA — I. V. Hall, Botaniat, Research ation, Kentville.

OREGON — Arthur Poole, Coos County Extension pent, Coguilla.

WASHINGTON — Azmi Y. Shawa, Horticulturist and itension Agent in Horticulture, Coastsi Washington search & Extension Unit, Long Beach.

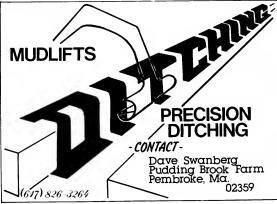
search & Extension Unit, Long Beach. WISCONSIN — Tod. D. Planer, Farm Management ent, Wood County.

riodicale, Welteyn Drive, Portland CT 08480. Second se postage is paid in the Portland, Conn. Post Office. too is \$10 a year, \$18 for two years, \$1 a copy in the 8.5 \$12 a year in Canada; \$15 a year in all other unities. Back copies: \$2, including postage. Copyright 98 by Diversified Periodicale.

ISSN: 0011-0787
Postmaster, send Form 3749 to:
CRANBERRIES
P.O. BOX 249

## COVER PHOTO

CRANBERRY STILL LIFE: Cornelius Hogenbirk of Waretown, N.J., took this photo of prizewinning cranberries at the Chatsworth, N.J., Cranberry Festival.



good cranberries," Peavey explains. "The growers association favors any measures to conserve or preserve clean water."

Gilmore calls the act "critically important" as a means of preventing aquifer misuse.

Cranberry growers are affected by two different sets of regulations under this law. The initial process—registration—"grandfathers" the water rights of the cranberry industry.

Regulations require all water users who have consumed over 100,000 gallons per day in any one calendar quarter of any of the years 1981-85 to register the volume of water consumption with the Department of Environmental Quality Engineering (DEQE). Because very few growers maintain records of their water use, DEQE has established an industry average of 10 acre feet per acre of bog each year. If conditions require more water, the applicant can demonstrate the need through a metered flume

"A greater quantity of water could actually be set aside on a case-to-case basis," Gilmore said.

Under the regulations, it is more advantageous for cranberry growers to register as "consumptive" users. he added.

"It is important for farmers to register their water supply so that when outside interests look for water, it is already allocated and not available for use elsewhere." Gilmore continued.

The registration process fixes the amount of water in a basin or aquifer and is in effect for a 10 year, automatically renewable period. Once the water use is determined and the registration is on file, the landowner will have a guaranteed volume of water, which will be his/hers permanently.

Gilmore views these water regulations as bureaucratic rules that growers will have to work with to protect their water supplies.

Grower Douglas Beaton, on the other hand, is skeptical about whether water rights will "actually be protected" under the act.

"We have created the water that's in this area," he argued. "We should have use of it. It's our water. I cannot see registe ing as being 'consumptive' wher in fact, the opposite is true an we are creative. We have to b exempted under the act. We's not getting any credits for conservation that we've paid for."

## Niemi Electric Co.

ROBERT NIEMI

## ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehurst Dr.

Wareham, Mass.

## R.D.GRASSI Cranberry SERVICES

\*\*\*\*\*\*\*\*\*\*\*\*\*

Herbicides Applied Sanding Wiping Wet Harvesting

Mowing
(Mowing includes

(Mowing include Hydraulic Arm Flail Mower.)

West Wareham, Massachusetts Ask for Rick at 295-5158

# CCCGA to Mark 100th Anniversary

By CAROLYN GILMORE

Massachusetts Governor Michael bukakis and Vice President George Bush are among the dignitaries expected to attend the celebraion of the 100th anniversary of the Cape Cod Cranberry Growrs' Association on Tuesday, Aug.

The celebration, which will be pen to the public, will take place t the King Richard's Fair in

Others expected to attend nclude Gus Schumacher, Masachusetts Commissioner of Agriculture, and Richard Lyng, secretary of Agriculture. The event may receive national attention via a mention on TV by Willard Scott of the NBC Today show.

The fair will be open to the public with no admission charge. There will be helicopter rides, carnival amusements and other entertainment, including shuttle bus service to Edaville Railroad, and an appearance by the famous Clydesdale horses.

"This is a day of celebration in which we are inviting each and every person who can come to participate in the achievements of the cranberry industry during the last century," said Massa-

chusetts grower John C. Decas.

At the event, the cranberry crop forecast for the fall harvest will be unveiled by the USDA.

For more information, call Dr. Dwight Peavey, executive director of the CCCGA, at (617) 295-4895.

The celebration is part of the 1987 annual meeting.

Says Dr. Peavey: "Just a few of the activities being planned by the association in addition to the annual meeting are: a commemorative cup plate, a historical book, a cranberry cookbook, an anniversary banquet and a commemorative video tape."



381 West Grove St. (Rte. 28) Middleboro, MA 02346

(617) 947-6299

## **®KUBOTA**

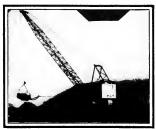
Tractors, Excavators and Diesel Generators



Wheel Loaders 3/4 Yd - 6 1/2 Yd



Screening Equipment



## Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4-3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

#### Marketing Committee Sets Annual Meeting

The 1987 annual summer meeting of the Cranberry Marketing Committee will be held Monday, Aug. 17 at 9 a.m. in the Sheraton-Plymouth Hotel in Plymouth, Mass.

All growers are invited, said David Farrimond, CMC

manager.

The agenda includes a review of the year, financial reports, manager report, crop forecast and subcommitte reports. Also, the budget will be set for the year.

C.G.

"We're Best on Earth"
One vd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching



Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956 (William D. Chamberlain)

## OBITUARY Edwin H. Peltola

Former grower Edwin H. Peltola, 61, of Middleboro, Mass., died April 22 at St. Luke's Hospital.

Peltola was the husband of Esther (Clemishaw) Peltola and son of the late Julius and Olga

(Helminen) Peltola.

Born in Wareham, Mass., he was a lifelong resident and attended Wareham schools. He was a member of the Cromesset Tribe of Redmen in Wareham.

Besides his wife, survivors include four daughters, Judith Stringer of Wareham, Carol Pierce of Rochester, Lori Peltola of Wareham and Cheryl Farrell of Marion; a brother, Ralph of Carver; three sisters, Ellen Kaines Assonet, Emily Peltola of Rhode Island and Eila Peltola of Acushnet, and five grandchildren.

## Weather Watch

#### NOVA SCOTIA

The effects of a heavy snowfall accumulation and cold temperatures of the past winter are now becoming more apparent. Hardest hit seems to be the highbush blueberry crop, where present indications are about 20 percent of a crop will be

affected in 1987. Plant growth was stimulated during May by at least seasonal temperatures.



Contact Dan Sullivan

Contact Dan Sullivan 23 Rear Chauncy St. South Weymouth MA 02190 (617) 337-4728



# Biennial Bearing In Cranberries

By AZMI Y. SHAWA Director, Coastal Washington Research & Extension Unit

Before discovering the factors affecting fruit bud initiation, it is necessary to understand the initiation process.

Cranberries, like other plants, depend on environmental stimuli, such as light, temperature and day length, to set up for the various stages of development and growth. When cranberry vines reach the proper growth status for flower initiation, hormone changes, in combination with optimum carbohydrate levels, will trigger the process.

The process involves changing a vegetative growing point into a structure containing the productive parts of the cranberry

blossom.

Cranberry fruit buds are initiated in response to physiological changes, especially at the end of the upright growth stage. The beginning of this initiation period is around July. Those fruit buds initiated on top of two-year-old uprights are where next season's flowers will be born.

Not only do environmental conditions and cultural practices influence the start of the flower initiation process, but they also affect the bud's differentiation and final development.

Factors increasing the carbohydrate/nitrogen ratio for flower initiation include water management, pruning and nutrition.

Basically, when these practices cause stress in the vines, flower initiation is reduced. Moderation in cultural management is the key to getting the optimum amount of return bloom each year. With respect to the majority of cranberry bogs, and especially the biennial bearers, only a small number of the fruit-bud uprights that bloom and set fruit will flower the next year. The key to annual bearing is to have many resting uprights each year.

The events leading to biennial bearing start with 100 percent bloom which may lead to a heavy fruit set, thus reducing the number of resting fruit-bud uprights and preventing flower initiation for the next year.

The absence of flowers means no fruit set and the uprights will initiate fruit buds and a 100 percent bloom will occur the succeeding year.

These events continue to be repeated, unless the initial fruit set is partly reduced by weather or by cultural practices.

Application of excessive amounts of nitrogen increases the tendency to bear biennially. Cranberry bogs deficient in nitrogen are more alternate in bearing habit than those in good vigor. Annual application of moderate amounts of nitrogen keeps vines moderately vigorous and helps offset biennial bearing.

The ideal nitrogen level for McFarlin cranberry leaves in Washington State sampled in July/August is 1-1.4%.

## High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

## J.A. JENKINS & SON CO.

THE PROPERTY OF THE PARTY OF TH

**Grower Service** 

MOWING (ALL TYPES) SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018

all single started



## Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymouth MA 02360.





22 NORTH CHESTNUT AVENUE, MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846



# Furloe and Fusilade: Understanding Their Use

By Malcolm N. Dana
Department of Horticulture
University of
Wisconsin/Madison

Editor's Note: Dr Dana delivered this paper at the Wisconsin Cranberry School on Jan. 22.

The cranberry grower is fortunate to have available for the weed management program some materials that may be used for broad spectrum control and other materials that have specialized uses against only a few weed species. In this latter category are chlorpropham (Furloe) and fluazifop-P-butyl (Fusilade 2000). This report is designed to give the cranberry growers background information that will be helpful to an understanding of the most effective use of each of these herbicides.

Furloe. Chlorpropham, isopropyl m-chlorocarbanilate, was labelled for use in cranber-

ries several years ago. The granular formulation containing 20% active ingredient is the only formulation registered for use on cranberry fields. It must be used in the dormant season either after harvest in the fall or early spring before cranberry growth begins. For Wisconsin the spring application is recommended - usually in the period May 15-20. To minimize injury to the cranberry plant the granules should be applied when the cranberry leaves are dry so the granules will not catch in the vines but will move to the marsh floor where they concentrate their activity on the germinating weed seeds. The active ingredient slowly vaporizes from the granules and is hopefully absorbed by the target seedlings. Maximum effictiveness is gained from a uniform distribution of granules over the soil surface. Poor distribution of granules leaves untreated "holes" through which seedlings may emerge and escape lethal concentrations of herbicide An application of 0.25 to 0.50

# **Need Help?**

With Credit...

Tax Planning and Preparation...

Business and Estate Planning...

or Record-Keeping?

We've got the scoop on financing for farming.



Taunton, Mass. 02780, Tel: (617) 824-7578 Located on Rt. 44 ½ Mile West of Rt. 24



# Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

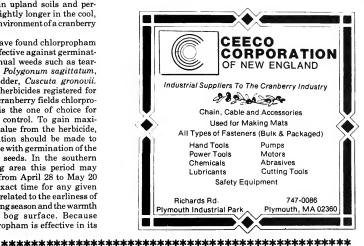
Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511 nches of water either by prinklers or rainfall will move he herbicide to and into the bog urface and minimize losses to he atmosphere. Chlorpropham as an effective period of up to 4 reeks in upland soils and peraps slightly longer in the cool, noist environment of a cranberry

We have found chlorpropham be effective against germinatng annual weeds such as tearhumb, Polygonum sagittatum, nd dodder, Cuscuta gronovii. of the herbicides registered for se in cranberry fields chlorproham is the one of choice for odder control. To gain maxinum value from the herbicide. pplication should be made to oincide with germination of the odder seeds. In the southern rowing area this period may ange from April 28 to May 20 -the exact time for any given ear is related to the earliness of he spring season and the warmth f the bog surface. Because hlorpropham is effective in its vapor phase against small seedlings the treatment should be anticipated for about May 15. Positive identification of germinated seedlings at an earlier date would dictate earlier treatmentweather permitting.

The label permits the application of 100 lbs/A of Furloe 20-G, a formulation containing 20% active ingredient. (This would be equivalent to 20 lbs/A of chlor-



## C.R. LEONARD & SONS INC.

890 MIDDLE ROAD TEL. 763-2712 ACUSHNET, MASS. 02743

Flumes Detrashers Conveyors (steel or aluminum) Shearing · Shop Welding Bending

## STEEL DISTRIBUTORS

- PLATES ANGLES FLAT
- CHANNEL IRON
   I BEAM
- REINFORCEMENT ROD WIRE MESH \*

propham.) We have found that 7.5 lb/A of chlorpropham (37.5 lb/A Furloe 20-G) provides safe and practical control of dodder when properly applied in a timely fashion. High rates expose the cranberries to injury and do not provide better control of the dodder.

One must remember that low rates of application intensify the concern for uniform distribution of granules. As the number of granules per unit area decrease the likelihood of "holes" in the coverage increase.

Fusilade 2000. Fluazifop, butyl (R) [4[[5-(trifluoromethyl)-2-pyridinyl]oxy] phenoxypro panoate, is labelled for use on cranberries not closer than 1 year before harvest. Its use is limited to non-bearing fields that will not be harvested for at least one year.

Fluazifop is one member of a group of herbicides that have the unique property of effectively

attacking members of the grass family with little or no effect on plants in other families. To be effective it must be combined in spray solution with a non-ionic wetting agent or with non-phytotoxic crop oil. Fluazifop is

available only as a liquid formulation and thus is applied as a spray. Fluazifop is rapidlabsorbed by the foliage and an application is "rain safe" after hour.

The recommended rate o

4 to 104 hp.

307 West Grove Street (Rte 28) Middleborough MA 02346

## KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp. Compact Excavators 1½ to 6 ton

Wheel Leaders ½ to ¾ yd.
Water Cooled Diesel Engines

All Types of Implements

Polymark Beaver-Mowers

Specialty Fabrication Work

Kubota Financing as Low as 81/9

FO ... FO ≥ PFO FO 1 FO 1 FO 1







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting — Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

application for Fusilade 2000 is 1 quart per acre (this is 0.25 lb/A of fluazifop). It should be applied to young, actively growing grass either annual or perennial. A uniform distribution over the grass foliage is desirable for best results. The herbicide is absorbed by the foliage and translocated throughout the grass plant. Visible evidence of effect should be evident in one to three weeks after application.

Many of the narrow leaved weeds in cranberry marshes are not grasses and, therefore, are not susceptible to control with fluazifop, Common names applied to weeds are oft times improperly assigned. A number of the sedge weeds are called grasses and thus confusion in the use of selective herbicides results.

In cranberry marshes there are three plant families whose members have long, narrow leaves. The rush family, Juncaceae, are annual or mostly perennial herbs with creeping underground stems, leaves grass-like, often stiff and terete (cylindrical) or swordlike, flowers small and often borne in dense spikes or heads, sometimes loosely aggregated or single. Fruit is a capsule with many to few, often tailed seeds. The soft rush Juncus effusus (round reed of the cranberry grower) is perhaps the most common representative in cranberries.

The sedges, Cyperaceae, are grass-like with solid, usually triangular but sometimes quadrangular, cylindrical, or flattened stems, fibrous roots often arising from perennial rootstocks. The leaves are often borne in three ranks or longitudinal rows and the leaf sheath is usually closed around the stem. There is usually no ligule. The stems are indistinctly jointed. The flowers may be separated into staminate, pollen bearing at the top of the flower stalk and the pistillate, female flowers in separate structures lower down on the stem. The fruit is a dry hard seed-like achene that is three cornered (trigonous).

The grasses, Graminae, are mostly erect, annual or perennial herbs with fibrous roots. Grasses usually have stems that

\* \* \* \* \* \* \* \* \* \* No one is more qualified to serve your \* \* Crop Insurance needs than 솨 THE BUTLER \* \* GROUP \* \*

\* 1 Crop Hail policies on any commercial crops-Hail, Fire, Vandalism and Transit 2 Federal Crop Insurance Policies for Apples, Potatoes, Tobacco, Corn, Cranberries × and others 3 Home, Auto, Business, Life, Health Call us for a quote or details × \*

Call us for a quote or details

×

\*

BUTLER Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512 \* \* \* \* \* \* \* \* \* \* \* \*

866-4429

RFD 5 **Plymouth St** Carver MA 02330

We Stock a Complete Line of:

Cranberry Insecticides • Fungicides • Herbicides Miticides • Fertilizers

AGWAY

**Authorized Agway Representative** 

AGWAY

#### NYLON BERRY BAGS

- ●8-Q Barrel Capacitu ● Cost Efficient
  - Easy to Handle
    - No Wheel-Off Rias
      - No Bulk Rins
        - No Fork 1 ifts

TRUCK COVERS

★ Custom Made ★

Allow 4-6 Weeks for Delivery

For further information, call

866-4429

are conspicuously jointed and hollow. Leaves are borne alternately usually in two ranks and are attached to the node by means of a sheath which is open on the side opposite to the leaf blade. Grass leaves have a membranous or hairy projection, the ligule, which is pressed against the stem at the point where the blade gives way to sheath. Separation of the sexes into separate flowers does not occur in grass species found in cranberry marshes. The fruit is a caryopsis of which the grain of wheat, oats or corn are examples. The fruit is not triangular as it is in the sedges.

The stem and leaf structure of typical members of the Graminae and Cyperaceae are shown diagrammatically in the figures

on pages 14 and 15.

The common and botanical names for representative grass and grass-like weeds are listed in Table 1 on page 16.

## DIKE MOWING

Enjoy Reasonable Rates NEW ARM FLAIL

Call Brook Holmes

(617) 293-5353

#### The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass Phone 824-5607

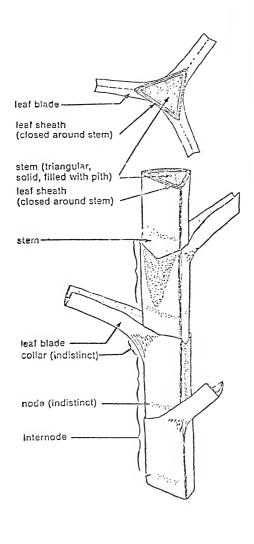
> AMES Irrigation Systems

> > RAIN BIRD Sprinklers

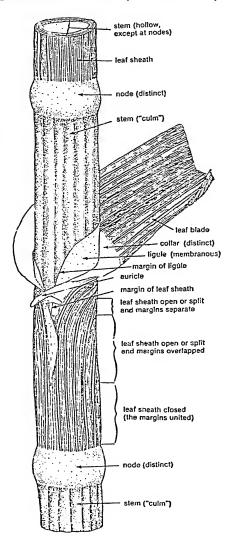
> > > HALE Pumps

Highest Quality Products with Satisfaction Guaranteed

#### SEDGE FAMILY (CYPERACEAE)



#### GRASS FAMILY (GRAMINEAE)



## MANAGER REQUIRED

for a large cranberry operation on the Canadian West Coast. Must be fully experienced in all aspects of cranberry production.

(604) 278-6271

## Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

## AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland. Appraisals

Appraisais

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288

Table 1. A list of common grass and grass-like species found in Wisconsin cranberry fields. Species are separated into plant families.

Common Name

Botanical Name

#### Graminae

bluejoint grass <u>Calamagrostis canadensis</u> (Michx) Nutt.

and <u>C. neglecta</u> (Ehrh.) Gaertn.

barnyard grass <u>Echinochloa crusgalli</u> (L.) Beauv. and

E. pungens (Poir.) Rydb.

rattlesnake grass <u>Glyceria</u> <u>canadensis</u> Michx.

read meadowgrass <u>Glyceria grandis</u> S. Wats.

sicklegrass <u>Leersia oryzoides</u> L.

turkey foot grass <u>Muhlenbergia mexicana</u> (L.) Trin.

fall panicum Panicum dichotomiflorum Michx.

muskratgrass Spartina pectinata Link.

#### <u>Cyperaceae</u>

creeping sedge <u>Carex chordorrhiza</u> L.

wiregrass <u>Carex oligosperma</u> Michx.

wideleaf grass <u>Carex rostrata</u> Stokes

stargrass <u>Dulichium</u> <u>arundinaceum</u> L. Britt.

tawny cottongrass, redgrass <u>Eriophorum virginicum</u> L.

Bunchgrass Scirpus atrovirens Willd.

three square grass Scirpus americanus Pers.

bulrush <u>Scirpus validus</u> Vahl.

#### Juncaceae

soft rush <u>Juncus effusus</u> L.

toad rush <u>Juncus bufonius</u> L.

Kissinger grass <u>Juncus sp.</u>



CRANBERRIES ADD ZESTFUL FLAVOR TO THREE BUDGET—WISE CASSEROLES, each ery different, one with vegetables, another with fish and the third with ground meat. They'll be s good at the second serving as the first, and will go a long way to feed a family.



### CRANBERRIES ADD ZEST TO CENTS—IBLE CASSEROLES

Hot, hearty and filled with nutritious ingredients, casseroles are a great answer to making your food budget go a long way without cutting back on a wholesome diet. Using fresh foods and making a large quantity really is penny-wise. Another plus factor, a casserole is practically a meal-in-one dish — and they bake in a short time in an oven so there will be an energy saving as well.

Beyond the "cents-ible" aspects of casserole cooking, are the sheer delights of tantalizing taste, aromatic scent and colorful sight. They are perfect to serve for a family dinner or for buffet entertaining.

Bountiful cranberries with their piquant, tangy flavor combine with and enhance other ingredients to make three very special casserole recipes. "Cranberry Cape Cod Casserole" is a combination of fish fillets, noodles, pimiento, and chopped fresh cranberries. Bread crumbs are sprinkled on top, and in half an hour you have a superb dish to set on your table.

"Berry Vegetable Casserole" is filled with a mixture of squash (or zucchini), onions, beef broth, cranberries and bits of bacon. If you're having an especially large crowd to dinner, you might consider using this as your all-in-one vegetable dish. Otherwise, it is a fine main course at any time.

"Beef Berry Casserole" is a succulent dish combining ground chuck made into miniature meatballs, onion, rice, tomato juice, and cranberries and apples.

Along with your cranberry casseroles serve a basket of homemade bread and a salad of crisp greens. For dessert a fresh fruit and cheese.

One very special quality about casseroles, they're really wond-erfully good the second time around so consider this when you make them up. You might very well want to double these recipes.

#### CRANBERRY CAPE COD CASSEROLE

(Serve 6)

¼ cup butter or margarine ¼ cup all-purpose flour 3 cups milk

- 1 can (4 ounces) pimiento, drained and chopped
- 1 package (8 ounces) medium noodles, cooked and drained
- 2 packages (12 ounces each) frozen cod fillets, cut into 1-1/2 inch squares while frozen

salt and pepper

1/3 cup coarsely ground fresh

cranberries (use a blender to grind them quickly)

1 cup flavored dry bread crumbs ¼ cup melted butter or margarine

In a medium saucepan melt butter and stir in flour, Gradually stir in milk. Stir over low heat until sauce bubbles and thickens.

Replace old aluminum mains with government approved 4, 6 and 8 inch polyethylene pipe buried just below bog surface. No insert littings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow, for buried laterals.

### Irrigation supplies

PVC PIPE 2"-12" WITH FITTINGS

Quick Couple Risers Felker Aluminum Flumes & Culverts

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING
   GOOD LOOKING
- MAINTENANCE FREE
   WRITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

CAT / COA COCO

617 / 824-3826 RAYNHAM CENTER, MA MORTON BUILDINGS, INC.

Excellence - Since 190

tir in pimiento and noodles. Add cod and simmer for 10 mintes or until cod turns white. eason to taste with salt and epper. Pour mixture into a 2-uart casserole. In a bowl mix ranberries, crumbs and butter. prinkle mixture evenly over top f casserole. Bake in preheated toderate oven (350°F.) for 30 to 5 minutes or until brown and ubbly.

### ERRY VEGETABLE

(Serve 6)

cup butter or margarine

large onions, chopped ½ cups fresh cranberries, rinsed

and drained small yellow squash or 6 zucchini,

cut in 1" cubes

cup condensed beef broth,
undiluted

slices crisp bacon, crumbled

a skillet heat butter and saute nions until golden. Add cranerries and saute until cranberries are mushy. Stir in squash, beef broth and bacon. Season to taste with salt and pepper. Pour mixture into a 2-qt. casserole. Cover tightly and bake in a preheated moderate oven (350°F) for 35 to 40 minutes or until squash is tender.

#### BEEF BERRY CASSEROLE (Serves 6)

¼ cup butter or margarine

1 large onion, chopped

- 1 can (8 ounce) whole berry cranberry sauce
- Juice of 1 lemon (2 tablespoons) 1 ½ cups converted raw white rice
- 2 apples, peeled, cored and chopped
- 1 can (46 ounces) tomato juice 1 ½ lbs ground chuck
- 1 ½ teaspoons salt
- 2 eggs
- 2 tablespoons oil

In a skillet heat butter and saute onion until golden. Stir in cranberry sauce, lemon juice, rice and apples. Pour mixture into a

3-qt shallow casserole. Stir in tomato juice, heated to boiling. Mix ground chuck, salt and eggs in a bowl and shape the mixture into small balls, 1 inch in diameter. In the same skillet heat oil and brown meatballs on all sides. Drain excess fat and place meatballs into casserole pushing them down into the tomato juice. Cover tightly and bake in a preheated moderate oven (350°F.) for 1 hour or until rice is tender. Uncover and cook for 15 minutes to allow rice to absorb all liquid.

CRANBERRIES
Has Served the
Cranberry Industry
for 51 Years.



### **AERIAL LIFTING**

BERRY LIFTING nylon berry bagsbulk bins

JOE BRIGHAM INC lightweight durable contact

· MUD LIFTING ·

*contact*PETER **~** CHUCK
617-295-2222



mat rentals & sales



#### **Irrigation Equipment Designed** Especially for the Cranberry Industry

- Gorman-Rupp Self Primina Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polvethylene Main Lines. 3" - 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- · Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550

#### Contact

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048



### MIDDLEBOROUGH TRUST COMPANY

### The **Business** Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





#### Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313

### Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

> STEVE (715) 593-2358

### THE WELDING BOOTH

Portable heli-arc welding for aluminum, stainless and steel

Repairs and fabrication done at shop also

> 23 Kingman St. East Taunton, Mass. 02718

(617) 824-4780

### STAY INFORMED

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower profiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES. The National Cranberry Magazine. Subscribe today! \$10 a year - \$18 two years

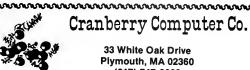
> Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414

### When Great Boots Were a Necessity

The old, old farmer's great cowhide boots were made for a lifetime - and might indeed be passed on to his son. They were, in his wet farm world, a first necessity. His barnyard, churned by the constant hoof movements of his kine, was at most times a place of mud and puddles. But he accepted this part of his world as natural:

(continued on next page)



### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase Implementation & training
- Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- · Deliveries/barrels per acre Chemical applications
- Profitability/cost per barrel Sanding and damage

### **BIG WHEEL** TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617) 763-5927

or (617) 763-8745

New England Bog Equipment



4-Wheel Drive Sanders Custom Welding and Fabricating

Available For: · SPRING ·

Pruners **Pump Frames** Irrigation Repairs Herbicide Spreaders



Flumes Wipers

·FALL·

Hydraulic Water Pickers Hydraulic Conveyors Ditch Reels Berry Pumps Detrashers

Dump Bodies

Mower Decks

Gas and Diesel Engines



CONTACT:

JIM OR RICK 617-293-6070

P. O. BOX 398, BRYANTVILLE MA. 02327

#### GREAT BOOTS . . .

(continued from page 21)

like the ponds and ditches and creeks and bog meadows where he cut his best hay.

Cold, too, he accepted, because he had to. Especially when he went to church - and he always did come Sunday. Of course, he wore his great boots -or Sunday boots equally stout. For the church had no stove (comfort was the Devil's temptation). But he oft brought with him a little metal box - about shoe box in shape and size. He would have filled this box with hot coals from his hearth. That box, however, would be for his wife, whose pattens or clogs were of slight protection.

But, at last, even in his great boots, old farmer's feet would begin to freeze. At that point, preacher, being a thoughtful man (and his

### KUBOTA-**VERS THE F**

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance. Multi-cylinder design



Model	CYL	HP	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	
B7200	3	17*	₹ or
B8200	3	19*	Hydrostatic
B9200	4	22.5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shif
L2550	3	23.5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8×8
L3750	5	36*	₹ or
L4150	5	40*	Hydraulic shuttle shift

KUBOTA LAWN & GARDEN TRACTORS

Model CYL Transmission G3200 Standard G4200 Standard G4200H Hydrostatic G5200H Hydrostatic



KUBOTA M SERIES TRACTORS

Model	CYL	рто нр	Speeds Forward/Reverse
M4030	6	43.00	8/4
M5030	6	49 00	16/4
M6030	3	57.00	16/4
M7030	4	68 00	16/4
M8030	4	76.00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85 00	24/8

Visit your Kubota dealer to find out which

Nothing like it on earth.

### ELLIS IMPLEMENT

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

own feet frozen, too) would stop his preaching and let the men stomp around. So, the old farmer would stomp around and then hang on for more sermonizing, all the while looking forward to his barnward and more chores.

By CHARLES METCALF

CRANBERRIES gives you the news and views of the industry.

CRANBERRIES is read by more than two-thirds of the growers in the U.S.

No matter how small your business, you can afford to place an ad in the magazine that serves the industry: CRANBERRIES!

### WISCONSIN CRANBERRY HEADQUARTERS FOR

### **SEVIN XLR**



### Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 808-221-1581

### **CRANBERRIES**

has been published continuously for 51 years.

### IT IS INSECT TIME . . .

Color photographs of cranberry insect pests and more are now arranged with text in a portfolio that is available

The portfolio endeavors to bring together the words of research complementing the photographs and making a summary of cranberry insect information that will be of use to the cranberry grower for a lifetime.

The portfolio is available for \$100 and, if you wish to examine a copy, telephone (609) 894-8556 evenings around 6 p.m. or write to:

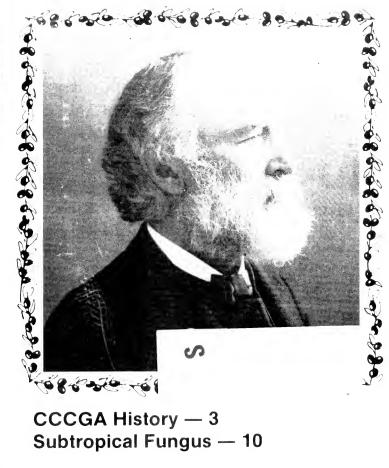
Walter Z. Fort
P.O. Box 183
Pemberton
New Jersey 08068



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 51st Year of Publication



CCCGA History — 3 Subtropical Fungus — 10



### Felker Flow Gates

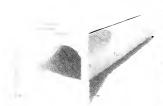
are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15 -48 inches in diameter, with widths from 24 to 72 inches. The height of each unit built depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

The flow gate specialists for generation after generation.

In Massachusetts contact Stearns Irrigation Inc., 790 Federal Furnace Rd., Plymonth MA 02360. Tel. (617) 746-6048



22 NORTH CHESTNUT AVENUE MARSHFIELD WISCONSIN 54449

TELEPHONE (715) 884-3121 TVA 510-370-1846



# The Cape Cod Association: A Full Century of Action.

By CAROLYN GILMORE

Editor's Note: The Cape Cod anberry Growers' Associion will observe its 100th niversary Aug. 18 at King chard's Field, Carver, ass., with an all day celeation that will include guest

### ranberry entennial elebration

Equipment for the cranberry dustry will be exhibited ring the Cape Cod Cranrry Growers Centennial lebration Tuesday, Aug. 18 King Richard's Faire, Route, South Carver. Prizes will awarded in the commerd and homemade categor-

An additional and unique ture for this event will be assemblage of antique uipment. Some machinery m the past to be shown ll be a fertilizer spreader. fathieson picking machine, randon pruner, hand tools. early Hayden separator, a inberry box display, the ller Cranberry Co. antique ick and a duster. Many of ese items are not even seen local cranberry museums. for further information on tering commercial equipnt, contact George Andruk 3-7162) or Bob Zaniboni 14-0105). For homemade or tique equipment inquiries, l Kirby Gilmore (763-5206). appearances, rides and other events. The public is invited.

When the Cape Cod Cranberry Growers' Association was formed 100 years ago, growers were concerned about standardizing barrel size, setting prices and facilitating marketing of the crop. Within a few years, research became an important topic.

Among the Association's list of accomplishments are the establishment of the Cranberry Experiment Station, purchase of the State Bog, a frost warning service, annual preharvest crop forecasts and successful publicity efforts.

OVER the years, at least 37



JOHN J. RUSSELL became the first president of the Cape Cod Cranberry Growers Association in 1888. A history of the CCCGA begins on this page. Massachusetts growers have served as president of the organization, backed by many others on boards and committees. Annual meetings moved about the cranberry growing area until a permanent home was found at the East Wareham Experiment Station after its purchase in 1910.

The first year, 98 growers joined and the membership fee was \$2. By year's end, the fee was reduced to a dollar and "cash on hand" was reported to be \$157.84.

The August 26, 1890 meeting featured a growers' forum on insect problems. "The Worm, Its Ravages, Prevention and Cure" was debated by cranberry growers, including George Miller, Franklin Crocker, Ambrose N. Doane and H. H. Heald, who compared observations from their bogs.

A Committe was set up to look into a "trademark" for the membership. A.D. Makepeace reported back that a trademark could not



### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

งงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงง

### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase
   Implementation & training
- Software installation
   Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- •Deliveries/barrels per acre
- Chemical applications

Profitability/cost per barrel
 Sanding and damage

legally be exclusively controlled by and limited to Association members. The topic did not come up again with the Association.

Absence of coverage in The Barnstable Patriot indicates there may not have been a meeting in 1891. A small article in 1892 reported on the annual meeting in Onset.

"While there was a large number of members present from Plymouth and Barnstable counties, the officers were conspicuous by their absence," the Patriot reported. "The meeting was a fizzle in many respects, and some doubts existed whether the organization would even be revived again."

Whatever the argument was, the growers did agree on a crop forecast of "about three-quarters of the previous year," a decrease blamed on dry weather.

The Association was indeed revived by the next year, when 80 members traveled to the Middleboro Grange Hall for a meeting and catered meal. Communication from the Secretary of Agriculture said an agent in charge of introducing and instructing Europeans regarding "the merits and use of American cereals would add to his list the Cape Cod cranberry." A committee was appointed to formulate plans for the establishment of a marketing agency for the fruit.

PAYMENT policy for pickers was set at the early meetings. In 1892, the Association recommended, "after much discussion," that growers adopt a policy of nine cents per six quart measure for pickers. Within a decade, mechanization affected picking prices and growers paid varying hourly or daily rates.

In 1894, growers at the annual meeting in Middleboro recommended not to take further action on forming a trade sales company. It was a year of a "short crop."

The 1897 annual meeting was

held in Hyannis, with dinner a Iyanough House and Crowell Restaurant. The membership fe was reduced to 50 cents. Ne inventions were exhibited including a "new crate that ca be nested" by George Miller an a new "scoop" by Williai Makepeace. A model of a ne vertical separator was als

displayed.

Emulous Small was electe president in 1898 with 3 members attending. It was a "average" crop year. During th meeting, while the treasure stepped outside briefly, th membership voted for the Assiciation to pay for dinners for the crowd. The treasurer accepte this action with good humor and the Association paid for the mea at the next annual meeting a well.

At the 1899 meeting, J. B. Smitl professor of entomology at Ne Jersey State Agricultural Colleg spoke on "Insects Injurious of the Cultivation of Cranberries

### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING GOOD LOOKING •
- MAINTENANCE FREE WRITTEN WARRANTY •

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826 RAYNHAM CENTER, MA MORTON BUILDINGS, INC.

"Excellence - Since 1903"

In response, an executive committee was formed to try to secure aid for cranberry research in the Commonwealth.

In August 1901, a poor crop was forecast. Growers "declared war" against low prices of berries and pledged not to sell a barrel under \$6 before September 20. This was considered the Association's most important step toward price regulation.

The 1904 agenda included oublicity. A hundred growers attended the meeting in Wareham at Odd Fellows Hall and heard a Mr. Chamberlain recommend compiling recipes into a "small book" form to encourage the public to make use of the fruit.

At the 1905 meeting, growers noted that despite "increased acreage" in the industry, the crop was half that of the previous year. Fruit worms were the faccused culprits.

# A FROST warning service for Massachusetts growers, similar to one used by growers in Wis-consin and New Jersey, was discussed at the CCCGA's 1905 meeting. Prof. Henry of the Weather Bureau spoke of the logistics of the program and indicated the willingness of the telephone company to cooperate in it.

In 1906, H. J. Franklin addressed growers for the first time in his 46 year association with Massachusetts cranberries. He had spent the summer studying insect pests of cranberries for the State Agricultural College. He shared observations of life histories of fireworm, false army worm, yellow and black headed cranberry worms, and offered control measures for each pest. Prof. Fernald of the entomology department at the Amherst-based college noted gypsy moth infestation was headed in the direction of cranberry growing areas of the state. He warned the catepillars will damage bogs.

By 1908, attendance at annual meetings doubled over a few years before, William P. Brooks of the Massachusetts Agriculture Station, Amherst, addressed 225 growers on fertilizers. The crop was affected by bushfires that year to the degree that insurance rates more than doubled and some growers lost their entire crop.

In 1919, dues were raised to \$2 a year. J. M. Bump of the Gypsy Moth Committee reported that the pest was spreading and urged growers to take prompt action in spraying appropriately. J. M. Chancy of the Transportation Committee reported that "shipping arrangements are very satisfactory considering the condition." There was worry about strikes and refrigerator car shortage as the crop was shipped west. Two trains per week from

### KUBOTA-**COVERS** THE F

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications. All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance.





K	UBOTA	B AND L	SERIES TRACTORS
dodel	CVI	LID	Chause of Teoremus

Choice of Transmission

B5200 B6200 B7200 B8200 B9200	3 3 3 4	13* 15* 17* 19* 22.5*	Standard Standard or Hydrostatic Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
1.345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
L2550	3	23.5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
1.3350	4	32*	(8x8
L3750	5	36*	₹ or
L4150	5	40*	Hydraulic shuttle shift

KTIROTA I AWN & GARDEN TRACTORS

Model	CYL	HP	Transmission	
G3200	2	10	Standard	
G4200	2	12	Standard	
G4200H	2	12	Hydrostatic	
G5200H	3	14	Hydrostatte	
G6200H	3	16	Hydrostatic	



KUBOTA M SERIES TRACTORS

Model	CYL	РТО НР	Forward/Reverse
M4030	6	43.00	8/4
M5030	6	49.00	16/4
M6030	3	57.00	16/4
M7030	4	68 00	16/4
M8030	4	76.00	16/4
M4950	6	49.57	12/4
M5950	3	58.00	12/4
M6950	3	66.44	12/4
M7500 LP	4	72.00	16/4
M7950	4	75.44	12/4
M8950	4**	85.00	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field.



Nothing like it on earth."

### ELLIS IMPLEMENT

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

Middleboro to Chicago ran on a five-day schedule, called the "solid cranberry train movement.'

At the meeting, the Association approved Dr. Franklin's request for \$546.83 to purchase a Ford truck, President Hennessey noted that the services of Dr. Franklin were "nearly lost" that spring when a proposed transfer to the Pacific Coast was made. Directors secured an assistant for Dr. Franklin after this was made known. A group of growers agreed to underwrite the assistant's salary to the sum of a one to two cents per barrel assessment.

By 1936, the well established Frost Warning Service cost \$756.39 to operate. Dr. Franklin noted at the annual meeting that there was a great improvement in weather forecasting over the past 25 years, especially in the cranberry growing region.

"You can see this frost forecasting is no simple matter," he concluded, "as so many factors have to be taken into consideration. We have to steer between making a safe forecast and yet not sending you out on a goose chase. You'll have to excuse us if we make you spill water unnecessarily sometimes."

IN 1936, Russell Makepeace provided an unusual highlight to the meeting in the form of an old report by a French delegate. The Frenchman was in Boston in 1808 to try to "induce Americans to eat more French products." The report branded all Americans as "barbarians in their eating habits," blaming this on the eating of "too much cranberry sauce.'

At the 1937 annual meeting. A. H. McIntvre of Boston demonstrated a temperature warning device to growers. A thermometer set up in a bog, adjusted at the "danger temperature," would ring a bell until the grower shut it off. The bell could be installed in a bog house or the grower's house. Exhibits were on the common weeds, a demonstration of the experimental cold storage plant for cranberries and a nump with a lift capacity of 12 feet. Afternoon entertainment was a "talkie movie" of the California Redwood Association showing production of redwood lumber.

In 1941, a clambake by Shurtleff & Holmes of Carver was accompanied by the Cranberry Quartette of Nahum Morse, Raymond Morse, Walter Rowley and Brenton C. Paterson, A loudspeaker was used for the

first time at an annual meeting. WARTIME in 1942 did not dampen the attendance, in spite of rationing and tire difficulty. Another clambake was served. Dr. Franklin announced a depleting staff as Dr. Chester Cross, assistant for the past year and later long time director of the Cranberry Experiment Station "has enrolled for officer's training school," Congressman Charles L. Gifford, a 72-year-old cranberry grower, told growers they were in for a "long hard war and that they probably knew the country was in dreadful danger."

vear's biggest worry was about picking crews. Growers increased

In 1943, at the 56th meeting.

213 attended the clambake. The

### CRANBERRIES



SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABAN

ASSOCIATE EDITOR: CAROLYN GILMORE

(617) 763-5206

#### ADVISORS & CORRESPONDENTS

MASSACHUSETTS - Irving E. Demoranvilla. Director, Cranberry Experiment Station.

NEW JERSEY — Phillip E. Merucci, Cranberry & Blue-

berry Specialist, Cranberry & Blueberry Laboratory. Chatsworth, Elizabeth G. Carpentar, Chatsworth.

NOVA SCOTIA — I. V. Hall, Botanist, Research

Station, Kentville OREGON - Arthur Pools, Coos County Extension Agant, Coquille

WASHINGTON — Azmı Y. Shawa, Horticulturial and Extension Agent in Horticulture. Coastal Washington

Research & Extension Unit, Long Beach WISCONSIN - Tod D Planer, Farm Management Agent, Wood County

CRANBERRIES is published monthly by Diversified Periodicals, Wellwyn Driva, Portland CT 08480, Second class postage is paid at the Portland, Conn. Pool Office. Price is \$10 a year, \$18 for two years, \$1 a copy in the U.S.; \$12 a year in Canada; \$15 a year in ell other

countries. Back copies: \$2, including postage. Copyrig 1986 by Diversified Periodicals. ISSN: 0011-0787

Postmaster, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

### **BIG WHEEL** TRUCK SALES 42 Quanapoag

E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

>>>>>>>>>>

Call Bob or Joe

(617)763-5927or (617) 763-8745 ay from 15 to 40 cents a box and ourly wage from a dollar to 1.25 per hour. By those rates, good, steady pickers make xcellent pay" of \$12 to \$15 per ay. The War Food Commission oldgrowers 580 certified laborers rould be available for the cranerry harvest. As the year proressed, only 150 showed up, nainly teenagers, but they got he berries off as needed.

Growers had nothing but bad ews at the 1944 Annual Meetng. Statistician Stevens preicted the "poorest" crop ever in ne state at 230,000 barrels. Many rowers did not pick at all. Dr. ranklin blamed the "terrible reather" for the worse winterill, lack of water, early December nexpected cold and a June 19 black frost." This was the most angerous frost since 1918, with emperatures dipping to 14 egrees on the bogs and vines reezing in what would normally e a protective flow. There was a rought all summer, high heat h July and the worse fruitworm n 35 years.

ons improved and, in 1947, some 00 growers attended the Tuesav. August 19 annual meeting. fembership had increased by 0 percent and there was over 5.000 in the CCCGA treasury. committee of Russell Makeeace, Carl Buran, Melville C. eaton was appointed to invesgate the feasibility of a national dvertising campaign to raise ublic consciousness of cranberes. Lunch was provided by the dies of the Wareham Methoist Church. At the August 22, 1950 Annual

When the war was over, condi-

leeting, a million barrel crop as predicted by Statistician tevens. Growers debated the 20 ercent surplus this forecast presented.

"There it is," President Melville Beaton said. "You can decide whether you like it or not."

Growers discussed a voluntary 20 percent set-aside.

THE 1952 Annual Meeting, billed Dr. Franklin Day, commemorated the cranberry researcher at his retirement for his years of service to the industry.

"This is a great day for the

greatest of cranberry scientists, whose name is known the world over in scientific circles and to all concerned with cranberries," said Statistician Stevens, who reported the crop forecast for the 25th year.

The 1981 Annual Meeting was dedicated to Dr. Chester Cross, also at his retirement. Dr. Cross, who was a student of Dr. Franklin, followed his steps in research and leading the Cranberry Experiment Station. During his career, Dr. Cross was in much demand as an eloquent spokesman for the cranberry industry.

At its hundredth environment

At its hundredth anniversary, the Cape Cod Cranberry Growers' Association plays active roles in monitoring legislation, directing and funding research and providing publicity for the fruit. A full-time executive director, Dr. Dwight Peavey, oversees administration of the Association's various concerns.

#### Cape Cod Cranberry Growers' Association Presidents, 1888-1988

John J. Russell

Abel D. Makepeace

1888-1893

1893-1895

 1896-1903
 Emulous Small

 1903-1911
 George R. Briggs

 1911-1917
 John C. Makepeace

 1917-1923
 James T. Hennessy

1923-1925 Ruel S. Gibbs 1925-1927 George Briggs 1928-1929 (?) 1929-1931 B.C. Shaw 1931-1933 Franklin F. Smith 1933-1937 Paul E. Thompson 1937-1939 Chester A. Vose 1939-1941 Harrison F. Goddard 1941-1943 Brafton Howes 1943-1945 Homer L. Gibbs 1945-1947 George E. Short 1946-1949 Russell Makepeace

1949-1951 Melville C. Beaton1951-1953 Edward Bartholomew1953-1955 Frank P. Crandon

1953-1955 Frank P. Crandon 1956-1957 Arthur Handy 1957-1959 Ferris Waite 1959-1961 Gilbert Beaton

1961-1963 Philip Gibbs 1963-1965 Ray Morse 1965-1967 Alfred Pappi 1967-1969 Robert Hiller

1969-1971 William Atwood
 1971-1973 Robert St. Jacques
 1973-1975 Willard Rhodes

1975-1977 Kenneth Beaton 1977-1979 David Mann

1979-1981 John C. Decas 1981-1983 Clark Griffith

1983-1985 George Andruk 1985-1987 Chris Makepeace

1987- Douglas Beaton

### Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

STEVE

(715) 593-2358 (715) 593-2285

### News Report of The First Meeting of The CCCGA

Editor's Note: This report in The Cape Cod Item of the first meeting of the Cape Cod Cranberry Growers' Association was submitted by Associate Editor Carolyn Gilmore.

The Cape Cod Item

Vol. XI. No. 2 - Friday, July 13, 1888 Yarmouthport, Mass.

#### CAPE COD CRANBERRIES SUCCESSFUL CONVENTION AT SANDWICH

"Cape Cod Cranberry Growers' Association" Organized under Pleasant Auspices. Sandwich, Mass., July 10, 1888.

The invitation generally circulated in Barnstable and Plymouth Counties requesting cranberry growers to meet at Sandwich on Tuesday, 10th inst., to consider the advisability of forming an association, adopting trademark, etc., resulted in a highly successful convention of representative producers. That it was a spontaneous movement with no personal object beyond a better understanding among the growers, the maintaining of the high character of the fruit, and square dealing with the public, was evident from the personnel of the convention and apparent in the discussions and proceedings.

That after the gathering of such a representative body of this important industry, and the careful, judicious method of its proceedings, so happy a result was achieved, is a matter for congratulation by the whole community of this section. No haste was made, but everything discussed and duly considered and the convention moved slowly,

step by step as it were, until finally "The Cape Cod Cranberry Growers' Association" resulted with a goodly number of representative men to start with. It is of course but the birth of an organization which will eventually count its members by hundreds, and it will be a coveted privilege to secure a membership.

#### THE CONVENTION

There were upwards of one hundred people in the Town Hall, and a more intelligent, manly looking body of men we have never glanced at from the reporter's table in years of experience before kindred gatherings. Among the well-known men present who are more or less interested in the growing of the cranberry fruit were Geo. J. Miller, A. G. Baxter, William H. Underwood, Samuel Snow, H. G. Crowell, A. Phinney, A. D. Makepeace, Emulous Small, Cyrus Cahoon, I. T. Jones, J. S. Howes, Calvin Crowell, O. M. Holmes, George R. Briggs, D. B. Crocker, James Webb, E. S. Ellis, P. H. Russell, W. Boyden, Charles Dillingham, P. Hinckley, N. Howes and others whose names were not learned . . . . . . . Mr. I. T. Jones of Sandwich, a gentleman who has kindly taken an interest in the movement of the organization and is also quite largely interested in the cranberry fruit, read the call and names of the signers to the same; as published in last weeks item.

By nomination from the floor, Mr. John J. Russell of Plymouth was called to preside and F.D. Underwood of Harwich chosen Secretary. Upon assuming the duties of the chair Mr. Russell addressed the convention briefly concerning the object for which they had assembled, clearly stating the situation and closing by inviting general discussion.

Some interchange of ideas followed and it was stated that the size of the barrel had caused some confusion by reason of the tendency to make the barn smaller. It was suggested th one work of the Associatishould be to secure a unifor measure for the cranberry barr

Considerable discussif followed as to what should bet name of the Association, organized, and there seemed be a few present who might r have been in sympathy with t movement for organization. I particular opposition was machowever, for it was evident th the sentiment of the organization was over-whelmingly for: Association.

One gentleman, evidently wi a nice sense of the humoror questioned as to whether t Plymouth people would be w ling to be counted in among t "Cape Cod Folks."

To this sally the chair, a proinent Plymouth gentlema remarked that there would rbe much danger of objection having their fruit designated Cape Cod Cranberries. His setiments were cordially endors by several other gentlemen frothe adjoining county.

During the discussion it were marked that the Americ. Cranberry Growers' Associati had sometimes furnished infimation that was calculated to of disadvantage to cranber producers, rather than a bene:

The discussion was terminat by a pertinent suggestion from. E.S. Ellis, of Yarmouth, the the chair should state the requestion. The matter of a narmight be acted upon farther or necessary.

The question was then put to whether it was advisable form an Association.

A gentleman on the flo wanted to see a clear expressi of opinion.

The chair called for a risi vote and it seemed that ever body in the hall came to his fe

The presiding offic laconically remarked that "it is not seem necessary to call for t

ntrary minded."

And so it was pleasantly and questionably settled that an sociation was to be formed.

A committee of five was selected nomination from the floor to port officers for the Associan and constitution and byws for its government. The mmittee were Messrs. I.T. nes, of Sandwich, A.D. Makeace, of West Barnstable, Emuis Small, of Harwich, George Briggs, of Plymouth, and niel B. Crocker, of Yarmouth. The committee retired for con-Itation and finally reported rough their chairman, Mr. nall, who humorously remarked at some of their number had me hesitancy about nominatg themselves for office, but ally were induced to overcome eir scruples and do as Demoatic caucuses were sometimes liged to do in this section for ck of numbers - nominate emselves.

These sallies kept the convenn in good nature (coinciding th the) entire harmony of the eeting.

The officers reported for the rmanent organization of the sociation as follows: President—John J. Russell

Vice Presidents — A.D. Makeace, West Barnstable: Emulous nall, Harwich.

Secretary and Treasurer — I.T. nes, Sandwich.

Excutive Committee — J.S. owes, Dennis; Calvin Crowell, gamore; O.M. Holmes, Mashe; Geo. R. Briggs, Plymouth; B. Crocker, Yarmouth: James ebb, Cotuit.

The report was accepted and it idently met the approval of e convention generally.

Mr. Russell declined the honor the position for which he had en selected, largely by reason other business and responsilities, but the convention emed unwilling to release him d he finally consented to cept the position. Under his

careful guidance the business of the convention proceeded in a cool, parliamentary way and all the technicalities were carefully observed for the formation of so important an Association in regular order.

An adjournment for dinner was made and a half hundred or more betook themselves to the Central House, where the elderly proprietor, Mr. A.C. Southworth, had an excellent dinner in readiness for them. Though somewhat unprepared for so large an accession to his guests, Mr. Southworth spread an excellent meal and all partakers were well pleased.

There was exhibited in the hall a model of a cranberry picking machine, by the inventor, Mr. H.E. Crowell. It was carefully examined and but few objections were suggested and those mostly by reason of damage to vines by hand machines. Mr. Crowell's invention is for horse power. The pickers are on a cylinder directly in front of a smooth roller, which it is believed will not materially damage vines. The height of the ingeniously devised picker is regulated from this roller and two narrow cog wheels still further back supply the motor to revolve the picker. It is, of course, a horse power machine and in bogs of size it may prove of advantage and economy, if not destructive to vines.

#### AFTERNOON

Upon the re-assembling of the convention, Mr. Jones, from the organization committee, reported the hasty draft of articles for constitution and by-laws. The report was accepted and the convention proceeded to have them re-read, discussed and somewhat amended, article by article, until the form of government for the Association was completed as follows:

CONSTITUTION Art. 1. This Association shall be known as the Cape Cod Cranberry Growers' Association.

Art. 2. Any grower of cranberries in Barnstable and Plymouth Counties may become a member of this Association by signing its Constitution and by-laws and paying to its Treasurer \$2.00 membership fee.

Art. 3. The object of this Association shall be to promote the interest of its members in whatever pertains to the growth, cultivation and sale of cranberries.

Art. 4. The officers of the Association shall consist of a President, Two Vice Presidents, a Secretary who shall also be the Treasurer, and an Executive Committee consisting of the above named

officers and seven other members Art. 5. The President, Vice Presidents, Secretary, Treasurer and Executive Committee shall be elected by ballot annually, by the Association, and shall serve until their successors in office have been duly elected and have accepted.

Art. 6. The annual meeting of this Association shall be held on the 2d Tuesday in July at such place as the officers may determine.

Art. 7. Meetings of the officers of this Association may be called at any time and in such manner as they may deem

Art. 8. Special meetings of this Association may be called at any time by its President or a majority of the officers named in the constitution and shall be called by the President on petition of not less than twenty members.

Art. 9. The notice of each meeting of this Association shall be mailed by the Secretary to each member at least six days before the date fixed for the

Art. 10. At all meetings of this Association twenty members shall constitute a quorum for the transaction of any business. At meetings of the officers a majority shall consitute a quorum for the transaction of any business.

Art. 11. Each member of this Association shall pay to its Treasurer the sum of \$2.00 annual dues, payable at or before

each annual meeting.

Art. 12. This constitution may be changed or amended at any annual meeting or at any special meeting where the proposed change or amendment is specified in the call for the meeting.

BY-LAWS

Art. 1. The President shall preside at all meetings, and in his absence the First or Second Vice-President.

Art. 2. The officers and Executive Committee shall have the general direction of the business of the Association and shall recommend such measures to the Association as they may deem for its best interest.

It was stated in the discussion of some of the articles that there were cranberry growers on the islands of Nantucket and Martha's Vineyard, which raise from three to four thousand barrels annually. who would like to come into the Cape Cod Association.

There was considerable interchange of

views as whether to admit the growers in Dukes County at the present time or not. Some questioned as to whether their fruit would come up to the Cape Cod standard, which would give them the advantage of the trade mark or other distinction when adopted. Others spoke well of their fruit and evidently favored an immediate admission. The most friendly sentiments towards the growers on those islands were expressed by all without regard to their position on the question of admission at once.

Articles 3d and 4th of the call, relating to establishing a uniform size of barrel for the Association, adopting a trade mark or some distinguishing device and measures for reaching the market in a way to give the producers the full value of their fruit, were, on motion of Mr. Jones, referred to the officers of the Association with power.

A motion by Mr. Cahoon for an

adjournment of one month to some time and place was considered, but a motion to adjourn subject to the call of the Executive Committee was carried.

While the foregoing matter was being considered, the permanent organization was progressing by signing the proper document and the payment to the treasurer of the membership fee of two dollars. The document was as follows:

We, the undersigned, hereby associate ourselves together as The Cape Cod Cranberry Growers' Association and adopt and ratify as the act of said Association the proceedings of the convention held at Sandwich, July 10, 1888 including the election of officers for the ensuing year and the adoption of the constitution and by-laws, and agree to be governed thereby.

Signed: Abel D. Makepeace, West Barnstable;

George J. Miller, Hyannis; Emulous Small, Harwich; W.E. Sparrow, M.D., Mattapoisett; Franklin Crocker, Hyannis; O.M. Holmes, Mashpee; C.L. Baxter, Cotuit; Benj. W. Hatch, Sagamore; George R. Briggs, Plymouth; John H. Crocker, East Falmouth; John Simpkins, Richard S. Simpkins, T.T. Hallett, Geor. T. Thacher, D.B. Crocker. Yarmouthport; Abishai Phinney, Waquoit; Wm. H. Underwood & Son Harwich; K.W. Stetson, Kingston; Wm H. Fessenden, Long Pond, Plymouth; Sandwich Cranberry Co., A. Braman, Supt., Sandwich; Paul Wing, Spring Hill John J. Russell, Plymouth; Geo. W. Randall, Plympton; J.P. Knowlton Sagamore; Wm. Childs, Waquoit Barzillai C. Cahoon, East Falmouth Calvin Crowell, Sagamore; Benj. F Crocker, Hyannis; Jones & Heald, W.C Chipman, Sandwich.

### Labeled a Subtropical Growth by Dr. Caruso

### **Growers Gear Up to Fight Fungus**

#### By CAROLYN GILMORE

Massachusetts growers and scientists are keeping a close eye on the newest cranberry disease, *Phytophthora cinnamomi*.

The root rot has killed 60 acres of vines in low, poorly drained areas and has been detected in about 1,200 acres statewide.

Growers are taking precautions to prevent the spread of the fungus by alleviating drainage problems, applying an emergency approved fungicide, and, for infected areas, wearing plastic bags over their shoes as well as washing down machinery with detergent.

The soil borne fungus was first identified in Massachusetts last October by Dr. Frank Caruso, extension plant pathologist at the University of Massachusetts Cranberry Station. He has also found it in some of the larger bogs in New Jersey.

It is a fungus that can remain in the soil for many years and, in fact, may have been on cranberry bogs for decades. Also, there may have been patches of vines that have died from the disease in the past but were assumed to

have been stricken from being in low, wet areas.

Two consecutive wet springs are now being blamed for a significant spread of the disease.

The fungus attacks and destroys cranberry vine roots, starting with low spots on the bog and expanding over subsequent growing seasons.

Phytophthora is considered a

subtropical fungus "usually found in warmer climates," Dr. Carus said. "To find it this far north i surprising."

Last December Dr. Caruso an Chuck Kusek of Ocean Spra filed a request for emergenc registration of Ridomil 2. (metalaxyl) on cranberrier Although approval came i "record time," it was mid-Jun



before growers had the go-ahead from the Environmental Protection Agency to use the fungicide.

Before a grower can apply metalaxyl to a bog, the presence of the disease on cranberry vines must be verified in writing by the Cranberry Experiment Station.

Metalaxyl has never been used on cranberries before, but it is widely applied to other crops, including raspberries, tomatoes and apples. Results are not expected to be seen before the end of the growing season and two growing seasons may be required before conclusions can be drawn, Dr. Caruso said.

He told growers that preventive treatment should be repeated where a problem exists. This means there is a good possibility the cranberry industry will be asking the EPA for another emergency exemption next year.

In the meantime, Massachusetts cranberry scientists are working toward registration of this fungicide and possibly others to solve the problem in future growing seasons. Rates, timing and other parameters need to be examined with respect to the registration process, Dr. Caruso said.

When EPA approval was given for the emergency use of the fungicide against Phytophthora, a media blitz occurred with headlines such as, "Deadly Fungus Threatens State's Bogs." Growers, flanked by researchers, were interviewed for TV, radio and newspapers far ahead of the annual harvest coverage.

Although growers are concerned, no heavy crop loss is expected from the fungus. Crop specialists expect the disease to affect less than 1 percent of the 1987 crop.

CRANBERRIES has been published continuously for 51 years.



"WHAT'VE I GOT THERE? OH, JUST SOME PHYTOPHTORA CINNAMOMI. BUT IT AIN'T HARMFUL UP NORTH."

"OH YEAH?"



ADVANCED SYSTEMS, INC.

### Cranberry Bog Aqua Sander



Improve Crop Yields

Eliminate Vine Damage

> Reduce Sanding Costs

Sand Anytime



Maintenance free Aqua Sander pumps up to 40 tons an hour of sand on your bog without damaging vines or relying on ice.

The Aqua Sander is a highly effective material handling system. The "heart" of the Aqua Sander is the IPEC Universal Jet Pump. The unique design of the IPEC Jet Pump, based upon advanced jet pump technology converts pressure energy into velocity energy thus allowing the transport of sand (15 to 30 yards an hour is not uncommon) over long distances through easy to handle 3" diameter hose. Having no moving parts, the Sander is virtually maintenance free, and its simplicity of operation requires no skilled.

labor. These two reasons plus the ability to sand anytime make the sander a must for every bog owner. Motive power for the Aqua Sander is normally pressurized water provided by a portable water pump. The sander requires supply pressure of 100 psi at 140 gallions per minute. Maximum transport distance is approximately four hundred feet using 3" hose. Longer transport distances are possible by increasing the supply pressure.

For more information contact:

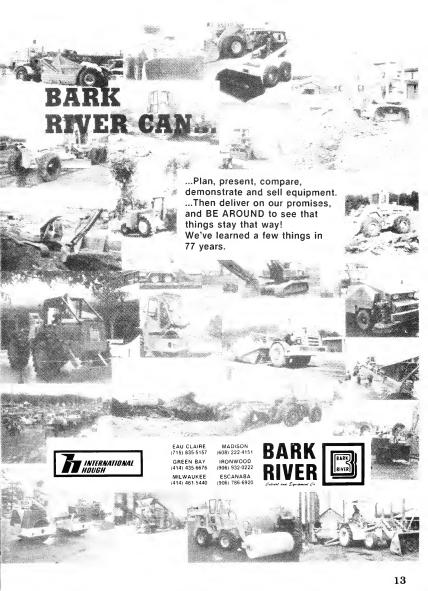


ADVANCED SYSTEMS, INC.

P O Box 996 North Kingstown, RI 02854 (401) 295-8802

320 Midd

Rocky Meadow Bogs 320 Purchase Street Middleborough, MA 02346 (617) 947-2610



### Marketing Order Overwhelmingly Okayed

By CAROLYN GILMORE

The U.S. Department of Agriculture announced June 25 that cranberry growers voted "overwhelmingly" to continue their federal marketing order.

Fifty five percent of the 992 eligible cranberry growers in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington and Long Island voted in the May 20-30 referendum. Of those voting, 92 percent, accounting for 95 percent of the volume of production represented, favored continuance, according to J. Patrick Boyle, administrator of USDA's Agricultural Marketing Service.

"In view of the overwhelming producer support for the program in these areas. USDA will continue, for another four years, to administer the federal marketing order for cranberries," Boyle

The marketing order program under which cranberry growers operate requires a referendum every four years to determine if growers continue to support the order. The program for cranberries was initiated and designed in 1962 by growers in cooperation with the Agricultural Marketing Service.

Originally, the order controlled the volume of marketed berries, stemming boom and bust conditions affecting cranberry production and assuring a steady flow of cranberries to market. In recent years, Boyle said, the order has functioned as a clearing house for marketing statistics dealing with the thriving cranbers industry.

David Farrimond, Cranber Marketing Committee manage called the growers' 92 perce favorable response "a vote faith for the committee, which has shown itself to be responsi to the industry." The CMC w esttablished as an administr tive body, appointed by t secretary of agriculture administer the marketing ord

"Growers are looking to t committee as a neutral entity represent and speak for t industry," Farrimond sa "Growers are looking for stall ity in the marketplace and now looking for the committee maintain this stability. This the primary function of 1 committee."



### MIDDLEBOROUGH TRUST COMPANY

### The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham • Carver Square, Carver Telephone all offices 947-1313

The annual meeting of the Cranberry Marketing Committee is slated for Monday, Aug. 17 at 9 a.m. in the Sheraton-Plymouth Hotel in Plymouth, Mass. All rowers are invited to attend.



(715) 887-3755 THE WEST WEST

# R.D.GRASSI Cranberry **SERVICES**

**Herbicides Applied** 

Sandina Wiping Wet Harvesting Mowina

> (Mowing includes Hydraulic Arm Flail Mower.)

West Wareham. Massachusetts \*\*\*

Ask for Rick at 295-5158



#### **Irrigation Equipment Designed** Especially for the Cranberry Industry

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polyethylene Main Lines. 3" - 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- · Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550



**Larchmont Engineering** Phil Tropeano, President (617) 862-2550 (Call Collect)

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048



### REGIONAL NEWS NOTES

#### MASSACHUSETTS

By IRVING E. DEMORANVILLE

Dr. Frank Caruso, Joan Lasota and Karen Rosenberg visited the Cranberry/Blueberry Station and several cranberry bogs in New Jersey on May 11 and 12. They were looking for areas infected with cranberry dieback diseases.



#### CRANBERRY INSURANCE SAID TO BE AVAILABLE

Maine Mutual Fire Insurance Co. of Presque Isle, Me., announces that cranberry coverage is now available for 1988 under the Federal Crop Insurance Program. Maine Mutual is the largest federal crop insurance writer in the northeast,

Previously, coverage was available exclusively through private multi peril crop insurance programs.

307 West Grove Street (Rte 28) Middleborough MA 02346

### Diesel Equipt.

2 & 4 wheel drive — 12-90 hp.

Compact Excavators 11/2 to 6 ton

Wheel Leaders 1/2 to 3/4 vd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements

Polymark Beaver-Mowers 947-6299 Specialty Fabrication Work

Kubota Financing as Low as 81/2%

**₹0**±. **₹0**€ ₽₹0 ₹0 1₹0′ ₹0′ ₹0

22 years experience 🛬 🍮 construction lifts 🧺



· MUD LIFTING ·



· BERRY LIFTING · nylon berry bags bulk bins

> JOE **BRIGHAM** INC

lightweight durable contact

PETER - CHUCK 617-295-2222



ABATON'.

mat rentals & sales

### STAY INFORMED

For 50 years, we've been the source growers turn to for the latest industry news, regional reports, grower grofiles, weather statistics, recipes, humor, and more.

So don't miss a single issue of CRANBERRIES, The National Cranberry Magazine. Subscribe today! \$10 a year - \$18 two years

Send check or

Send check or money order to:

CRANBERRIES P.O. BOX 249 COBALT CT 06414 "We're Best on Earth"
One yd. CAT backhoe

Bog Construction Land Clearing Canal Work Flume Setting Pond Construction Ditching

Office 295-2222 BEATON'S

K. Beaton 295-2207

D. Beaton 888-1288



MASS.

Specializing in

P. Beaton 947-3601



Also

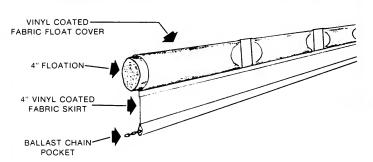
15 ft & 20 ft Hydraulic Arm & Flail Mowers, Rotary Ditchers

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes

### BogBoom!!

To harvest your cranberries with less labor and more efficiency, Containment Systems Corp. offers our new BOG BOOM.

### Bog Boom cranberry harvesting floating boom



Bog Boom is tough. With a shorter skirt designed for the shallower bogs. The solid PVC skirt improves the strength and durability of our boom.

Containment Systems Corp. is now taking orders for the 1987 harvest season.

To Order Call or Write:

Plant

P.O. Box 1390 Cocoa FL 32923-1390 (305) 632-5640 Sales

4518 Bucktail Drive Allison Park PA 15101 (412) 487-1230

# Cranberry Company Head Helps Dedicate Peace Shrine in Okinawa

Back in the 1940's, Leo Sorensen was a first lieutenant in the Marines, battling Japanese soldiers on the island of Okinawa.

On Flag Day this year, he was one of about 100 6th Division ex-Marines who joined their one-time Japanese adversaries in Okinawa to dedicate a 25 foot high, white granite monument to international peace.

Sorensen, president of the Sorensen Cranberry Co., resides

### CMC FIELD REP HIRED

The Cranberry Marketing Committee (CMC) recently hired George Resin of Wisconsin Rapids to assist Clayton Garnet with CMC field duties in Wisconsin, announces CMC Manager David Farrimond.

Resin has been employed as an agricultural equipment salesman and is familiar with Wisconsin cranberries through relatives in the industry.

Resin can be reached at 408 Taylor St., Wisconsin Rapids WI 54494. Telephone: (715) 423-8958.

### THE WELDING BOOTH

Portable heli-arc welding for aluminum, stainless and steel

Repairs and fabrication done at shop also

23 Kingman St. East Taunton, Mass. 02718

(617) 824-4780

in Wisconsin Rapids, Wisc. He joined the Marines in June 1942 after graduating from the University of Wisconsin/Madison with a degree in botany.

The combat veteran participated in the Japanese surrender ceremonies in Tokyo in Sept. 2, 1945.

He met his wife, Bonnie, a Navy nurse, in Guam.

Discharged in 1946, Sorensen was promoted to captain in the Marine Reserves in 1952.

Sorensen is past president of the Wisconsin Cranberry Growers Association.

The \$100,000 shrine is titled the Garden of Remembrance.



LEO SORENSEN



### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4-3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

### Oregon Growers Elect Directors



LEADERS of the Oregon Cranberry Growers Association are, left to right: James Jackson, past chairman; Ted Freitag, chairman; Allan Cram, board member; Joe Moya, secretary/treasurer; Wayne Scherer, vice chairman; John Sweet, board member, and Ray Hopper, past secretary/treasurer. The new officers were elected May 22 at a board meeting in Banon, Ore.

(CRANBERRIES photo by Arthur Poole)

#### By ARTHUR POOLE

The Oregon Cranberry Growers Association (OCGA) recently elected new directors to the voluntary, nonprofit foundation.

OCGA was organized in 1984 to support educational cranberry research, with an emphasis on current problems.

Cranberry growers, regardless of market affiliation, contribute to the organization on a voluntary basis at the rate of 8 cents per hundredweight (barrel) of screened production. Four projects are being supported this year under the direction of researchers at Oregon State University and Washington State University.

Projects are listed below with the name of the principal investigator, the research topic and

### 2,061.43 Acres For Sale

in

### Bandon, Oregon

72.5 acres cranberry producing bogs; 30 acres prepared, irrigated, ready for planting; 50 acres recently replanted timber reproduction land; 849 acres cleared land; 996 acrestimber reproduction land; 50 acres marshland; 14 acres nonforest, road, pond and rock pit areas.

Bogs planted with Stevens, Ben Lears, Crowley. Automatic sprinkler system. Good pond. Pumping System. Graders, back hoes, etc.

### **Asking \$2 Million Cash**

Terms Available

Pacific Corp Business Credit Inc. Eugene, Oregon 97402 2720 Roosevelt Blvd.

#8

(503) 461-2043

Ask for Dick Murphy

the amount of support:

Dr. Glenn Fisher, Oregon State Extension entomologist; black vine weevil control: \$500.

Dr. Michael Burgett, Oregon State University associate professor of entomology; an evaluation of pollinator management as applied in the commercial production of cranberries; \$2,046.

Dr. Peter Bristow, associate plant pathologist, Western Washington Research & Extension Center, Washington State University, Puvallup; rose bloom: its effect on vield and control: \$1,000.

Dr. Richard Cavaletto, Oregon State University assistant professor of agricultural engineering: improved water harvest of crapherries: \$2,709.

The OCGA selected these projects for funding after receipt of proposals solicited from cranberry extension and research workers. The OCGA board of directors contributed a total of \$6,255 to support the above named projects, based on priorities identified by the grower members.

### Weather Watch

#### MASSACHUSETTS

Temperature for May was slightly below normal, averaging 0.2 degrees a day on the minus side. The last four days of the month were much above normal, which made up for the balance of the month being cold. Maximum temperature was 94 degrees on the 30th, a record high for May, breaking the old record set in 1931. Minimum temperature was 33 degrees on the 14th. Cooler than average days were the 1st, 3rd-6th, 8th, 13th and 24th, Warmer than average days were the 10th, 17th and 28th-31st

Rainfall totaled 2.87 inches, about 0.6 inch below normal. Rain occurred on 10 days, with 1.30 inches on the 4th-5th as the greatest storm. Most of the rain came in the first week, with less than 1/2 inch during the last 25 days. We are just over 7 inches above normal for 1987 and about 61/2 inches ahead of 1986.

There were two days with frost warnings in May and one in June to date. May 13th, with a temperature range of 16 to 24 degrees, was dangerous, but with only small, spotty areas of damage. On June 6, temperatures were in a range of 25 degrees and up. This sneaked in unexpectedly, but

growers were warned in time.

Weather data through June 1st show a total of 6 points of a possible 16 that favor keeping quality for the 1987 Massachusetts cranberry crop. The prospect is for fair to good keeping quality. The spring has been warm, which is not favorable. And while two of three spring months have been drier than normal, which is favorable, April was wet. Growers should always consider fungicide treatments as a good investment, especially on bogs that have had quality problems involving rot fungi in the past.

I. E. D.

#### NOVA SCOTIA

Plant development is slightly behind the normal for this time of year. We experienced frost on several nights during the latter part of May. Heavy rainfall during the period June 5 to 9 has alleviated any shortage of ground water.

I.V.H.

### The CHARLES W. HARRIS **Company**

451 Old Somerset Avenue

North Dighton, Mass.

Phone 824-5607

AMES

Irrigation Systems

RAIN BIRD

Sprinklers HALE

Pumps

**Highest Quality Products** with Satisfaction Guaranteed

#### **CRANBERRY GROWERS** REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537

(617) 888-1288

### Niemi Electric Co.

ROBERT NIEMI

### ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehurst Dr.

Wareham, Mass.

# Cautions That Growers Must Be Circumspect About Supply & Demand

By LAWRENCE S. COLE

Ocean Spray's new acreage/ newmember policy is in response to an industry problem. How we as individual growers, co-op members and independents, established growers and newcomers alike respond will determine if we are plagued with a surplus or continue to keep supply and demand in line.

Grower participation at our

meetings has been encouraging. Many have spoken. I regret that I have been too outspoken. There are no easy answers. Faced with a variety of concerns, the board's policy does reflect a fair cross section of the views of a majority of our members and we as a minority will have to accept their decision.

Projections of supply and demand have changed. What was an impending surplus now indicates a shortfall. But there is a paradox. While the prospects from one segment of our industry is still expanding, others see their supply and demand in reverse with returns per barrel going down noticeably.

Air photography shows that percentagewise, there has been greater expansion among growers shipping to independent handlers than to our co-op. To add substantially to this probable.







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

lem has been their swing to wet harvesting. Some independent handlers have estimated that over three-fourths of their berries are no longer for the fresh fruit market. Industrywide fresh fruit sales have declined to over 50 percent in the last four to five years. This is unfortunate.

Historically, independents have always taken a lot of pride in fresh fruit. This has provided our industry with the best kind of competition for it is based on quality, not price. What was formerly fresh fruit now becomes a part of those extra berries without a firm market.

Still, the desire to build more new acres remains strong. Like the rest of American agriculture, we, too, take great pride in our ability to produce. Now given the incentive we have in the cranberry business, enthusiasm for new acreage can increase our crops faster than any sales team can keep pace. Out of control production has plagued every farm commodity in America. Are not cranberries just as vulnera-

ble to overproduction as any other crop?

Unless we as individuals, newcomers and old-timers alike can restrain our desires for more acres and bigger crops, substantially above and beyond what

Contact Dan Sullivan 23 Rear Chauncy St. South Weymouth MA 02190 (617) 337-4728



Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956

(William D. Chamberlain)

the market can tolerate, another surplus is sure to follow.

It is understandable that those who invest most in research and development should feel justified in planting more acres. In a way, it does not seem fair for others who spend little or no money on building our markets to build more new acres. But that's the way it is in a free economy. Because some fail to appreciate or recognize the limitations of their handlers, this should serve as a reminder as to what the rest of us can expect when our sales organization is confronted with an overburdened market.

Our team has an enviable record in the research and development of new products and innovative ideas. Our sales increases are among the best in all agriculture. Management can advise us of our needs and warn us of our excesses; but we have to discipline ourselves. Legally there is no other way.

Of course, there are always opportunities to increase the demand for cranberries; but how and how fast to keep up with our increasing crops should be an important concern of all growers.

Consider the past, for history does have a way of repeating itself. As an "old-timer," I obviously don'thave all the right answers, but there are certain experiences we should try to avoid.

The 1946 cranberry crop paid \$32 to \$36 per barrel. The 1949 crop, once it was sold and I was able to divide the number of barrels I delivered into the cash I received, netted me \$5.51 and I had to wait nearly three years to get that! I belonged to the Eatmoor Fresh Fruit Co-op. But Ocean Spray wasn't doing much better. On the 1947 crop, it had to pay back approximately \$1.50 per barrel as the final pool earnings were less than the down payment about three years earlier.

Why? Because of a surplus that settled upon us, almost unnoticed,

in the good years. This surplus had to run its course before we could start to regain the lost confidence that lingered on in the marketplace. It took seven to eight years before our returns would allow most growers to break

### J.A. JENKINS & SON CO.

**Grower Service** 

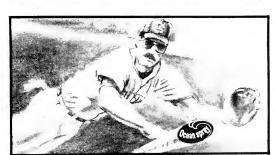
MOWING (ALL TYPES) SANDING DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018





### Temporary Fresh Fruit Inspectors:

### We Need Your Experience in the Field.

Over the years, you've developed an eye for quality and a head for managing a team. You have a solid agricultural background, and want to put your experience to good use. So this season, get back into the big leagues with Ocean Spray.

We need a number of seasoned supervisors hands to join our FIELD STAFF from July through November You'll check the quality of our gowers crops and serve as an expert advisor in matters related to dry harvesting. The salary is excellent. The job is important. And you'll copy the special feeling of being out standing in the late.

Qualified candidates please call Brenda Hughes at (617) 747-1000, ext. 2479. Ocean Spray is an equal opportunity employer M.F.



A Special Part of America

Adjusting to these lower returns was not easy. This was especially true for the larger grower, who was expanding with and operating on borrowed money and a larger overhead. Many growers were forced into foreclosures and even those of us who have the same on saw our bogs deteriorate badly.

By 1955 Ocean Spray paid \$8.24, excluding retain and dividends. In 1958, it was up to \$11.92. Then came the cranberry/cancer scare and we had to go through another difficult period of years. Still, we are more vulnerable now to herbicides /insecticides than we were then.

Before our present general manager took over in 1972, we experienced yet another difficult period of several years. I got so far back on my town taxes that I went to our town treasurer and tax collector and asked Mr. Erickson not to auction off my bogs for nonpayment of taxes. His response: "If I tried to auction off your property, I would have to auction off three-quarters of the Town of Carver for nonpayment of taxes and there just isn't anyone who is interested in buying bogs at any price under present conditions."

Hopefully, the Cranberry

### For Rent, Lease Or Possibly Sale

Nonproductive, abandoned 20 acre cranberry bog.

New Gretna, N.J. (201) 229-1649

Ask For Dr. Keagle Marketing Order is still with us. It is administered by and has a Board that is familiar with a farmer's plight brought on by overproduction. Still, the majority of the Board in the early 1970's would not implement it.

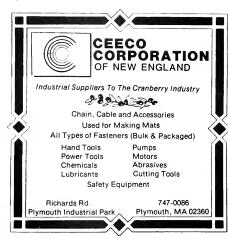
This committee does collect much useful information unavailable from any other source. Last year this information indicated the probability of a serious impending surplus; this year it was more optimistic.

Isn't it apparent that our industry is straddling a chang-

ing line between supply and demand: between too much and not enough? Those difficult years of the past can be avoided. As individual growers, let's all keep in mind that a firm market is much more rewarding than too many new acres.

P.S. To my cranberry friends and adversaries: Please feel free to correct or disagree with this editorial. Write your own editorial.

(Lawrence S. Cole is a veteran grower in North Carver, Mass.)



# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G \* EVITAL \* GUTHION DIAZINON 14G \* PARATHION \* ETHREL

### Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581

### MANAGER REQUIRED

for a large cranberry operation on the Canadian West Coast. Must be fully experienced in all aspects of cranberry production.

(604) 278-6271

CRANBERRIES
Has Served the
Cranberry Industry
for 51 Years.



381 West Grove St. (Rte. 28) Middleboro, MA 02346

(617) 947-6299



Tractors, Excavators and Diesel Generators



Wheel Loaders 3/4 Yd - 6 1/2 Yd

Mexacini

Screening Equipment

### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue PTO shaft

with

marine bearing

Phil Helmer 1060 3rd St. N. Wissensin Panids WI

Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285



000000000000000

## Coordinated investment management programs.

Gage-Wiley and Company has been serving New England investors since 1933. As a special service for our clients seeking full-time investment management, Gage-Wiley works closely with a team of selected non-affiliated investment advisors. This association enables Gage-Wiley to give clients access to the expertise of institutional investors and the personalized service that has become Gage-Wiley's trademark.

Call a Gage-Wiley investment counselor today to learn more about coordinated investment management programs and the wide variety of other investment opportunities and financial services we offer to meet our client's varying needs.



### Gage-Wiley & Company Incorporated

Village Landing Box 3507 • Plymouth, MA 02361 617-746-3322 • 800-242-0263

Member Securities Investor Protection Corporation

### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

of
Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

CRANBERRIES gives you the news and views of the industry.

CRANBERRIES is read by more than two-thirds of the growers in the U.S.

No matter how small your business, you can afford to place an ad in the magazine that serves the industry: CRANBERRIES!

### Pump Repairs

All Types
SALES

Field Service & Shop 20 Years Experience

#### AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

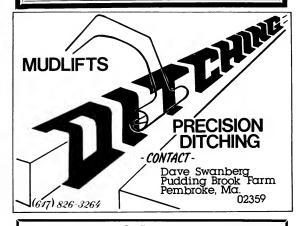
### **Cranberry Grower in Canada**

requires an administrator to oversee cranberry operation of several hundred acres.

**Experience Necessary** 

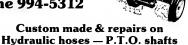
Phone (416) 625-5688

Nardaq Investments Inc. Mississauga, Ontario 1395 William Sport Drive Canada L4X 2T4





Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer



Insecticide Tin
Co-op Headquarters — 20



## henological Timing of nsecticide Applications o Control the cranberry Fruitworm

CHARLES F. BRODEL<sup>1</sup> tract. A phenological wth stage of cranberry used to time insecticide lications for the control ranberry fruitworm eggs larvae in Massachusetts. I years of trials, applying 1st treatment 4 to 14 days er "50 percent out of om" led to statistically ivalent crop reductions. ts treated with parathion, zinon, or chlorpyrifos tained 2 to 8 percent of losses observed in reated plots. Delaying the treatment until 17 to 22 s after "50 percent out of om" resulted in substanly greater losses. Data on progress of bloom, moth ergence, and egg deposi-n aided in understanding efficacy of this timing hod. For the last 5 seas, the method has been d routinely by Cooperative ension and Cranberry I Program personnel in king recommendations to itrol the cranberry itworm.

he cranberry fruitworm (CF),

frodel conducted these studies while arch and Extension Entomologist at Mass Cranberry Experiment Station, Wareham, Mass.

#### COVER PHOTO

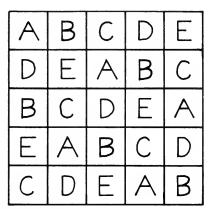
OTOGRAPHER Cornelius genbirk captured this nning photo during harting at the Lee Brothers' tin Chatsworth, N.J. Acrobasis vaccinii Riley (Lepidoptera:Pyralidae), is the most commonly occurring insect pest on Massachusetts cranberry bogs. Year after year, not many of the nearly 12,000 acres in the State escape evidences of an infestation. That is why one will not likely overhear a grower asking, "Do I have CF on my bog this year?" Instead, his query will almost certainly be, "When should I apply insecticide to incur the least damage from this pest?"

In the past, insecticide applications for the control of CF eggs and larvae were scheduled according to one of 2 methods. The first involved calendar dates. It was noticed that, on average,

fruit appeared on a particular bog by a certain date. This date was recorded as a reference point. Each year thereafter insecticides were applied at the same general time, with allowances made only for weather conditions, the availability of applicators, and the amount of acreage to be treated. The method was unreliable because it did not relate to what was happening on the bog during specific growing seasons.

The second method involved monitoring CF egg populations. For each set of 100 randomly picked berries, growers tallied the number of unhatched eggs observed with the aid of a magnifying glass. When the number





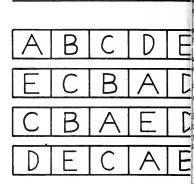


Fig. 1

Experimental designs for field trials: Latin square on left and randomized complete block right.

reached or exceeded a so-called "economic threshold level", it was time to schedule an application. This method was preferable to the calendar method because it related to biological happenings on the bog during a given season. The following problems limited its usefulness, however: (1) At low egg population levels, inspecting 100 or even 200 berries per bog was not sufficient to determine whether or not to apply insecticide, (2) Sampling and inspecting berries was a time-consuming process, (3) The "economic threshold level" often was reached in midto late bloom, a time when insecticide applications cannot be made without killing pollinators and reducing fruit set, and (4) As the monetary return per barrel of cranberries steadily increased after 1978, the "economic threshold level" dropped to one or fewer eggs per 100 berries (Brodel 1980), a level having no utilitarian value.

To overcome these drawbacks, a different scheduling method was developed. It was based on "phenological" events on the bog. "Phenology" may be defined as the study of recurring natural phenomena, such as blossoming and migration, and their relation to environmental conditions, such as temperature and day length. For crop and non-crop systems alike, the occurrence of a particular life stage of an insect pest happens at about the same time of year as the occurrence of a particular growth stage of the host plant. The dates on which these stages occur vary from year to year, however, according to the extent to which average daily springtime temperatures deviate from the norms. Taking these and other considerations into account. I decided to schedule applications according to the date on which a given stage of vine development occurred. The results of 3 years of testing are reported here.

#### Materials and Methods

Field studies were conducted in 1981, 1982, and 1985 at State Bog in East Wareham. In 1981, one trial was conducted on a section of 'Early Black' cranberry that had not been treated for CF during the previous 2 years. Two trials were done on other areas of the same section in 1982. In 1985,

one trial was done on a sectice 'Howes' cranberry that had been treated for CF during previous year. All areas sele for the trials were judged to luniform vine coverage and v

Progress of Bloom Determination of Biofix. progress of bloom was asset every 2 to 4 days. To do so, a1 was tossed onto the bog a randomly selected places in vicinity of test plots. For toss, floral structures vo inspected on 10 vine uprile consecutively spaced along ex edge of the ruler. Closed he viable, open flowers were count as one category. Flowers hi mostly detached petals and te which had begun to develor fruits were counted as and so-called "out of bloom" catego The counts for each cate were summed for all 10 toss the ruler. The percentage of f structures in the "out of blow category on a given date calculated and plotted on g paper. The date when the centage reached or exceede was called the "50 percent cim bloom date." This biofix, the ich a specific stage of vine opment occurred, became ro point for scheduling all insecticide applications.

rimental Design. A 5 x 5 square design was used in and 1982. Each of 5 treat-(A-E) was repeated 5 times ch treatment appeared only in each row and column ig. 1, left). Treatment plots eparated by 1-ft pathways. 1985, a randomized comblock design was used. Each reatments (A-E) was ranplaced within each of 4 s (see Fig. 1, right). Blocks staked out parallel to a rather than perpendicular This layout insured that oximately equivalent tions of fertility, water y, and insect pest pressure l likely occur among the 5 whithin each block. ment plots were separated t pathways within blocks to 5-ft pathways between

ardless of design, a treatconsisted of a schedule of 3 ticide applications, the 1st ich was timed relative to ofix. All plots measured 5 x

cticide Applications. insecticides commonly yed to control CF eggs and e in Mass. were included in ials. The following formus2 and rates were used: 1: parathion 8E (Platte

ical Co.) at 1 lb of active lient per acre (a.i./A) 2: parathion 8E at 1 lb

2: diazinon AG500 (Ciba-Corp.) at 3 lb a.i./A 5: chlorpyrifos (Lorsban 4E; Chemical Co.) at 1.5 lb \*

appropriate amount of

insecticide to be applied to each plot was diluted in 1.8 pints of water. This volume of water is the equivalent of 400 gallons per acre, a gallonage typically applied by overhead irrigation systems during insectigation. In 1981, insecticides were applied using a 2-gal, galvanized compressed air sprayer made by Hudson Manufacturing Co. Twogal, polyethylene compressed air sprayers (Spray Doc®; Leigh Products, Inc.) were used in 1982 and 1985.

Schedules for the FIRST insecticide application were as follows:

	B: 4 da	sys efter be	ofix, or July 6	
	C: 7		or July 9	
	D: 11	-	or July 13	
	E: 14	-	or July 16	
1982: Treatm	nent A: no in			
**	B: 11 e	days after t	piofix, or July 23	
	C: 14		, or July 26	
-	D: 18		, or July 30	
-	E: 22		, or Aug 3	
	nent A. no in			
	B: 10	B: 10 days efter biofix, or July 22		
	C: 13		, or July 25	
			or July 29	

Second and 3rd applications were made at intervals of about 10 days after the 1st, with adverse weather conditions causing delays of up to 2 days on several occasions. The 10-day interval was selected because it typically takes that long after an insecticide application for a new group of CF larvae to appear. With few exceptions, insecticides were applied within 3 hours after sunrise.

Monitoring CF Moth Populations. Six, wood-framed cages lined with aluminum screening were placed on the bog near test sites. Each measured 4 x 4 x 1.5 ft and had 2 hinged doors on top to allow access. Beginning in mid-June, cages were inspected every 2 to 4 days during twilight for the presence of newly emerged CF moths. Moths were captured in killing jars, counted, and later sexed under a stereoscope. Monitoring was done to determine when moths appear relative to the onset of fruit development and, thus, when eggs might reasonably begin to be deposited.

Monitoring CF Egg Populations. Two samples of 100 randomly picked berries from areas within 30 ft of the study sites were taken every 3 to 4 days. Sampling began on July 2 in 1981, July 12 in 1982, and July 18 in 1985. Berries were inspected at the blossom end for viable eggs, that is, ones with an orange-red line, indicating a 2-to ......

## Irrigation Supplies

- 2" to 12" PVC Pipe with Fittings
- Quick Couple Risers
- Feiker Aluminum Flumes & Culverts

Replace old aluminum mains with government approved 4", 6" and 8 " polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow for buried laterals.

> STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

......

on of a trade name does not imply ement of the product as opposed to milar products containing the same ngredient.

6-day-old egg, or without the ring, indicating a 0- to 2-day-old egg. (Note: Blackened eggs indicate parasitization by a species of Trichogramma wasp. Such eggs were counted, as well as hatched, unparasitized ones, but the data are not included in this report.) Egg monitoring was done to determine the severity of the CF infestation and to provide information which might be used to interpret the results of the field trials.

Assessment of Treatments. Cranberries were harvested during the 1st week of October in 1981, the 1st and 3rd weeks of October in 1982, and the 3rd week of September in 1985. A random numbers table was used to generate the coordinates of 3 sample sites per plot. No sample site was located less than one ft from the border. At each site, a circular, 1-ft² area was handharvested, such that damaged

and undamaged berries of all sizes were removed. Berries were placed in plastic bags and stored in a freezer until a later date. They were then inspected under a stereoscope for characteristic signs of feeding injury by CF larvae.

For all trials, the number of berries per ft2 and the percent injured berries per ft2 were determined. The following parameters were also determined: the number of salable berries per ft2 and the number of berries in a standard 8-ounce cup in 1981, and the total number of unsuccessful larval entries per treatment in 1982. For the last parameter, berries were inspected at the stem end for a tiny, circular area of brown scab tissue. Berries with a feeding hole were split open to verify a larval tunnel and the dead or missing larva.

Statistical Analysis. Data were analyzed using the appropriate

analysis of variance (anova) a means separation was accor lished with the Student-Newm Keuls test at the 5 percent pr ability level. All percentage di underwent arcsine transfort tion before being subjected anova, and means were bs transformed for persentat purposes.

Results and Discussion Monitoring the progress bloom led to the following 1 fixes: July 2, 1981 and July 1982 for 'Early Black' and J 12, 1985 for 'Howes'. The f and last biofixes might be cocedered typical for the varietie question. In 1982, an unusu cool June delayed the onse bloom by about 10 days. The fix that year was theref delayed by about the sa

Data relating CF moth er gence and egg deposition to

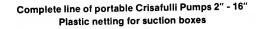
number of days.

Office 295-2222

D. Beaton 888-1288

D. Beaton Specializing in

P. Beaton 947-3601



gress of bloom are graphically sented for 1981 and 1982 in s. 2 and 3, respectively. As ted above, the onset of bloom urred about 10 days later in 2 than in 1981. In 1981, CF th emergence began at scated bloom and continued into 1st week in August. The curve 'cumulative percent moth ergence', based on a total catch 12 moths, had a gentler slope n the curve for 'percent out of om' and was separated from latter by from 3 to 10 days. ough not apparent in the ph, a large emergence peak urred from about June 29 ough July 8 followed by a k half its size from July 13 to 25th, As shown, egg deposi-1 followed moth emergence sely, with the occurrence of major peak from July 7 ough July 13 and the minor around July 23.

1 1982, moth emergence began

l before scattered bloom. The then decreased such that, after July 7, the curve for 'cumulative percent moth emergence', based on a total catch of 68 moths, followed that for the 'percent out of bloom' by from 3 to 10 days. As in 1981, moth emergence was negligible by the

end of the 1st week in August. A single peak of emergence, not shown, occurred from July 18 through the 21st. This led to a single peak of egg deposition around July 22.

Several other points need to be

307 West Grove Street (Rte 28) Middleborough MA 02346

### KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive - 12-90 hp.

Compact Excavators 1½ to 6 ton Wheel Leaders ½ to ¾ vd.

Water Cooled Diesel Englnes 4 to 104 hp.

All Types of Implements Polymark Beaver-Mowers

947-6299

Specialty Fabrication Work
Kubota Financing as Low as 81/2%

#0= #0 #0 #0 #0 #0 ±0#





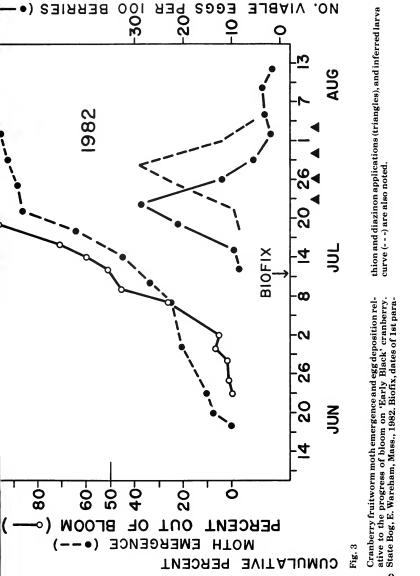


Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

Cranberry fruitworm moth emergence and egg deposition relative to the progress of bloom on 'Early Black' eranberry.

thion applications (triangles), and inferred larva curve (- - -



elucidated regarding the monitoring results for 1981 and 1982:

(1) The biofix occurred well before major peaks of egg deposition.

(2) The biofix occurred about 3.5 days before the date for 50 percent moth emergence. This relationship is probably coincidental, but it deserves further investigation.

(3) Most CF eggs were deposited after at least 80 percent out of bloom.

(4) Although peaks of moth emergence were followed closely by peaks of egg deposition, this relationship should not be expected to hold every year. After moths emerge, weather factors strongly influence when mating and egg deposition take place. Rainfall, strong winds, and cool, dry air all act to delay these processes.

(5) Table 1 shows that the ratio of male to female moths newly emerged in cages ranged between

Table 1. Sex ratios pertaining to cranberry fruitworm moths captured in emergence cages. State Bog, E. Wareham, Mass. 1981-82.

	No. moths sexed	Male/female ratio
1981	355	1.2
1982	48	1.0

1.0 and 1.2. Tomlinson obtained, ratios of 0.6 (1962) and 0.8 (1966) by using blacklights to capture large numbers of moths throughout the summer months, but his samples consisted of moths of all reproductive ages. In a similar study, however, the ratio of males to females was 1.2 (Tomlinson 1970), more in agreement with current findings. Knowing the sex ratio for a species and the number of individuals emerged per unit area ena-

bles one to estimate potent egg production. When timi insecticide applications, it is a important to know whether o sex of moth greatly outnumb the other at the beginning of temergence period. Whe predominance occurs, a lag per usually precedes egg depositi In 1981 and 1982, CF male a female moths emerged approximately equal numb throughout the emergence periolecause most CF females m



## Arthur G. Carroll

Crop Insurance Agency

Home Office RFD 2, Box 764 Limerick, ME 04048

(207) 793-8988

## New England's Largest Crop Insurance Agent

New England's only 100% crop insurance agency, we write for three different companies. We are your experienced agent.

Now is the time to take a look at your crop insurance coverage for the period Nov. 21, 1987 through Nov. 20, 1988. Recent changes have made crop insurance even more desirable. To learn what those changes are, drop us a line or give a call. We'll be happy to help you, just as we've helped other growers over the years.

Protect Your Crop Investment — Give Yourself Peace of Mind

able 2. Efficacy of phenologically timed insecticide applications used to control cranberry fruitworm eggs and larvae. State Bog, East Wareham, Mass. 1981-85<sup>a</sup>.

nsecticide trial <sup>b</sup>	Timing of 1st applic.c	% infested berries	No. berries/	No. salable berries/ft <sup>2</sup>	No. ULE <sup>d</sup>
arathion 1981, EB	4 7	2.7 a 1.5 a	324 a 316 a	292 a 280 a	-
1301, 22	11 14 Untreated	1.2 a 2.2 a 39.1 b	316 a 268 a 268 a	285 a 241 a 110 b	-
arathion 1982, EB	11 14 18 22 Untreated	1.1 a 1.5 a 5.5 b 11.1 c 64.2 d	209 a 189 a 193 a 205 a 198 a	- - - - -	101 98 96 56 5
iazinon 1982, EB	11 14 18 22 Untreated	1.2 a 2.0 a 7.9 b 10.3 b 39.2 c	195 a 204 a 193 a 194 a 212 a	-	114 149 137 89 11
orsban 1985, H	10 13 17 20 Untreated	3.1 a 5.1 a 4.5 a 9.9 b 51.6 c	192 a 196 a 209 a 201 a 246 a	- - - -	- - - -

For each set of treatments, means followed by a dissimilar alphabetic letter are significantly different.

EB= 'Early Black' variety; H= 'Howes' variety

Numbers represent days after biofix, or "50% out of bloom"; 2nd and 3rd applications at about 10-day intervals after 1st.

Total number of unsuccessful larval entries

ter emerging (Tomlinson 1966), g deposition should be anticited to begin as soon as suitary developed fruits are available. In 1985, there were 2 peaks of g deposition on 'Howes'. An verage of 6 viable eggs per 100 erries accurred on July 18-22, fter a steep decline, the averge increased to 6.75 from July through August 1. These peaks llowed the biofix by about 8 and 19 days, respectively.

d deposit eggs within 7 days

The efficacy of phenologically med insecticide treatments can assessed by studying the data presented in Table 2. In 1981. statistically equivalent percentages of infested berries resulted whether the 1st of 3 parathion applications was made as early as 4 days or as late as 14 days after the biofix. Also, the number of berries per ft2 and number of salable berries per ft2 were the same regardless of the timing of the 1st spray. Interestingly, berry set was not reduced at the 4- and 7-day timings, when vines were at 77 and 87 percent out of bloom, respectively (cf. Fig. 3). In untreated plots, the substantial percentage of infested

berries and the many fewer salable berries attest to heavy pest pressure. Not shown in Table 2 are the results of replicated cup counts using salable berries only. Statistically similar means among treatments, ranging from 89 to 97 berries per cup, indicated that parathion did not adversely affect berry development.

In 1982 and 1985, the 2 earlier timings were omitted and 2 later ones added. The data for parathion and diazinon in 1982 indicate that an equivalent efficacy level resulted when 1st applications were made 11 or 14 days after the biofix. Progressively larger percentages of infested berries occurred at the 18- and 22-day timings. With Lorsban, the 10-, 13-, and 17-day timings were equally effective. Efficacy declined between 17 and 20 days post-biofix. The number of berries per ft² was statistically equal within each trial.

The number of unsuccessful larval entries (ULEs; Table 2) was expected to be inversely proportional to the percentage of infested berries. In other words, a treatment yielding the lowest number of infested berries was expected to produce the greatest number of ULEs, and vice versa. This expectation was only partly fulfilled. The 11-day timing for diazinon should have produced a much larger number of ULEs than 114. Also, the 18-day timings should have led to many fewer ULEs than 96 for parathion and 137 for diazinon.

The ULE data may be better explained using the egg deposition curve in Fig. 3. The 4 black triangles point to the dates of the 1st parathion and diazinon applications. CF eggs hatch in

about 5 (Franklin 1948) or 6 (Maxwell and Morgan 1951) days in the field. By shifting each point on the egg deposition curve 6 days to the right, one may create an inferred larva curve, which is shown as a dashed line. At each triangle, one may then determine from the larva curve the number of eggs which were anticipated to become larvae that day. The numbers for the 4 triangles turn out to be 15, 23, 21, and 8. Because only 1st-instar larvae consistently enter berries at the stem end (Franklin 1948). the above numbers should be directly proportional to both sets of ULE data in Table 2. In fact, the proportional relationship holds reasonably well, with the exception of the 11-day timing for parathion.

The larva curves in Figs. 2 and 3 may also be used to explain the relative efficacy of treatments in 1981 and 1982. In Fig. 2., notice that the 4- and 7-day timings occurred before the bulk of initially deposited eggs became larvae. The 11- and 14-day timings occurred during the upward increase of the 1st peak and at

the peak itself. The percentag of infested berries in Table indicate that applying parathi soon after the biofix provided greater efficacy than waiting: initially deposited eggs to hat

In Fig. 3, the 11- and 14-d timings for parathion and d zinon occurred when egg hat was on the rise. The 18- and day timings happened after pe egg hatch. Data in Table 2 in cate that the earlier timings p vided significantly better cont than the later timings. The re son is probably because the la timings enabled some of the l vae to enter and consume one more berries. Those larvae wh survived the 1st application th continued feeding at least un the 2nd application, each ca ing the loss of about 2 more l ries (Brodel, personal obsertion). In sum total, the di suggest that, to be most efficti

#### CRANBERRIES

THE NATIONAL CRANBERRY MAGAZIN

SEND CORRESPONDENCE TO:

#### P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR MARKETING DIRECTOR: CAROLYN LABA

ASSOCIATE EDITOR: CAROLYN LABA

(617) 763-5206 ADVISORS & CORRESPONDENT

#### ADVISORS & CORRESPONDENT MASSACHUSETTS — Irving E. Demoranvi

Director, Cranberry Experiment Station.
NEW JERSEY — Phillip E Marucci, Cranberry & Bluebarry Specialist, Cranberry & Bluebarry Laborate Chatsworth, Elizabath G Carpentar, Chatsworth,

NOVA SCOTIA — I. V Hall, Botanist, Resea Station, Kentville OREGON — Arthur Poole, Coos County Extens Acent, Coquille

Agent, Coquille

WASHINGTON — Azmi Y Shawe, Horticulturist

WASHINGTON — Azmi Y Shawe, Horticulturist: Extension Agent in Horticulture, Coastal Washing Research & Extension Unit, Long Baech, WISCONSIN — Tod. D. Planer, Farm Managem

Research & Extension Unit, Long Baech.
WISCONSIN — Tod D Planer, Farm Managerr
Agent, Wood County.

CRANBERRIES la published monthly by Diversi Periodicals, Welleyn Drivy, Portland C7 0440. Secclass postage is paid at the Portland, Conn. Post Of-Price is 510 a year, 518 for two years, 51 a copy in U.S.; 312 a year in Canada; 515 a year in all ocountries. Back copies; 52, including postage, Copyr 1986 by Diversified Periodicals.

ISSN: 0011-0787
Postmaster, send Form 3749 to:
CRANBERRIES
P.O. BOX 249
COBALT CT 05414

### Niemi Electric Co.

ROBERT NIEMI

### ELECTRICAL CONTRACTORS

HEAT, LIGHT and POWER WIRING

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL



Robert Niemi

Pinehuest Dr.

Wareham, Mass.

he 1st insecticide application on Early Black' may occur from 4 o 14 days after the biofix. This orresponds to the interval durng which about half of initially eposited CF eggs become 1stnstar larvae.

In 1985, the level of control on Howes' was a little lower than xpected (Table 2). Losses of less han one percent had been chieved in an earlier study nvolving this variety (Brodel 986a). In that instance, the 1st pplication of Lorsban was made days after the biofix. The nterval between the 7- and 10av timings does not seem suffiient to explain the difference in erformance from one year to inother. Pest pressure was heavy oth years, as determined from osses in untreated plots. The gg deposition curve for 1985.

not shown, indicates that the 1st of 2 peaks occurred 6 days after the biofix, which is no different than what happened in 1981 on 'Early Black' (Fig. 2). Field trials have shown Lorsban to be as effective in reducing CF damage as parathion and diazinon (Brodel 1984). Laboratory trials have shown it to be as effective as any other recommended insecticide against CF eggs (Brodel and Watt 1984), Another surprising and inexplicable result of the 1985 trial was the relatively small loss of berries at the 17-day timing (Table 2). In 1982, waiting 18 days before applying the 1st spray of either parathion or diazinon resulted in significantly greater losses than at the 11- and 14-day timings.

Two concerns arise when considering whether to use this

method of managing CF populations. First, egg deposition following the 3rd application could lead to an additional crop reduction. This definite possibility can be overcome either by monitoring egg populations after the 2nd application and treating as needed or by monitoring egg populations after the 3rd application. Second, a crop reduction from the earliest deposited eggs is potentially upsetting given the current monetary value of cranberries. To prevent such losses. one might be tempted to start applying insecticides at the biofex or even earlier. This approach would most certainly backfire. however. Currently registered insecticides are all deadly to pollinators. An application of any of them at 50 percent out of bloom, while killing a few pests.



Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956 (William D. Chamberlain) would devastate pollinator populations, thereby greatly reducing fruit set. Another approach to this problem would be to apply an insecticide that is relatively nontoxic to pollinators, yet toxic to pest insects. One such insecticide, Spur<sup>®</sup> (Sandoz Crop Protection Corp.), was judged highly effective in controlling 1st-instar CF larvae in the field (Brodel 1986b).

In conclusion, these trials demonstrate the feasibility of timing CF insecticide applications according to the phenology, or seasonal growth stage, of cranberry vines. By monitoring the progress of bloom, growers may limit losses of fruit to less than 5 percent, even under the most severe pest pressure. A slightly modified version of this system, described by Brodel and Roberts (1984) and Roberts and Brodel (1985), has been employed successfully since 1983 as part of the Cranberry Integrated Pest Management Program of Massachusetts.

Acknowledgment. I am grateful to Daniel J. McKiernan for his technical assistance during 1981

#### Literature Cited

Brodel, C.F. 1980. Cranberry fruitworm: economics of control. Cranberries 44 (1): 3.4.6.7.

Brodel, C.F. 1984. Insecticide field trials against the cranberry fruitworm in Massach usetts, 1980-82. Cranberries 48 (5): 10-14.

Brodel, C.F. 1986a. Rates of Lorsban and losses to the cranberry fruitworm. Cranberries 50 (4): 3-5.

Brodel, C.F. 1986b. Spur: a promising insecticide for use during cranberry bloom. Cranberries 50 (6): 3-6.

Brodel, C.F. and S.L. Roberts. 1984. The cranberry fruitworm. Univ. of Mass., Cranberry Exp. Sta. Fact Sheet, 2 p.

Brodel, C.F. and B.A. Watt. 1984. Insecticides kill cranberry fruitworm eggs. Cranberries 48 (12): 3,4,6.

eggs. Cranberries 48 (12): 3,4,5.
Frenklin, H.J. 1948. Cranberry Insects in
Massachusetts. Mass. Agr. Exp.
Sta. Bull. 445: 51-56.

Maxwell, C.W. and G.T. Morgan. 1951. Life-history studies of the cranberry fruitworm, Mineola vaccinii (Riley), in New Brunswick (Lepidoptera: Pyraildae). Entomol. Soc. Ontario Annu. Rept. 82: 21-25.

Roberts, S.L. and C.F. Brodel. 1985. How to scout a cranberry bog for insect pests. Mass. Coop. Ext. Serv., Cranberry IPM Pub., 8 p.

Tomlinson, W.E., Jr. 1962. The response of cranberry fruitworm to black light. J. Econ. Entomol. 55: 573.

Tomlinson, W.E., Jr. 1966. Meting ar reproductive history of bleckligh trapped cranberry fruitwor moths. J. Econ. Entomoi. 5 849-851

Tomiinson, W.E., Jr. 1970. Cranber fruitworm moth activity at blac light during different periods the night. J. Econ. Entomol. 6 1701-1702.

# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

### Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

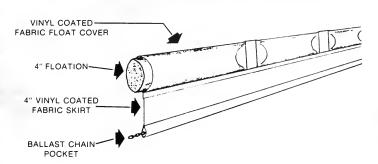
Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

## BogBoom!!

To harvest your cranberries with less labor and more efficiency, Containment Systems Corp. offers our new BOG BOOM.

## Bog Boom CRANBERRY HARVESTING FLOATING BOOM



Bog Boom is tough. With a shorter skirt designed for the shallower bogs. The solid PVC skirt improves the strength and durability of our boom.

Containment Systems Corp. is now taking orders for the 1987 harvest season.

To Order Call or Write:

Plant

P.O. Box 1390 Cocoa FL 32923-1390 (305) 632-5640 Sales

4518 Bucktail Drive Allison Park PA 15101 (412) 487-1230

### REGIONAL MEWS NOTES

#### MASSACHUSETTS

#### By IRVING E. DEMORANVILLE

Reports and observations indicate that our bogs overwintered very well. There was practically no winterkill and only a few reports of leaf drop; some scattered, but fairly light frost injury; root rot a problem but only severe in some areas.

Insects were generally light; a fair amount of blossom worms and other cutworms, but weevil, gypsy moth, fireworms and Sparganothis fruitworm not an area-wide problem. There were increasing reports of tipworm.

The bloom is heavy in general and the Early Blacks set fast, which is a good sign. Howes are coming along very well. We have another big crop coming-a little early to know how big, but very possibly another record.

#### WASHINGTON

By AZMI Y. SHAWA

There was heavy damage to the imported bee hives in the Long Beach areas due to



381 West Grove St. (Rte. 28) Middleboro, MA 02346

(617) 947-6299



Tractors, Excavators and Diesel Generators



Wheel Loaders 3/4 Yd - 6 1/2 Yd

Screening Equipment

bear action

The Coastal Washington Research & Extension Unit had one hive smashed and the lid of another torn off. Several growers lost bundles of six hives-smashed, other hives were torn apart

It will be necessary to involve the game department, beekeepers and cranberry growers to find a solution to the problem. Honeybee hives are necessary for pollination of the cranberry bogs. It is obvious that protection needs to be given to the hives and bears need to be controlled in the area of the Long Beach Peninsula!

#### WISCONSIN

By DANIEL L. MAHR and STEVEN N. JEFFERS

Dr. Elden Stang, University of Wisconsin/Extension fruit crops specialist, is on a six months research leave. Elden and his wife, Judy, are in Finland, where Elden is conducting research on native Vaccinium species and other types of small fruits.

Early word from their trip indicates that the European winter was as harsh as our was mild. It was also late in departing which resulted in delayed plant develop ment. The late cool spring in Finland was also a little hard on Elden and Judy because



### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs. and only the highest quality aluminum materials.

Our standard size conduits range from 15-48 inches in diameter, with widths from 24 to 72 inches. The height of each unit depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

> In Massachusetts, call Bill Stearns (617) 746-6048

The flow gate specialists for generation after generation.

22 N. CHESTNUT AVE., MARSHFIELD, WISCONSIN 54449 TELEPHONE (715) 384-3121 TWX 510-370-1846



he luggage containing their winter-weight lothing did not arrive until several days ifter they did We look forward to Elden's return in

October. We are certain he will be brimning with new ideas for growing our Wisonsin fruit crops!

#### FARM BUREAU AIDS REFUND PROGRAM

The Bedford office of the Massachuetts Farm Bureau announces that it is providing forms required by growers in order to receive court ordered refunds due hem because of oil company overcharges etween Aug. 19, 1973 and Jan. 27, 1981.

To receive a form plus a brief informaion and instruction sheet, you must end a stamped, self-addressed envelope o the Massachusetts Farm Bureau Fedration, 15 Great Rd., Bedford MA 01730.

The refund program applies to gasoine, diesel, kerosene, motor oil, heating uel oil, propane or grease products, used on or off the farm. Depending on the outome of a pending settlement between he oil companies and the federal governnent, refunds could reach \$150 per 00,000 gallons.

### Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

#### STEVE

(715) 593-2358 (715) 593-2285

#### **CRANBERRY** GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland.

Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288

### **BIG WHEEL** TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617)763-5927

(617) 763-8745

### KUBOTA: OVERS THE F

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications All are powered by Kubota diesel engines. They're sturdy and dependable, fuel







MODEL	CIL	***	CARREST OF THE ISSUED AND A
B5200	3	13*	Standard
B6200	3	15*	
B7200	3	17*	2 or
88200	i	19*	( Hydrostatic
B9200	4	22 5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
1.345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
L2550	3	23 5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8x8
1.3750	5	36*	₹ or
1.4150	Ġ	40*	Hydraulic shuttle shift



REBUTA ENWA & CAROLA TRACTORS			
Model	CYL	HP	Transmission
G3200	2	10	Standard
G4200	2	12	Standard
G4200H	2	12	Hydrostatic
G5200H	3	14	Hydrostatic
G6200H	3	16	Hydrostatic



рто н

Visit your Kubota dealer to find out which Kubota will be best in your field.

Nothing like it on earth.

### ELLIS IMPLEMENT

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

### Weather Watch

#### MASSACHUSETTS

June was warm, averaging 1.8 degrees a day above normal. Maximum temperature was 86 degrees on the 1st and minimum 42 degrees on the 7th. Warmer than average periods were the 1st, 9th, 14-16th, 18th-20th and 28th-30th. Cooler than average days were the 4th, 7th, 8th, 12th and 27th.

Rainfall totaled only 1.57 inches, or about 1½ inches, below normal. There was measurable rain on nine days, but, with .70 on the 4th, there wasn't anything of consequence the last three weeks. This was the driest June since 1979. We are 5½ inches above normal for the first half of 1987 and about the same amount ahead of 1986.

I.E.D

#### **NOVA SCOTIA**

Weather conditions during the early bloom period were excellent for cranberry fruit set.

LV.H.

#### WASHINGTON

The second quarter of 1987 was warmer and drier than the same quarter of the preceding year. Total degree days accumulation/45°F was 112.5 units more and precipitation was 0,90 inches less compared with 1986.

Advanced physiological activities of at least two weeks enhanced heavy bloom, which kept bees and natural pollinizers busy on the bogs.

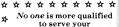
A.Y.S.

\*

×

۲Þ

Χþ



to serve your Crop Insurance needs than

THE BUTLER GROUP

1 Crop Hail policies on any commercial crops—Hail Fire Vandalism and Transit
2 Federal Crop Insurance Policies for Apples Potatoes Tobacco Corn Cranberries and others

3 Home Auto Business Life Health Call us for a quote or details

Call us for a quote or details

BUTLER Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512

\* \* \* \* \* \* \* \* \* \*

CRANBERRIES
Has Served the
Cranberry Industry
for 51 Years.





### The HARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607

AMES

Irrigation Systems
RAIN BIRD

Sprinklers HALE

Pumps

Highest Quality Products with Satisfaction Guaranteed



### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase
   Implementation & training
- Software installation
   Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acre
- Profitability/cost per barrel
- Chemical applications
- Sanding and damage

### 2,061.43 Acres For Sale

in

## Bandon, Oregon

72.5 acres cranberry producing bogs; 30 acres prepared, irrigated, ready for planting; 50 acres recently replanted timber reproduction land; 849 acres cleared land; 996 acrestimber reproduction land; 50 acres marshland; 14 acres nonforest, road, pond and rock pit areas.

Bogs planted with Stevens, Ben Lears, Crowley. Automatic sprinkler system. Good pond. Pumping System. Graders, back hoes, etc.

### **Asking \$2 Million Cash**

Terms Available

Pacific Corp Business Credit Inc. Portland, Oregon 97207 111 S.W. 5th Ave. #2800 (503) 222-7900

Ask for Robert Schaffer

### To Build Corporate Headquarters

## **Ocean Spray Names Gilbane**

Ocean Spray has selected the Gilbane Building Co. of Providence R.I., as construction manager for its new, \$20 million corporate headquarters on the Lakeville-Middleboro town line.

Construction already has begun and completion is slated for the

fall of next year.

The 162,000 square foot building will be situated on a 310 acre site. U-shaped, it will house 450 employees. The new headquarters will be erected atop a hill and will be surrounded by a pond and working cranberry bogs.

Project architect is Moore/ Heder of Cambridge, Mass.

Gilbane has built corporate headquarters for Mobil Oil and Frito-Lay, among other industrial giants. It is one of the nation's leading builders of such facilities.

Among Gilbane's current projects are a \$59 printing plant for the Providence Journal and Evening Bulletin in Providence R.I., a \$30 million bus mainte nance facility in Hartford, Conn.

### J.A. JENKINS & SON CO. Grower Service

MOWING (ALL TYPES) SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018





MIDDLEBOROUGH TRUST COMPANY

## The **Business** Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313

1 \$17.4 million expansion of the Harvard University Medical school and a \$17 million prison or Hillsborough County, N.H.

### **Phytophthora** Found in Wisconsin

Species of the root rot disease that has struck Massachusetts and New Jersey bogs were found in Wisconsin bogs last spring. So writes Steven N. Jeffers. extension plant pathologist. University of Wisconsin/Madison, in the July issue of Wiscon-

sin Cran Tips. Jeffers wrote the report after a

trip to east coast bogs.

He says: "Last spring, prior to the report (of the disease) in Massachusetts, we recovered different species of Phytophthora from two ocations here in Wisconsin; one location had symptoms similar

### Cranberry Grower in Canada

requires an administrator to oversee cranberry operation of several hundred acres

**Experience Necessary** 

Phone (416) 625-5688

Nardaq investments Inc. Mississauga, Ontario

1395 William Sport Drive Canada L4X 2T4

### High volume trailer pumps

12 to 16 inch discharge 20 foot tongue

PTO shaft with

marine bearing

Phil Helmer 1060 3rd St. N.

Wisconsin Rapids WI 54494 (715) 421-0917

Marsh Number (715) 593-2285

#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING . GOOD LOOKING
- MAINTENANCE FREE WRITTEN WARRANTY

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door

DON'T WAIT — CALL TODAY!

617 / 824-3826 RAYNHAM CENTER, MA

**MORTON** BUILDINGS, INC.

to those observed back East and the other was without symptoms. It is possible there are other locations in the state where symptoms occur and these fungi are present."

Jeffers adds: "It is likely that the disease is 'new' only in that it has not been formally identified previously; some growers have observed symptoms in their marshes for years. Symptoms and characteristics of the disease include: large areas of dead or dying plants, areas void of plants, replanting in these sites has not been successful (and is not due to pesticide overdose spill!), affected areas tend to associated with low lying petions of the bed or where wat dissipation is hindered.

"The disease was first reco nized in Massachusetts last fa

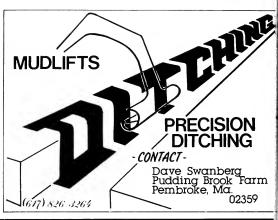
### THE WELDING BOOTH

Portable heli-arc welding for aluminum, stainless and steel

Repairs and fabrication done at shop also

23 Kingman St. East Taunton, Mass. 02718

(617) 824-4780





## Irrigation Equipment Designed Especially for the Cranberry Industry

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polyethylene Main Lines,
   3" 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

## LARCHMENT SNOWMAKING

P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550

Contact



Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect) Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048

### IANAGER EQUIRED

a large cranberry operation on Canadian West Coast. st be fully experienced in all ects of cranberry production.

(604) 278-6271

### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511

### Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

#### AAA INDUSTRIAL JMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394 and has been found since in New Jersey. To date, approximately 10 percent of the bogs in Massachusetts have confirmed occurrences of the problem. Affected areas are irregular in shape and range from 1-2 feet in diameter to over 10 feet across. Contrary to some reports in the press, the fungus is NOT wiping out entire beds or marshes. The problem tends to be localized in those

beds that are affected. Apparently, the disease has been accentuated due to excessive rainfall the past two years."

Jeffers concludes: "I would like to hear from people who think they may have symptoms similar to those I have described. PLEASE NOTE: This is NOT something to be overly alarmed about...."



Herbicides Applied Sanding

Wiping Wet Harvesting

Mowing
(Mowing includes
Hydraulic Arm
Flail Mower.)

West Wareham, Massachusetts Ask for Rick at 295-5158

TED'S FARM

\*\*\*\*\*

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer Our 51st Year of Publication



100th Anniversary Fete — 3 '87 Crop Near Record — 20



#### 10' x 12' STORAGE BUILDING / PUMP HOUSE



The most dependable small storage building on the market today.

- LONG LASTING
   GOOD LOOKING
- MAINTENANCE FREE WRITTEN WARRANTY •

Available with 4' x 7' Dutch Door or 6' x 6'8" Coil Up Door DON'T WAIT — CALL TODAY!

617 / 824-3826 RAYNHAM CENTER, MA MORTON BUILDINGS, INC.

"Excellence - Since 1003"



### Arthur G. Carroll

**Crop Insurance Agency** 

Home Office RFD 2, Box 764 Limerick, ME 04048

(207) 793-8988

## New England's Largest Crop Insurance Agent

New England's only 100% crop insurance agency, we write for three different companies. We are your experienced agent.

Now is the time to take a look at your crop insurance coverage for the period Nov. 21, 1987 through Nov. 20, 1988. Recent changes have made crop insurance even more desirable. To learn what those changes are, drop us a line or give a call. We'll be happy to help you, just as we've helped other growers over the years.

Protect Your Crop Investment — Give Yourself Peace of Mind

### Thousands Join CCCGA 100th Fete

## Cranberry Day a "Hot" Success

#### By CAROLYN GILMORE

Braving a sweltering hot day, ith temperatures in the 90's, ome 6,000 people came to King ichard's Faire in South Carver ug. 18 to help the Cape Cod ranberry Grower's Association elebrate its 100th anniversary. The event's motto was "100 ears of Growing Together." The oppressive heat did not

og down the daylong carnival nd field day. This once-in-100 aar festival was a unique day in lassachusetts cranberry history at the culmination of hundreds hours of organizational efforts a committee of growers chaired y John C. Decas. It was part of series of events planned for the par.

In honor of the state's cranerry industry's century of thievements, Massachusetts ov. Michael S. Dukakis oclaimed Tuesday, August 18

100th Anniversary Celebration photos by Carolyn Gilmore and Bob Taylor.

### COVER PHOTO

#### COVER PHOTO

HE CROWD stared in awe this dust swirling exhibion of a chopper doing bog fts at the 100th anniversary lebration by the Cape Cod ranberry Growers' Associion Aug. 18at King Richard's aire in South Carver, Mass. 18 chopper was supplied by & WAg Air Service. A story 1 the mammoth fete starts 1 this page.

(CRANBERRIES photo)



THE LAD at the right gives a quizzical look or two at this imaginative, outer space water reel boat created by grower David Mann, who received the prize for the Most Outlandish Piece of Equipment displayed at the 100th CCCGA anniversary celebration.

(CRANBERRIES photo by Carolyn Gilmore)

"Cranberry Awareness Day."
Antique and modern cranberry
equipment displays, machinery,

Dixieland music, cranberry paraphernalia and plenty of cold cranberry juice were on hand.

### **Rock Village Electric**

Full Service Company
Specializing in
New Construction

Commercial • Residential • Industrial

Cranberry Bog Pump Motors & Controls

Quality Service — Fully Insured BIII Gazza, Master Lic # A9628

48 Highland St. 947-6505 Middleboro, Mass.











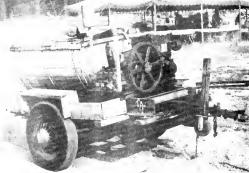
AND A GOOD TIME WAS HAD BY ALL—(clockwise, from bottom left) 1. A Dixieland band kept things hot but chased away the blues; 2. Grower Jim Paduch with his painted face daughter, Kristin, 4. 3. Irving E. Demoranville, director of the Massachusetts Cranberry Experiment Station, and grower Phyllis DeLorenzo; 5. Yup, that's Mininie Mouse.





AND THERE WAS ANTIQUE QUIPMENTOFALLKINDS—(clock-vise from bottom left) 1. Bob St. acques stands next to a Darling-on picker, which still is in use; 2. tevel Gilmore, 10, with a bunch of ld cranberry barrels and Robert liller's truck; 3. Grower Larry S. lole would explain the old picking rocesses to any curious festivaloer; 4. The Hayden pruner built in 955 by Bob St. Jacques; 5. The rooden tank sprayer used around 936 by Dr. Franklin, former xperiment station director.





Food, helicopter rides, equipment demonstrations, an enormous inflatable dragon full of bouncing kids, pony rides, Clydesdale drawn hayrides, square dancing and Olympic and Scottish field events were all part of the day.

King Richard's Faire, site of the event, is a huge medieval village theme park. The Association's annual meeting took place on the King's Stage and featured the annual crop forecast there as it had heretofore—for the past 60 years—at the Massachusetts Cranberry Experiment Station.

Speakers came to congratulate the Association for a century of action and for being one of the oldest growers' associations in the country.

In a letter read at the meeting U.S. Senator John Kerry said 307 West Grove Street (Rte 28) Middleborough MA 02346

### KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp. Compact Excavators 1½ to 6 ton

Wheel Leaders 1/2 to 3/4 yd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements
Polymark Beaver-Mowers
Spacialty Fabrication Work
Kubota Financing as Low as 81/26

०च ०च ०च ०च ०च ०च ०च





Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956 (William D. Chamberlain) CLOC

Exhib

Frank

6





Exhibitors Galore!



CLOCKWISE from bottom left): 1. Skip Hammond took first prize for homemade equipment; 2. xhibits stretched for acres; 3. George Church's stationary engine for running pumps; 4. Larry larju and his giant spreader; 5. Joan Lasota, Bianca Cerundolo and Robert Devlin of the ranberry Experiment Station.







TOP TO BOTTOM: 1. George C. Decas had numerous antiques to show; 2. Mark W. Bennie of Cranberry Computer; 3. Will Stearns and Jim Zimmerman of Stearns Irrigation.

"Cranberries and Massachusetts are synonymous."

Gus Schumacker, the Massachusetts secretary of agriculture, told growers, "You are under a lot of pressure from neighbors and regulation."

He went on to praise the industry for its promotional efforts, its "outstanding" research in the field of fungicides, its technical achievements, its integrated pest management and the influential growers association.

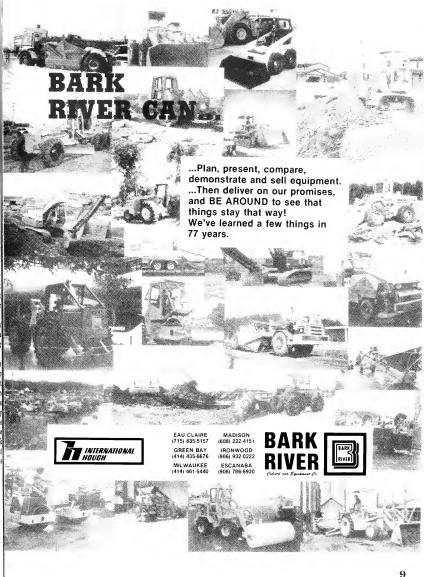
State Senators Ned Kirby, R-Witman, and John Parker, R-Taunton, jointly read a senate resolution commemorating the event. Rep. John Bradford, R-Rochester, congratulated growers for their contributions to open space and environmental quality.

Awards for "Home Made Equipment" were given to Skip Hammond for his "bog-side detrasher," first prize, and Michael Ashley for his water reel, second prize. The Most Outlandish Piece of Equipment Award went to David Mann for his amazing water reel boat.

Ten-year-old Danielle Halunen won the poster contest with a whimsical drawing of a marching cranberry band.

A grass-roots antique equipment display made up entirely of functional equipment invited a hands-and-seat-on examination. The oldest pieces of equipment were cranberry separators made in 1882. The Mathewson picker, which once revolutionized the tedious task of hand-picking bogs, came out of the mothballs just for the Centennial.













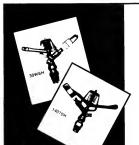
AND, YES, MORE EXHIBITORS YET—(clockwise from bottom left) 1. Some of the lads from Beaton's Cranberry Growers Service; 2. Colette Hayward of New England Bog Equipment and the full drive hydraulic sander developed by the company she and her husband, Jimown; 3. Terry Driscoll of A.A. Will and Lakeville Sand & Gravel watches while Steve Flowers tries to dump a ball in the basket and win a company hat; 4. Al Cole of Turf Equipment poses with some of the company's heavy equipment.



# FEDERAL CROP



STILL MORE EXHIBITORS—(clockwise from bottom left) 1. Greg Stiles, Kathy Costello and Glen Sylvia from the Schuster Corp.; 2. Uniroyal's Lloyd A. Hayner; 3. Denise Vaillancourt and Gerri Nicolls from O'Donnell Sand & Gravel; 4. Art Carroll crop Insurance Agency.



### Irrigation Equipment Designed Especially for the Cranberry Industry

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polyethylene Main Lines, 3" – 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

## LARCHMENT

P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550

#### Contact

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect) Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

## REGIONAL NEWS NOTES

#### MASSACHUSETTS

By IRVING E. DEMORANVILLE

Dr. Robert Devlin recently attended a leeting of the board of directors of CAST Indianapolis from Aug. 20th-22nd.

## Weather Watch

#### MASSACHUSETTS

July was cool, averaging 0.7 degrees a ay below normal. Maximum temperature as 92 degrees on the 18th and minimum 2 degrees on the 17th. The only warmer lawerage days were the 10th, 18th and 3th. Cooler than average days were the id, 3rd, 7th, 8th, 12th, 13th, 16th, 23rd of 29th-31st. Sunshine was less than prmal, but not nearly as bad as last year. Rainfall totalled 0.99 inch or almost 2 ches below normal. This is the least for the selection of the selection o

July since 1966 and 6th lowest in our records. There were only three days with measurable rain and 0.69 inch came on the 3rd. Between June and July we have only received about 40 percent of the normal rainfall and 31 days without any rain from July 3rd to August 3rd. We are about 3'½ inches above normal for the year and about ½ inch ahead of 1986.

I F D

#### NOVA SCOTIA

We have been undergoing a very dry spell which began about the first of July. The total precipitation for July was 36.4 mm, considerably below the 30-year average of 70.2. August was even drier.

LV.H

# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

## Cole Chemical Supply

DIVISION OF **Hopkins** AGRICULTURAL CHEMICAL CO.
P.O. BOX 7211, MADISON, WISCONSIN 53707
608-221-1581

## 2,061.43 Acres For Sale

in

## Bandon, Oregon

72.5 acres cranberry producing bogs; 30 acres prepared, irrigated, ready for planting; 50 acres recently replanted timber reproduction land; 849 acres cleared land; 996 acrestimber reproduction land; 50 acres marshland; 14 acres nonforest, road, pond and rock pit areas.

Bogs planted with Stevens, Ben Lears, Crowley. Automatic sprinkler system. Good pond. Pumping System. Graders, back hoes, etc.

## **Asking \$2 Million Cash**

Terms Available

Pacific Corp Business Credit Inc. Portland, Oregon 97207 111 S.W. 5th Ave. #2800 (503) 222-7900

Ask for Robert Schaffer

## Niemi Electric Company



Robert Electrical

Heat, Light & Power Wiring

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

Pinehurst Drive Wareham, Mass. TEL. 295-1880

# **BOG SAND**

くしょうしょうしょうしょうしょうしょう

## Sandwich Stump Dump 9nc.

- Large quantities available
- Delivered or picked up
- Reasonable rates

295 Service Rd. 888-3934 Sandwich, Mass. 02537





# MIDDLEBOROUGH TRUST COMPANY

# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough • Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313

## ECONOMICAL POWER



Diesel pumping units for irrigation and spraying applications.

\*40 to 760 horsepower

\* New, used rebuilt and government surplus.

\*Caterpillar, Cummins, Detroit, Perkins and more. Over 1,500 engines in stock.

#### **POWER UNITS**

This month's special:

3-53 Detroit diesel power unit. Rebuilt engine. Radiator cooled, skid mounted. 91 hp. @ 2,500 r.p.m. and 64 hp. @ 2,200 r.p.m. New Rockford power take off assembly installed. \$3,250.00 each.

#### **D&K IS YOUR HEADQUARTERS FOR AIR COOLED DEUTZ DIESEL ENGINES**

50 through 300 horsepower.

4, 6, 8, 12 and 12t models in stock today

\*Low time surplus reconditioned 8 cylinder model 8L714. 178 hp. @ 2,300 r.p.m. Large quantity just received. \* Call for details.

\*High quality Deutz engines and guaranteed used parts, Reasonable prices, "Your neighbors are probably using our engines."

\* Available with pump drives, raw flywheel and new (or) used p.t.o. clutch assemblies

Just arrived: Government surplus WATER PUMPS, National transit, Will pump 500 to 1,500 gallons per minute, Available with Detroit, Cummins, Caterpillar or Waukesha diesel engine. 8" in, 6" out. Low surplus price on these guaranteed units. Call for details.



#### GENERATOR SETS 20 THROUGH 600KW

\* 25 kva, 20 kw Detroit 3-53 diesel powered 120 amps at 120 volts, 70 amps at 208 volts. 1,200 r.p.m. giving long service between rebuilds. Load bank tested and ready to ship. Over 100 in stock today, \$2,950,00 less gauges. With amp/volt/frequency gauges & safety oil & temperature switches @ \$3,500.00 each.

Call for other sizes. Diesel and natural gas, New, used and rebuilt generators. Expect quality work on time.

#### WE BUY SURPLUS CASH PAID

We buy surplus new and used equipment and tires. Cesh paid. D&K Supply has 14 acres of hard to find items, new end used. Government surplus end rebuilt ges and diesel engines, 6 x 6 ell wheel drive trucks end components, generatores, power units. tires, lift trucks end crenes. All F.O.B. Akron end subject to prior sale

#### 21/2 TON ALL WHEEL DRIVE 6 X 6 TRUCKS



Large quantity. Available as tractor with fifth wheel and as straight truck with a number of wheel base options. 900 x 20 tires. Front winch evailable. Transmission: 5-spd gear ration high 1:1; Fourth 1.45:1; low 7.55:1. Transfer: 2-spd. Gear ration high 1:1, low 1.98:1. Hard Cabs available. Reconditioned and guaranteed.

Gas: \$7,950.00

Diesel: \$11.250.00

Low, low time 5-ton 6 x 6. Mack trucks with super long wheel base. One with 300, one with 3,000 miles. Approximately 11 feet from back of cab to center rear bogie. Available in gas and diesel. Call for photo and price.

\*Also evailable: % ton 4 x 4 yans, 2 ton custom 4 x 4, 2% ton gas & diesel GMC and Reo. 5 & 10 ton heavy hauler 6 x 6 government surplus trucks. All wheel drive. Reasonable prices

Over 1,500 engines in stock. Gas & diesel. New, used, government surplus and rebuilt.

Allis Chalmers...Avco...Buda...Case...Caterpillar...Chevrolat...Chrysler...Continental...Chriscraft...Cummins...Detroit...Deutz...Ford...GMC...Hali Scott...Hercules...International...Jeep...John Deere...Le Roi...Mack...MPLS...Moline...Mitsubishi...Perkins...Reo...Waukesha...White...Wisconsin...end more. Call for free catalogue.

\*We pay 1/2 freight

# D & K supply co.

SEND FOR FREE CATALOG CALL FOR

Replacement diesal and gas engines, g transformers, custom gauge panels, transfer switches with under/over voltage, over/under frequency and in phese monitor, parallel gear (manual and automatic) and circuit breekers (manual and shuni

TOLL FREE 1-800-551-5664 Telex: 98-6483 Dank Akr

In Ohio: 1-216-733-2224

Mailing Address: P.O. Box 268C, Akron, Ohio 44309 Shipping Address: 1027 Hazel St., Akron, Ohio 44305

## BRAND NEW Dual Sander

without engine

Never Been Used

\$6,000

Call (609) 866-1864 R.D.GRASSI Cranberry

SERVICES

Herbicides Applied Sanding Wiping Wet Harvesting Mowing (Mowing includes Hydrautic Arm

West Wareham, Massachusetts Ask for Rick at 295-5158

Flail Mower.)



#### The HARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass

Phone 824-5607

AMES

Irrigation Systems

RAIN BIRD

Sprinklers

HALE

Pumps

**Highest Quality Products** vith Satisfaction Guaranteed

CRANBERRIES las Served the ranberry Industry or 51 Years.

#### RANBERRIES



SEND CORRESPONDENCE TO:

P.O. BOX 249 COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR RKETING DIRECTOR: CAROLYN LABAN

ISOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

VISORS & CORRESPONDENTS

ASSACHUSETTS - Irving E. Damoranvilla. ctor, Cranbarry Experiment Station. EW JERSEY — Phillip E. Marucci, Cranberry & Blue y Spacialist, Cranberry & Bluebarry Laboratory,

laworth; Elizabath G. Carpentar, Chatsworth DVA SCOTIA - I. V. Hall, Botanist, Rasaarch on, Kantvilla

REGON - Arthur Pools, Coos County Extension nt, Coquille.

ASHINGTON — Azmi Y. Shawa, Horticulturist and nsion Agent in Horticulture, Coastal Washington arch & Extension Unit, Long Beach. ISCONSIN — Tod. D. Planer, Farm Management nt. Wood County

NBERRIES is published monthly by Diversified odicals, Wellwyn Driva, Portland CT 06480. Second s postage is paid at the Portland, Conn. Post Office. s is \$10 a year, \$18 for two years, \$1 a copy in the ; \$12 a year in Canada; \$15 a year in all other stries. Back copies: \$2, including postage. Copyright by Diversified Periodicals.

> ISSN: 0011-0787 Postmester, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

# 

## Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- ·Coordinate hardware purchase
- Implementation & training
- Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acre
- Profitability/cost per barrel
- Chemical applications Sanding and damage

## KUBOTA ers the f

of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors

And while they vary in size, all are built by Kubota to exacting quality specifications All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance



quiet and they



KUROTA BAND I SERIES TRACTORS

B5200	3	13*	Standard
B6200	3	15*	
B7200	3	17*	₹ or
B8200	3	19*	Hydrostatic
89200	4	22 5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shurtle shi
L2250	3	21*	Mechanical shuttle sh
L2550	3	23 5*	Mechanical shuttle sh
L2850	4	27*	Mechanical shuttle sh
1.3350	4	32*	6818
L3750	5	36*	₹ or
1.4150	ė	401	Mudemilie aburria abu





Model	CYL	PTO HP	Forward/Reverse
M4030	6	43.00	8/4
M 5030	6	49 00	16/4
M6030	3	57 00	16/4
M7030	4	68 00	16/4
M8030	4	76 00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85 00	24/8

Visit your Kubota dealer to find out which Kubota will be best in your field,

#### **®KUBOTA** Nothing like it on earth."

## **ELLIS IMPLEMENT**

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481

PHONE (715) 592-4111

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland. Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288

# TED'S FARM EQUIPMENT

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel



Office 295-2222 BEATON'S

K. Beaton 295-2207

D. Beaton 888-1288



MASS.

Specializing in

P. Beaton 947-3601

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes



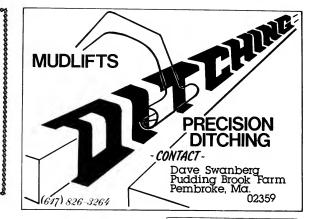
## Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair

of Cranberry Equipment

WARRENS WI 54666 (608) 378-4511



## We Still Make House

Like your old family doctor, your Farm Credit representative still makes house calls . . . and he's been treating farm families like yours for a good 70 years.

Farm families count on him to provide the financial support they need—shortterm and long-term credit—that helps them plan for a productive future.

But there's more to Farm Credit than money. What makes your Farm Credit representative unique is that he knows your business so well. Which means that he's more than a dependable source of credit. He can provide farm business consulting, tax services, credit life insurance, appraisal service and computerized record-keeping.

Give him a call. He could be just what the doctor ordered for you.



## THE WELDING BOOTH

Portable heli-arc welding for aluminum, stainless and steel

Repairs and fabrication done at shop also

23 Kingman St. East Taunton, Mass. 02718

(617) 824-4780

## MANAGER REQUIRED

for a large cranberry operation on the Canadian West Coast. Must be fully experienced in all aspects of cranberry production.

(604) 278-6271

## 1987 Crop Estimate Down Only 1% From '86 Record

The national cranberry crop for 1987 is down one percent from last year's according to preharvest estimates.

The Cranberry Marketing Committee forecast set at its Aug. 17 Annual Meeting predicts a 3.628.450 barrel crop. The USDA Crop Reporting Service announced a slightly more generous estimate of 3.675,200 barrels.

By state, CMC estimates for 1987 are: Massachusetts -1.653.750 barrels; New Jersey -327,500 barrels: Wisconsin -1.387.50 barrels; Washington - 125,00 barrels, and Oregon -134,00 barrels.

USDA predicts the following by state: Massachusetts -1.780.00 barrels; New Jersey -325,000 Wisconsin - 1,312,200 barrels Washington - 126,000 barrels, an Oregon - 132,000 barrels.

Charles Hammond, statisticia in charge for the USDA Cro Reporting Service, gave the 60th crop estimate at the Cape Co Cranberry Growers Association Centennial meeting Aug. 18. Th first estimate given Massachi setts growers was in 1927 b Statistician C.D. Stevens, whi addressed the Growers Associa tion annually for 25 years.

## Irrigation Supplies

- 2" to 12" PVC Pipe with Fittings
- Quick Couple Risers
- Felker Aluminum Flumes & Culverts

Replace old aluminum mains with government approved 4". 6" and 8 " polyethylene pipe buried just below bog surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hole play for buried laterals.

> STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

## " Dane Dane Dane Dane Dane Dane Dane J.A. JENKINS & SON CO. Grower Service MOWING (ALL TYPES) DITCHING

SANDING

WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018



かに からかに からかた からかに かっかい かっかに

Equipment, Inc.

381 West Grove St. (Rte. 28) Middleboro, MA 02346

(617) 947-6299



Tractors, Excavators and Diesel Generators



Wheel Loaders 3/4 Yd - 6 1/2 Yd



Screening Equipment

Hammond noted that 50 pernt of Massachusetts growers sponded to the mid-July estiate questionaire. Growers ported a "smaller than usual te berry" and attributed the luced size to summer drought nditions Hammond said.

The Phytophthora fungus rich came on the heels of a wet ring appears to have been conlled to the extent that "there ould be little or no impact on s year's cranberry harvest." d Dr. Frank Caruso of the niversity of Massachusetts anberry Experiment Station. n excellent, high quality crop cranberries is expected for 37." C. G.

## ndustry taves Off hreat By A ungus

v CAROLYN GILMORE mergency approval of lomil combined with culal practices successfully itrolled a potential threat 12 percent of the Massaisetts cranberry acreage the fungus Phytophthora namomi.

pproval for cranberry wers to use the chemical control the fungus was de possible through comed efforts of the Univerof Massachusetts, Cornell iversity, The Mass-

usetts Department of Food l Agriculture and the U.S. viromental Protection ency.

rowers have also been couraging the fungus by tural practices, including ditional drainage and sanding of affected areas, said Dr. Frank Caruso of the University of Massachusetts Cranberry Experiment Station.

A \$40,000 grant has been awarded to Dr. Caruso and Dr. Randy Hatch of Biotechnica International, Cambridge, by the Massachusetts Centers of Excellence to study the potential of a natural organism to control the fungus.

The study is to investigate aspects of biological control in the laboratory and greenhouse and on limited scale field plots. Results are to be compared with fungicides normally used against the disease. The research is expected to take two years.



In Massachusetts, call Bill Stearns (617) 746-6048

The flow gate specialists for generation after generation.

reliability.



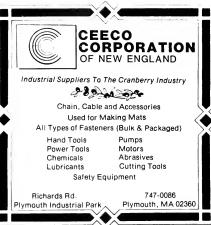
When you choose Felker, you get time tested

## Tax Advantages Of Leasing Cited By Leasing Body

Growers who lease equipment by Dec. 31 are eligible for a break in their 1987 taxes, according to the Farm Credit Leasing Services Corporation (FCL), the leasing arm of the Farm Credit System.

The FCL notes that a provision in the 1986 Tax Reform Act allows agricultural businesses to realize up to a \$15,000 tax credit in 1987. The tax deduction is a 10 percent investment tax credit (ITC) allowed for equipment used for farming. It is available only if the equipment is leased.

Although the tax reform bill eliminated ITC and changed



## **BIG WHEEL** TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617)763-5927

(617)763-8745

depreciation rules, an FCL spokes person says, equipment used or a farm for farming purposes i exempt from the new rules.

Several conditions must be me for eligibility. Equipment must be financed through a Farm Equipment Lease. The cost basi of the leased property may no exceed \$150,000 per lessee pe year. The equipment must b subject to a binding commitmen by Dec. 31, 1987.

Also, a minimum transaction size of \$10,000 is required. The equipment cost may not exceed 25 percent of total net worth and prospects must show a debt to asset ratio of 45 percent or less.

Further information can b obtained by calling the FCL in Minneapolis. The number is (612) 378-1733.

## Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

STEVE

(715) 593-2358 (715) 593-2285

## Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

#### AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394



ADVANCED SYSTEMS, INC.

## **Cranberry Bog Aqua Sander**



Improve Crop Yields

Eliminate Vine Damage

> Reduce Sanding Costs

Sand Anytime



Maintenance free Aqua Sander pumps up to 40 tons an hour of sand on your bog without damaging vines or relying on ice.

The Aqua Sander is a highly effective material handling system. The "heart" of the Aqua Sander is the IPEC Universal Jet Pump. The unique design of the IPEC Jet Pump, based upon advanced jet pump technology converts pressure energy into velocity energy, thus allowing the transport of sand (15 to 30 yards an hour is not uncommon) over long distances through easy to handle 3" diameter hose. Having no moving parts, the Sander is virtually maintenance free, and its samblicity of operation requires no skilled.

labor. These two reasons plus the ability to sand anytime make the sander a must for every bog owner. Motive power for the Aqua Sander is normally pressurized water provided by a portable water pump. The sander requires supply pressure of 100 psi at 140 gallons per minute. Maximum transport distance is approximately four hundred feet using 3" hose. Longer transport distances are possible by increasing the supply pressure.

For more information contact:



ADVANCED SYSTEMS, INC.

P.O. Box 996 North Kingstown, RI 02854 (401) 295-8802 Rocky Meadow Bogs
OR 320 Purchase Street
Middleborough, MA 02346
(617) 947-2610



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 51st Year of Publication



Chatsworth
The New Tax Act — 20



## **Ground Is Broken in Chatsworth** For Cranberry Receiving Station

VELIZABETH CARPENTER

"It's great to see this commitent to agriculture in New Jerey," declared Arthur R. Brown r., New Jersey's Secretary of griculture, sharing the enthuasm of cranberry growers, ected officials and Ocean Spray ecutives attending the recent anberry receiving station groundeaking ceremony in Chatsworth, e state's cranberry growing pital.

"When you're farming in New ersey, you're farming in the ost difficult state in the union," added.

Brown said numerous agriculral regulations and more peoe per square mile than in any her state make his assertion a

Ocean Spray's \$8,000,000 mmitment to the New Jersey anberry industry makes us roud of your organization," rown concluded.

Arain-splashed Saturday morng brightened by afternoon, just time for groundbreaking. rowers had a chance to look at chitect's renderings of the ceiving station, listen to

#### **COVER PHOTO**

MIGHTY HEAVE of their novels was made by, l. to r., homas Wagner, Arthur rown, Edward Lipman, ouis Galgano and John owker at the groundbreakig ceremonies for Ocean pray's new receiving station Chatsworth, N.J. A story n the groundbreaking starts h this page. This photo and e others on the ceremony ere taken by CRANBERRIES brrespondent Elizabeth arpenter.



CHATSWORTH'S new receiving station will adhere to strict water quality standards established by New Jersey's Department of Environmental Protection and the Pinelands Commission, spokespersons say.

speakers' promising words and savor vanilla ice cream topped with Ocean Spray's new cranfruit sauces.

From their vantage point in the VIP tent, guests viewed the 147 acres of cleared land that will house the receiving station. Financed by industrial revenue bonds issued by the New Jersey Economic Development Authority, the 30,000 square foot processing plant and two receiving pools will open in the fall of 1988 and will have the capacity to clean 500,000 barrels of cranberries a season. Thirty to 50 people will be employed during each year's harvest.

Louis J. Galgano, Ocean Spray's southeast area manager, explained that screening and cleaning of raw fruit will all be done "without using chemicals or

Turn page for the continuation of story and more photos

### Massachusetts Cranberry Bog For Sale

13 acres of bog. 26 x 34 workshop attached to new, large home and garage.

Total land: 22 acres. Home value: \$280,000. 13 acre bog value: \$40.000 per acre.

Total value: \$800.000.

Asking \$700,000

Write to P.O. Box 177, Bryantville, MA 02327 or call (617) 293-5353.



WOODLAND TOWNSHIP residents (l. tor.) Terry Baxter, Ricky Baxter, David Santangelo, Tor Hedge, Mike Utley and Terri Baxter treated guests to vanilla ice cream topped with Ocean Spray's delicious new sauces.

additives." Only water, blowers and brushes will be used to remove stems, leaves and defective berries before the healthy fruit is trucked to the Bordentown processing plant.

Galgano stressed that Ocean Spray has followed strict water quality standards required by New Jersey's Department of Environmental Protection and the Pinelands Commission in designing this facility.

Thomas Wagner, Ocean Spray's vice president of manufacturing, emphasized that this receiving station is being built by a cooperative of grower/owners. Recalling co-op history, he said Ocean Spray was founded 57 years ago with Elizabeth Lee, an Ocean County, N.J., cranberry grower,

as one of its three founders.

"It is appropriate that this plant should be located near her home," Wagner said. He thanked Chatsworth residents "for bringing us in as neighbors" and promised "we'll be good neighbors."

Edward V. Lipman, vice president of New Jersey's Agricultural Society and former manager of Ocean Spray's Bordentown processing plant, reflected growers' sentiments, when he said, "I'm tickled to death to see this (receiving station) in Chatsworth."

He explained that although the station is not the final improvement for New Jersey's cranberry industry, it is a very important one.

Four hundred New Jersey growers once produced 90,000

barrels of cranberries annually Lipman recalled. Today simproved technology allows the state? approximately 50 growers to produce more than 300,000 ban rels a year. The receiving station will be a major improvement is processing this crop.

Woodland Township's mayor John Bowker, a Chatsworth reident, thanked Ocean Spray fo locating the plant in the cormunity. Not only will it be environmentally compatible with the Pinelands' fragile ecosystem, but will bring a much needed ratible to the township, he added.

CRANBERRIES is rea by more than two-thira of the growers in the U.S.



: Ocean Spray's Louis J. Galgano, second from left, is flanked by County Freeholders Francis ne, Martha Bark and Eugene Stafford. Bottom: Galgano tells guests about the new station.

## REGIONAL NEWS NOTES

#### MASSACHUSETTS

By IRVING E. DEMORANVILLE

The 100th annual Meeting of the Cape Cod Cranberry Growers Association was held in Carver on August 18th and it was a real blast. It was billed as a "Centennial Celebration" and the public was invited. There was no actual attendance total kept. but 5.000 would be a conservative estimate. Officers and directors elected for the coming year were: President, Doug Beaton; 1st Vice President, Jeff Kapell; 2nd Vice President, Dave McCarthy and the author, Secretary-Treasurer. The one new member on the Board of Directors was Jean Gibbs who replaced Elton Ashley, Jr. We thank Elton for his advice and timely contributions to the organization.

The official crop estimate released by New England Agricultural Statistics indicate the Massachusetts crop at 1,7000,000 barrels or 2 percent below the record 1986 crop; New Jersey 325,000 barrels, equal to

the 1986 crop; Oregon, 132,000 barrels or 8 percent above 1986; Washington, 126,000 barrels, up 26 percent from 1986, and Wisconsin, 1,312,200 barrels, down 1 percent from 1986. The U.S. total is 3,675,200, just a snitch below last year.

Dr. Robert Devlin attended the annual meeting of the Plant Growth Regulator Society of America in Honolulu, Hawaii from Aug. 2nd through August 8th. Bob presented a paper related to his growth regulator work at the Station.

Dr. Frank Caruso attended the imeeting of the American Phytopathical Society in Cincinnati, Ohio, from 22nd through 4th. Frank presented a at the meeting.

No matter how sn your business, you afford to place an ad in magazine that serves industry: CRANBERR.

## 

1 M M M M M M M M M M

- 12 to 16" discharge
- •20' tongue
- PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494 (715) 421-0917

Office 295-2222 BEATONS

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

P. Beaton 947-3601

Complete line of portable Crisafulli Pumps 2" - 16"
Plastic netting for suction boxes



#### SIS FUNDING REACHES 8 MILLION FOR

#### LOGICAL PEST CONTROL

sis, a Palo Alto, Calif., biological control company founded by Dr. and M. Oliver, former vice president search and development for tt-Packard, said today it has raised nillion in additional venture capihis brings to \$10.8 million the total any is research, development, pron, application and marketing of ntrol products.

ew investment group of five major re capital companies is particiin this round of financing. The nvestor in this new round of financs Kleiner, Perkins, Caufield and IV (KP) of Palo Alto. They are lby: Institutional Venture Partners ). Menlo Park: Grace Ventures ership II, Cupertino; Grace Ven-Corporation, Cupertino: Vencap ties Alberta, Ltd., Edmonton, rta, Canada; and Wind Point ers, II, Racine, WI. In addition, am Hewlett and David Packard ders of Hewlett-Packard) and Pru-Research and Development Part-

### TANBERRIES



SEND CORRESPONDENCE TO:

P.O. BOX 249 COBALT CT 06414 (203) 342-4730

UBLISHER & EDITOR: BOB TAYLOR IKETING DIRECTOR: CAROLYN LABAN

OCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

#### /ISORS & CORRESPONDENTS

SSACHUSETTS — Irving E. Damoranville, tor, Cranberry Experiment Station.

W JERSEY — Phillip E. Marucci, Cranberry & Blue-

W JERSEY — Phillip E. Merucci, Crenberry & Blue-Specialist, Cranberry & Bluebarry Leboratory, worth; Elizebeth G. Carpenter, Chetaworth. VA SCOTIA — I. V. Hall, Botanist, Research

EGON — Arthur Poole, Coos County Extansion

SHINGTON — Azmi Y. Shawa, Horticulturist and sion Agent in Horticulture, Coastal Washington irch & Extension Unit, Long Beach, SCONSIN — Tod. D. Planer, Farm Managament

IBERRIES is published monthly by Diversified dicals, Wellwyn Drivs, Portland CT 08480. Second postage is paid at the Portland, Conn. Post Office. is \$10 a year, \$18 for two years, \$1 a copy in the \$12 a year in Canada; \$15 a year in all other rise. Back copies: \$2, including postage. Copyright by Diversified Pariodicals.

IBBN: 0011-0787
Postmaster, send Form 3749 to:
CRANBERRIES
P.O. BOX 249
COBALT CT 08414

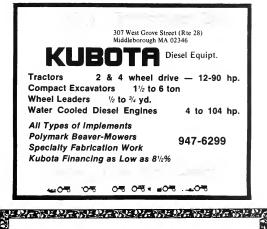
nership have each significantly increased their investment in Biosis in this round of financing.

Regis McKenna, a general partner of KP, and Sam Colella, a general partner of IVP, have joined the board of directors of Biosis.

Biocontrol is a field of biotechnology in which nonchemical methods are being developed to control insect pests through the use of their natural biological enemies. Biosis is presently focused on the use of insect-killing nematodes, micro-copicsized invertebrates that destroy soil-borne insect pests which attack lawns, gardens and various agricultural crops. These nematodes are completely

harmless to humans, animals, birds, plants and the environment. They are one of the most promising biocontrol organisms because they are a part of the natural ecological scene, are a broad spectrum insecticide and do not require the extensive research effort inherent in gene manipulation.

Biosis President Albert J. Morris says "With this funding, Biosis is accelerating its development of the technology needed to mass produce, store, ship and effectively apply insect-killing nematodes and, in addition, it should provide the resources to allow Biosis to penetrate various markets starting in 1988."



## J.A. JENKINS & SON CO.

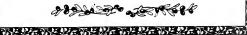
Grower Service

MOWING (ALL TYPES) SANDING DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018



## $Know\ the\ Insects\dots$

The major cranberry insects: cranberry girdler, the fireworms, tipworm, blossom worm, cranberry fruitworm and Sparganothis fruitworm.

## $Know\ the\ Insects\dots$

The periodic cranberry insects: cranberry scale, fire beetle, blossom weevil, armyworm and bluntnose leafhopper.

## $Know\ the\ Insects\dots$

Color photographs of all these insects and more are now arranged with text in a portfolio that is available.

The portfolio endeavors to bring together the words of research complementing the photographs and making a summary of cranberry insect information that will be of use to the cranberry grower for a lifetime.

The portfolio is available for \$100 and, if you wish to examine a copy, telephone (609) 894-8556 evenings around 6 p.m. or write to:

Walter Z. Fort
P.O. Box 183
Pemberton
New Jersey 08068

## Weather Watch

#### MASSACHUSETTS

August was cool, averaging 1.5 degrees day below normal. Maximum temperare was 94 degrees on the 18th and minium 43 degrees on the 25th. The only armer than average days were the 4th d 18th-20th. Cooler than normal days ere the 10th, 24th and 27th-31st.

Rainfall totalled 2.62 inches which is 1-3 inches below normal. There was

## Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

STEVE

(715) 421-0917 (715) 593-2385 measurable rainfall on 9 days with the greatest amount of .73 on the 10th. However, over half of the monthly total occurred from the 28th-30th. This was the 2nd driest summer (June-Aug.) in our records.

exceeded only by 1966. We are nearly 2 inches above normal for the year and nearly 2 inches behind 1986.

I. E. D

# ATTENTION BOG OWNERS

# BOG SAN

### SCREENED OR UNSCREENED

ANY QUANTITIES PICKED UP OR DELIVERED

CALL: Mike (Evenings 6-9) 878-1596 or John (Days) 878-2796 FOR PRICE OUOTES



Saturday Deliveries

SAND & GRAVEL MAIN OFFICE

ROUTE 3-A 171 V.F.W. DRIVE ROCKLAND

SAGAMORE 888-1021

Same Day Service

ROUTE 28 MIDDLEBORO 946-0717



· BERRY LIFTING ·

nylon berry bags

bulk bins

BEATON'.

CRANBERRY GROWERS SERVICE

INC

mat rentals & sales

· MUD LIFTING · NEW MATS

> lightweight durable

contact PETER - CHUCK 617-295-2222



#### **Irrigation Equipment Designed Especially for the Cranberry Industry**

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polvethylene Main Lines.
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- · Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

P.O. Box 66, 11 Larchmant Lane Lexington, Massachusetts 02173 (617) 862-2550

#### Contact

**Larchmont Engineering** Phil Tropeano, President (617) 862-2550 (Call Collect)

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048



# MIDDLEBOROUGH TRUST COMPANY

# The **Business** Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





#### Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313

# Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

WARRENS WI 54666 (608) 378-4511 R.D.GRASSI Cranberry SERVICES

\*\*\*\*

Herbicides Applied Sanding Wiping Wet Harvesting Mowing

> (Mowing includes Hydraulic Arm Flail Mower.)

West Wareham, Massachusetts Ask for Rick at 295-5158



## 2,061.43 Acres For Sale

# Bandon, Oregon

72.5 acres cranberry producing bogs; 30 acres prepared, irrigated, ready for planting; 50 acres recently replanted timber reproduction land; 849 acres cleared land; 996 acrestimber reproduction land; 50 acres marshland; 14 acres nonforest, road, pond and rock pit areas.

Bogs planted with Stevens, Ben Lears, Crowley. Automatic sprinkler system. Good pond. Pumping System. Graders, back hoes, etc.

## **Asking \$2 Million Cash**

Terms Available

Pacific Corp Business Credit Inc. Portland, Oregon 97207 111 S.W. 5th Ave. #2800 (503) 222-7900

Ask for Robert Schaffer

# CMC Sets 87-88 Budget, Upholds Vote on Quantity

By CAROLYN GILMORE

A \$156,850 budget, representing a 4.3 cents per barrel assessment, was approved for 1987-88 by the Cranberry Marketing Committee (CMC) at its August meeting in Plymouth, Mass.

This is a decrease of \$15,650 from last year's budget, which financed relocation of the CMC office to Massachusetts from Michigan, initiated an updated computer system and hired a new manager.

The decision in February 1987 not to establish a marketable quantity for the 1987 crop year was also upheld at the August meeting.

Final approval from USDA to proceed with the 1986 base quantity adustments was received in July. Base quantities were updated and certificates mailed on the effective date of August 5, 1987, said General Manager David Farrimond.

Use of field personnel, a fine-tuned computer system and improvements in inventory report forms "have contributed to greater factual reporting to the committee" in the past year, Farrimond

## Pump Repairs

All Types
SALES

Field Service & Shop 20 Years Experience

#### AAA INDUSTRIAL PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394



Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956

(William D. Chamberlain)

noted.

"I can envision that, by this time next year, we'll have seen a pattern of consistency starting to develop through the introduction of new reporting formats, better communications between the committee, growers and handlers and the establishment of a closer working elationship with the USDA." Farrimond noted.

The goal of the CMC office s "to provide the committee ind cranberry industry with he most factual data availale from which appropriate lecisions or policies can be ormulated," he added.

Newly appointed to the ommittee are Marshall Sevrance, replacing Gary Garetson as Massachusetts lternate, and Joseph Darlington, alternate from lew Jersey.

Also, Marcia Bousquet was ecently hired as office ecretary, replacing Lee hite who left the employ of ne committee. George Rezin as hired as field represen-

## Niemi **Electric** Company

\*\*\*\*\*\*



Robert Niemi Electrical Contractors

Heat, Light & Power Winna

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

Pinehurst Drive Wareham, Mass. TEL. 295-1880

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

tative in Wisconsin to replace Clayton Garnett who retired in September. The February meeting will

be held in New Jersey. Date and location will be announced. The CMC holds regular

meetings in February and August of each year to administer the provisions of the Cranberry Marketing Order No. 929 under the authority of the Agricultural Marketing Agreement Act of 1937. Membership on the

committee includes seven cranberry industry representatives and their alternates plus one

nonindustry member and an alternate representing the general public. In February, a marketable

quantity for the upcoming crop is determined and a marketing plan is established in relation to anticipated production and sales demands. At that time, the committee also reviews applications for adjustments in base quantity. August meeting business

finalizes the yearly marketing policy and establishes a recommendation for allotment percentage. In addition, the fiscal year budget and assessment rate are established at that time.

## KUBOTA: VERS THE FIELD

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance Multi-cylinder design





Charge of Transmiss CYL HP B5200 B6200 B7200 B8200 B9200 19° 22 5° PTO HP L245HC L345 L355 SS

L2250 L2550 L2850 L3350 L3750 L4150

KUROTA LAWN & GARDEN TRACTORS

Model G1200



Speeds Forward/Revers PTO HP M4030 M5030 M6030 M7030 M8030 M4950 M4950 M6950 M7500 LF M7950 M8950 43.00 16/4 16/4 Visit your Kubota dealer to find out which

Kubota will be best in your field.

Nothing like it on earth.

## **ELLIS IMPLEMENT**

**6639 HIGHWAY 66** STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111

13

## ECONOMICAL POWER



Diesel pumping units for irrigation and spraying applications.

\*40 to 760 horsepower.

\*New, used rebuilt and government surplus

\*Caterpillar, Cummins, Detroit, Perkins and more. Over 1,500 engines in stock.

#### **POWER UNITS**

This month's special:

3-53 Detroit diesel power unit. Rebuilt engine. Rediator cooled, skid mounted. 91 hp. @ 2,500 r.p.m. and 64 hp. @ 2,200 r.p.m. New Rockford power take off assembly installed. \$3,250.00 each.

#### **D&K IS YOUR HEADQUARTERS FOR AIR COOLED DEUTZ DIESEL ENGINES**

50 through 300 horsepower

4, 6, 8, 12 and 12t models in stock today

\*Low time surplus reconditioned 8 cylinder model 8L714, 178 hp. @ 2,300 r.p.m. Large quantity just received.

\* Call for datails.

\*High quality Deutz engines and guaranteed used parts. Reasonable prices. "Your neighbors are probably using our engines."

Available with pump drivas, raw flywheel and naw (or) used p.t.o. clutch assemblies

Just arrived: Government surplus WATER PUMPS, National transit, Will pump 500 to 1,500 gallons per minute. Available with Detroit, Cummins, Caterpillar or Waukesha diesel engine 8" in, 6" out, Low surplus price on these guaranteed units. Call for details.



#### **GENERATOR SETS 20 THROUGH 600KW**

\*25 kva, 20 kw Detroit 3-53 diesel powered 120 amps at 120 volts, 70 amps at 208 volts. 1,200 r.p.m. giving long service between rebuilds. Load bank tested and ready to ship. Over 100 in stock today. \$2,950.00 less gauges. With amp/volt/frequency gauges & safety oil & temperature switches @ \$3,500.00 each.

Call for other sizes. Diesel and natural gas. New, used and rebuilt generators. Expect

#### WE BUY SURPLUS CASH PAID

We buy surplus naw and used equipment and tiras Cash paid. D&K Supply has 14 acres of hard to find items, new and used. Government surplus and rebuilt gas and diesel engines, 6 x 6 all wheel drive trucks and components, generatoras, power units, tires, lift trucks and cranes All F.O.B Akron and subject to prior sale

#### 21/2 TON ALL WHEEL DRIVE 6 X 6 TRUCKS



Large quantity. Available as tractor with fifth wheel and as straight truck with a number of wheel base options. 900 x 20 tires. Front winch available. Transmission: 5-spd gear ration high 1.1; Fourth 1.45:1; low 7.55:1. Transfer: 2-spd. Gear ration high 1:1, low 1.98:1. Hard Cabs available. Reconditioned and guaranteed.

Gas: \$7,950.00

quality work on time

Diesel: \$11,250.00

Just received.

Low, low time 5-ton 6 x 6. Mack trucks with super long wheel base. One with 300, one with 3,000 miles. Approximately 11 feet from back of cab to center rear bogie. Available in gas and diesel. Call for photo and price

\*Also available: % ton 4 x 4 vans, 2 ton custom 4 x 4, 2% ton gas & diesel GMC and Rec. 5 & 10 ton heavy hauler 6 x 6 government surplus trucks. All wheel drive. Reasonable

Over 1,500 angines in stock. Gas & diesel. New, used, government surplus and rebuilt.

Allis Chalmers Avco Buda Case Caterpillar. Chevrolet Chrysler Continental...Chriscraft...Cummins Detroit...Deutz...Ford...GMC...Hall Scott Hercules International Jeep John Deere La Roi. Mack. MPLS. Moline, Mitsubishi. Perkins, Reo. Waukesha. White, Wisconsin, and more Call for free catalogue

"We pay 1/2 freight

# $D \mathcal{E} K$ supply co.

SEND FOR FREE CATALOG **CALL FOR** 

Replacement diesel and gas angines, generators, transformers, custom gauge panels, transfer switches with under/over voltage, over/under frequency and in phase monitor, perallal gear (manual and automatic) and circuit breakers (manual and shunt

TOLL FREE 1-800-551-5664 Telex: 98-6483 Dank Akr

In Ohio: 1-216-733-2224

Mailing Address: P.O. Box 268C, Akron, Ohio 44309 Shipping Address: 1027 Hazel St., Akron, Ohio 44305

#### Pinelands Commission Opposes Water Export

The New Jersey Pinelands Commision recently went on record opposing he pumping of water from the Cohansey r Kirkwood aquifers "unless the Comnission and the Department of Envirnmental Protection agree that the tategrity of Pinelands water resources nd the ecosystem will in no way be mpaired."

The Commission's policy statement tates that the Commission is opposed to ne use of the Cohansey or Kirkwood quifers as water supply sources unless the ecological limits of such use are allly understood and the aquifers are rotected from adverse impact."

The Commission requested the department of Environmental Protection

## BRAND NEW

Dual Sander

without engine

Never Been Used

\$6,000

Call 609) 866-1864

#### CRANBERRY GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland. Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288 to immediately begin a joint study with the Pinelands Commission of the Cohansey and Kirkwood aquifers to assess the ecological impacts of future withdrawals and to develop a joint policy establishing safe limitations on the use of these aquifers.

Once those limitations are established, the Commission stated, the use of the Cohansey or Kirkwood should only be approved when no other feasible water supply alternative exists, where water supply needs are limited through conservation and growth management strategies, and where well sites are selected to minimize local and regional environmental impacts.

The Cohansey aquifer, the major underground water source in the Pinelands, New Jersey's cranberry growing region, is estimated to contain over 17 trillion gallons of clean water. However, an October 1984 report by a scientific advisory committee to the Commission stated that even a slight drop in the Pinelands water table caused by large scale pumpage could destroy native plant and animal habitats, particularly wetlands habitats which support rare plant and animal species. The Kirkwood aquifer underlies the Cohansey in the Pinelands and is the primary water supply source for the New Jersey shore.

# TO THE SAME

## Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

## Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

- Coordinate hardware purchase
- Software installation
- •Implementation & training
- Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acre
   Chemical applications
- Profitability/cost per barrel
   Sanding and damage

## Irrigation Supplies

- 2" to 12" PVC Pipe with Fittings
- Quick Couple Risers
- Felker Aluminum Flumes & Cuiverts

Replace old aluminum mains with government approved 4", 6" and 8" polyethylene pipe buried just below bag surface. No insert fittings. Rent our butt fusion welder for a continuous main line. Beat the high cost of custom installation by renting our small 4-wheel drive tractor with mole hale plow for buried laterals.

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048

.......



TENDER TURKEY ROLL encased with flaky pastry with a layer of well seasoned cranberries is testimony to the cook's imagination at Thanksgiving or any other time.



#### TURKEY IN A BLANKET

The carver-and dinner guests-will bless the cook who serves the holiday bird "en croute." Not only is it easy to carve, but the flaky pastry in which the tender turkey roll is encased is pretty to look at and delicious to eat. Underneath the pastry is a layer of well-seasoned cranberries to add extra flavor and color to this festive dish. Especially suited to today's smaller families and busy cooks turkey en croute can hold its owh at any function-formal or informal-during the holidays. at the same time attesting to the imagination of the cook.

For a bright accompaniment, you can also form pastry into d cornucopia and bake it along with the turkey. Then fill with spiced cranberries and serve with the main course

#### TURKEY ROLL EN CROUTE (Serves 6)

1 frozen turkey roll, 4 lbs.

- 6 slices bacon, diced
- 1 large onion, chopped 1 cup fresh cranberries
- ½ cup dry bread crumbs
- 1 package pie crust mix
- 1 teaspoon poultry seasoning 1 egg, well beaten
- 1 egg, well beater

Roast turkey roll as label directs. Cool slightly, remove string, Remove skin, if desired. Fry bacon and onion until bacon is criep. Pour off half of drippings; Add cranberries and cook until cranberries are soft, about 5 minutes. Stir in bread crumbs. Cool. Mix pie crust mix and poutry seasoning, then prepare as

label directs. On a floured surface, roll % of crust into 16" by 12" oblong. Spread pie crust with cranberry mixture. Place turkey roll on pie crust and roll crust around turkey roll to enclose completely. Seal all edges. On greased cookie sheet place turkey roll, seam-side down. Brush pie crust with beaten egg. On floured surface roll remaining pie crust. With turkey shaped cookie cutter, cut pie crust into turkey cutouts. On to pastry covered turkey roll, firmly press turkey cutouts. Brush cutouts with beaten egg. Place pastry covered roll on baking sheet. Bake in preheated hot oven (400° F.) for 20 to 25 minutes or until pie crust is brown. Place on

heated platter and surround with a harvest of cooked, drained vegetables.

#### SPICED CRANBERRIES (Makes 2 pints)

12 whole cloves
2 whole nutmegs
1 lb. fresh cranberries
2 cups granulated sugar
½ cup water

3 cinammon sticks

Combine all ingredients in a large saucepan. Bring to a boil, lower heat and simmer 5 minutes. Spoon into sterilized glasses, leaving whole spices in syrup. Seal, cool and store until ready to serve.

# WISCONSIN CRANBERRY HEADQUARTERS FOR SEVIN XLR



DEVRINOL 10G • EVITAL • GUTHION
DIAZINON 14G • PARATHION • ETHREL

### Cole Chemical Supply

DIVISION OF **Hepkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707

## **Rock Village Electric**

Full Service Company Specializing in New Construction

Commercial · Residential · Industrial

Cranberry Bog Pump Motors & Controls

Quality Service — Fully Insured BH Gazza, Meeter Lic # A9628

48 Highland St. 9 Middleboro, Mass.



# The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607

#### **AMES**

Irrigation Systems

### RAIN BIRD

Sprinklers

#### HALE

Pumps

Highest Quality Products
With Satisfaction Guaranteed

CRANBERRIES gives you the news and views of the industry.

# BIG WHEEL TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617) 763-5927

(617) 763-8745









Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting — Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

Now Available From "SCOOP 'EM UP -MASSACHUSETTS CRANBERRIES" T-Shirt 3 color design on ecru sizes 2 through XXL Children \$11 Adults Adult XXL \$14 Cranberry Originals will be at the Wisconsin and Massachusetts Field Days. Ann Kurz Chambers 1631 4th Street



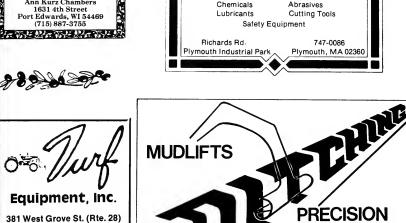
Middleboro, MA 02346

(617) 947-6299

Tractors, Excavators and

Diesel Generators

**ØKUR**(1)



(617) 826-3264

other security holders awning or holding 1 percent or more of total amount of bonds, mortgages or other securities, none 5

CEECO

Industrial Suppliers To The Cranberry Industry

Chain, Cable and Accessories

Used for Making Mats

All Types of Fasteners (Bulk & Packaged)

Pumps

Motors

Hand Tools

Power Tools

CORPORATION OF NEW FNGLAND

Stetement of Ownership, Menagement and Circuletion Required by 39 USC 3885 1 Title of Publication Cransbrase 2 Data of filing: Sept. 16, 1987. 3 Frequency of issue monthly, 3A No of issues published annually 1 2.3B Annual subscription price. \$10. 4 Compilate mailing address of known office of publication: 2 Freestone Ave. Portrand. Mid-dissex County CT 08480 5 Compilete mailing address of the Wheel Loaders 3/4 Yd - 6 1/2 Yd headquarters of general business offices of the publisher neadquartars of general business ancioss or tra publishar same 6. Full names end complete meiling addrasses of pub-lisher, editor end managing editor: publishar, Robert Teylor, Wallwyn Drive, Portland CT 06480, editor, same, managing adtor, same 7. Owner Robert Teylor, Wellwyn Drive, Port land CT 06480, 8. Known bondholdars, mortgegaes, end Screening Equipment

not applicable 10 Extent and nature of circulation (avera no copies each issue during preceding 12 months and actual no. copies of single issue published nearest to filing date): A totel no. copias, 650 and 650; B. paid circulation (1 sales through dealers and carriars, street vendors and counter sales, 0 and 0) and (2 mail subscriptions, 547 and 562); C. total paid circulation 547 and 562; D. free distribution by mail. cerriar or other means, samples, complimentary and other free copies 0 and 0; E. total distribution, 547 and 562; F copies not distributed: (1. office usa, left over, unaccounted, spoiled efter printing, 103 and 88) and (2. raturns from news agents, 0 and 0); G. total. 650 and 650. I cartify that the statements made by ma above are correct and complete (Signed) Robert Taylor, Publisher/Editor.

DITCHING

Pudding Brook Farm Pembroke, Ma.

02359

Dave Swanberg

- CONTACT -

# New Tax Act and Small Business

By JOSEPH ARKIN

There is a new tax law — the Tax Reform Act of 1986 — and whether you agree or disagree with the new law's provisions, you had better understand how it affects your business enterprise.

Presented here are salient provisions of the newly enacted Internal Revenue Code of 1986 as the new Act will be known.

Investment Credit: The present investment credit for both vehicles and capital equipment is eliminated, retroactively to January 1, 1986.

For those with carry-over credits the bad news is that the transition rules provide for a reduction of 35% for 1987 and 17½% in 1988.

Depreciation: Under existing law you can deduct 25% of an automobile's cost the first year. 38% the second year, and 37% in the third year. There is a special rule for "luxury" autos. Prior to April 3, 1985 an auto costing \$16,000 or more could be depreciated \$4000 the first year, \$6,000 the second year, \$6,000 in the third year, and the balance in following years, until the entire cost was recovered. An auto purchased after April 3, 1985 is considered in the luxury class if its cost was \$12.800 or more. First year depreciation was \$3,200, second year \$4,800, third year \$4.800, and the balance depreciated until entire cost was recovered.

If you are using the automobile in your business (and we'll assume that it is 100% for business) you can continue to deduct depreciation as outlined above for 1986 and for all subsequent tax returns

Fixtures, machinery and related business fixed assets subject to depreciation used 15% the first year, 22% the second year, and 21% for the third, fourth and fifth years.

Here again for any assets placed in service prior to December 31, 1986, you can continue to take depreciation as heretofore. (Note: Under ACRS rules taxpayers could elect not to use accelerated depreciation and could elect special straight line method).

Automobile, light trucks, special technological equipment and other items now fall into a new five year class.

Depreciation for such items placed into service after December 31, 1986 will be depreciated over the five year period on a 200% declining balance method, i.e., \$10,000 asset's depreciation will be 40% or \$4,000 the first year, \$2,400 the second year, \$1,440 in

year three, \$864 in year four and \$522 in year five.

Luxury autos will be depreciated \$2,133 in the first year and \$4,210 each year thereafter until the entire cost is recovered.

Similar adjustments with new yearly lives are established for assets placed into service after December 31, 1986.

Home Office:

The deductions attributable to qualifying business use are limited to the gross income from the activity, reduced by interest and taxes related to the business portion of the home, and further reduced by all other non-home office deductible expenses related to the business activity. Deductions that are disallowed solely because of the income limitation may be carried forward to later tax years. However, to prevent them from ever being used to create or increase a net loss from

## TED'S FARM EQUIPMENT

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hudraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel ie business activity, the amounts arried forward remain subject the income limitation. A taxpayer who leases a por-

on of his or her home to an nployer will not be allowed eductions for home office openses, except to the extent iese expenses are allowable ven without any business use .g., home mortgage interest (pense and real property taxes). Real Estate: Where real estate

used in a trade or business it. an continue to be depreciated nder old rules (and use of lives) placed into service prior to anuary 1, 1987.

Non-residential real estate aced into service after December . 1986 will now have to be preciated on a straight line isis of a 31½ year life span.

On disposition of real estate ere will be no recapture of preciation.

Expensing of Equipment: nder the old law you could elect expense the first \$5,000 on uipment purchased in 1986. e new law raises this to \$10,000 r purchases made after cember 31, 1986 if the firm has s than \$200,000 of tangible rsonal property.

Business Meals and itertainment: The cost of \*\*\*

No one is more qualified to serve your Crop Insurance needs

than THE BUTLER GROUP ×

1 Crop Hail policies on any commercial crops-Hail Fire Vandalism and Transit 2 Federal Crop Insurance Policies for Apples Potatoes Tobacco Corn Cranberries and others

3 Home Auto Business Life Health Call us for a quote or details

Call us for a quote or details

BUTLER Florists' & Growers' Insurance Agency of New England, Inc. 20 South St., Westborough MA 01581 617-366-1512

\* \* \* \* \* \* \* \* \* \*

\* \* \* \*

×

\*

×

\*

qualifying meals can only be deducted to the extent of 80%. even for meals furnished to employees. This is going to cause one big headache in record keeping. The unallowable 20% for corporations will probably get charged to retained earnings, while proprietorships and partnerships will probably charge the 20% to drawing or capital accounts The excess cost of tickets over

face value is no longer deductible (in 1987), but a special rule allows the surcharge to be deductible if for a charitysponsored sporting event. Business Travel: Deductions

after December 31, 1986 are curtailed for educational travel, and cruise ship and other luxury water travel is limited to two times the Federal per diem rate. There will be certain exceptions. Net Operating Losses: Years



#### Felker Flow Gates

are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15-48 inches in diameter, with widths from 24 to 72 inches. The height of each unit depends on your requirements. Custom sizes as well as single. double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

> In Massachusetts, call Bill Stearns (617) 746-6048

The flow gate specialists for generation after generation.

22 N. CHESTNUT AVE., MARSHFIELD, WISCONSIN 54449 TELEPHONE (215) 384-3121 TWX 510-370-184



ago the IRS attacked the outright selling of net operation losses. Now if there is a 50% change in ownership there will be restrictions placed on NOL being carried forward.

Dividend Income Credit: The old law allowed a corporation to reduce its dividends received from domestic corporation by 85%. This figure after December 31, 1986 will be reduced to 80%.

Corporation Tax Rate: Through June 30, 1987 the top rate will be 46%, thereafter it drops to 34%, giving a yearly average of 40%.

Solar Energy: Install devices in your business premises qualifying for the credit will entitle you to 15% cash credit in 1986, 12% in 1987 and 10% in 1988.

Capital Gains: The corporate capital gain rate is set at 34% for tax years beginning after December 31, 1986.

Accounting Methods: Where inventory is a material factor in determining a taxpayer's income, the accrual method of accounting must be used. Others had an option of using the cash method or the accrual method.

The new law provides that corporations or partnerships with a C corporation as a partner must be on the accrual basis. (picking up income and expenses when incurred, not when paid).

Exceptions to this rule are farms, qualified personal service corporations and entities with average annual gross receipts of less than \$5 million.

LIFO Inventory: Firms doing less than \$5 million in average annual sales can use the simplified dollar value LIFO method. Check with your accountant to see if the simplified method can help you.

Tax Year: Partnerships, S corporations and personal service corporations must have the same year as partners owning a majority interest. Rule effective January 1, 1987 will hurt those

fiscal to calendar year and report more than twelve months income in a single year.

New Medical Expense Deduction: A self-employed person, one who usually loses out on most fringe benefits, now finally picks up one. The self-employed taxpayer can deduct 25% of the cost of medical insurance, limited to the net earnings of the business. This means that the inclusion of this new expense cannot give rise to a loss. Catch: The taxpayer cannot be covered by a plan of other

employment, nor of a spousal

plan. Note that a partner is con-

sidered to be self-employed.

Deferred Compensation Plans: Employers operating in the corporate form can have both stockholders and other employees participating in a 401K Plan. The new maximum contribution for years after December 31, 1986 is set at \$7,000. Those who participate in SEPS are likewise limited to \$7,000 and they cannot make contributions to an IRA if they have contributed \$7,000.

IRA Investments: Years ago a prohibition was enacted into law stating that IRA funds could not be invested in collectibles. Beginning January 1, 1987 an IRA can be invested in gold and silver coins minted by the U.S. Government.

Targeted Jobs Credit: You can deduct 40% of the first year's wages as a credit, with no credit for subsequent years. The credit will expire in 1989.

Compliance Rules: There is a penalty of \$50 (up to \$100,000) for each category where you don't furnish W-2 or forms 1099. Also, new penalty of \$5 (up to \$20,000) for failure to file correct information or for making omissions.

The present ½% per month penalty for failure to pay taxes when due is raised to 1% per month (25% maximum), after notification by IRS of a threat to

Real Estate Depreciation Own residential property? Ye should continue to deduct depreciation under old rules. But for property placed into service aft December 31, 1986 the write-off is based on 27½ year life, conputed on straight line basis.

Up to now we have conce trated on those rules and change specifically relating to busine enterprises. Sweeping changes in rate

Sweeping changes in rate handling of certain types in income, and deductibility of sp cific disbursements have greimpact on individual tax liabilit.

★The two-wage earner creck (Schedule W) to eliminate son portion of marriage penalty eliminated after Dec. 31, 1986.

★Income averaging over a fo year period is likewise eliminate after Dec. 31, 1986.

★The 10-year income avera ing for lump-sum distribution from pension plans is replac in 1987 by a 5-year average. B distributions can still be roll into an IRA to defer taxes.

**★Unemployment insurance** now fully taxable after Dec. 3 1986.

★There are no longer dedutions allowed for state or loc

sales taxes, after Dec. 31, 1986

\*The medical expense disslowance is raised to 7½% of the amount of adjusted gross incomposition of the same after Dec. 31, 1986.

- \*Moving expenses no long deducted from adjusted gro income on page 1. They now no be taken on Schedule A, itemiz deductions (not subject to no 2% rule).
- ★The costs of attending investment seminars are not deductible after Dec. 31, 1986.
- \*Employee business expensivill no longer be deducted Form 2106. They now must taken as itemized deductions a will be subject to 2% disallowar of adjusted gross income figurations.
  - $\star$ Other deductions such

estment data expenses, tax paration, safe deposit box, on and professional dues, work hes, etc. will likewise be shown behedule A as heretofore, but y will be reduced by 2% of usted gross income figure. For

Political contributions after . 31, 1986 will no longer be uctible.

The \$100 dividend exclusion singles, \$200 for marrieds filjointly will be eliminated r Dec. 31, 1986.

IRAs now have new rules. se who are covered by a quall pension or profit sharing a or a Keogh, or a 401K, who over \$25,000 if single, \$40,000
arried, face restrictions. For a \$5 of taxable income over hreshold, \$1 of the IRA contion will not be deductible. se with income over \$35,000 ngle, \$50,000 on joint return get no deduction at all. If ried, your spouse being in a will affect your right to the action.

interest deductions for coner interest loans will be sed out. 65% deductible in , 40% in 1988, and 20% in

osses from rental property, te under present law, arisput of depreciation, interest, al expenses, etc. can only be cted to the extent of gross al income. Thus no loss is wed, unless offset against table property.

ceptions were written into provision—those with losses rr \$25,000 who "actively age" their property, and who earn less than \$100,000 are sition to still deduct losses. lave children over 5 years of claim them as dependents? will need to get them a l security number as you'll to show this on returns filed \$88\$ and thereafter.

start now to get into habit of ing record of all nontaxable empt income. Beginning in this will have to be shown. \*Capital gains taxable will be taxable on the full amount in 1987, not the 60/40 split as before. But the rate for 1987 will be set at 28% even if the taxpayer is in a

higher bracket. Losses in excess of profits in 1987 will be deductible without cutting them in half. \$3,000 rule stays.

©ARKIN MAGAZINE SYNDICATE

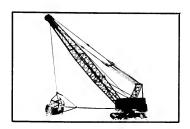
# **BOG SAND**

## Sandwich Stump Dump 9nc.

- Large quantities available
- Delivered or picked up
- Reasonable rates

295 Service Rd. 888-3934 Sandwich, Mass. 02537

DILDICALDICALDICALDICAL



## Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4—3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact:

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946



The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

Our 51st Year of Publication



ACGA Meets — 5
Accelerated Payments — 20

### $Know\ the\ Insects\dots$

The major cranberry insects: cranberry girdler, the fireworms, tipworm, blossom worm, cranberry fruitworm and Sparganothis fruitworm.

### $Know\ the\ Insects\dots$

The periodic cranberry insects: cranberry scale, fire beetle, blossom weevil, armyworm and bluntnose leafhopper.

### $Know\ the\ Insects\dots$

Color photographs of all these insects and more are now arranged with text in a portfolio that is available.

The portfolio endeavors to bring together the words of research complementing the photographs and making a summary of cranberry insect information that will be of use to the cranberry grower for a lifetime.

The portfolio is available for \$100 and, if you wish to examine a copy, telephone (609) 894-8556 evenings around 6 p.m. or write to:

Walter Z. Fort
P.O. Box 183
Pemberton
New Jersey 08068

CGA Holds 118th Summer Meeting

# Concern Voiced About **Barrel Price Decline**

### Tield Man Fort Sounds Bullish Note

ELIZABETH CARPENTER

New Jersey's 1987 projected anberry harvest is holding eady-325,000 barrels-the me as in 1986. However, Joseph rlington, American Cranberry owers Association (ACGA) esident, labeled the \$2.50 cline in price per barrel of New rsey berries between 1985 and



ENATIONAL CRANBERRY MAGAZINE

SEND CORRESPONDENCE TO: P.O. BOX 249

COBALT CT 06414 (203) 342-4730

PUBLISHER & EDITOR: BOB TAYLOR RKETING DIRECTOR: CAROLYN LABAN

SOCIATE EDITOR: CAROLYN GILMORE (617) 763-5206

VISORS & CORRESPONDENTS SSACHUSETTS — Irving E. Demoranvilla,

Tor, Crenberry Experiment Station.

WJERSEY — Phillip E. Marucci, Crenberry & BlueSpecialiet, Cranberry & Blueberry Laboratory, 
worth; Elizabeth G. Cerpenter, Chatsworth, 
VA SCOTIA — I. V. Hell, Botanist, Research

n, Kantvilla EGON - Arthur Poole, Coos County Extension 1 Coquille

I, Coquille.
SHINGTON — Azmi Y. Shawa, Horticulturiat and sion Agent in Horticulture, Coastal Weshington srch & Extension Unit, Long Beech. CONSIN - Tod. D. Planer, Farm Management

. Wood County.

IBERRIES is published monthly by Diversified steals, Wellwyn Drive, Portland CT 06480, Second costage is paid at the Portland, Conn. Poel Office. is 310 a year, 318 for two years, 31 a copy in the 312 e year in Canada; 315 a year in Meride. Back copies: 32, including postage. Copyright by Diversified Periodicals.

ISSN: 0011-0787 Postmester, send Form 3749 to: CRANBERRIES P.O. BOX 249 COBALT CT 06414

1986 "a little ominous." Based on N.J. Agricultural Statistics Service records, the U.S. price per barrel during this same period of time has dropped \$2.90, the first such decline since 1974.

Edward V. Lipman, vice president of the New Jersey Agricultural Society, suggested substantial increased planting

### 

### COVER PHOTO

A HATTED Phil Marucci. right, extension specialist in cranberry and blueberry culture and research professor of entomology, leads growers on a tour of a Rutgers University experimental station bog during a meeting of the American Cranberry Growers Association. A story on the meeting starts on this page. The photo and the others on the meeting were taken by CRANBERRIES correspondent Elizabeth Carpenter. 

in some cranberry producing states may be "driving the price per barrel down." New Jersey's harvested area has only increased by 100 acres in the past two years; however, its yield in barrels per acre has expanded from 85.6 to 98.5 between 1984 and 1986. Increased area harvested plus improved yield per acre in the five major cranberry producing states could have a negative impact on the crop's future market value, Lipman noted.

Walter Fort, field man in New Jersey for the Cranberry Marketing Order Committee, presented a "bullish" report to growers. In contrast to concern about overproduction and its potential negative impact on future price per barrel. Fort encouraged growers to "grow and market every berry you can for there's a home for it."

Abbott Lee thanked Dr. Paul Eck, professor of horticulture. Cook College, Rutgers Univer-



### Cranberry Computer Co.

33 White Oak Drive Plymouth, MA 02360 (617) 747-3033

### Have You Considered a Computer?

We specialize in the use of personal computers to solve accounting and information problems.

·Coordinate hardware purchase •Implementation & training

 Software installation Ongoing support

We have software for the cranberry grower who wants to track activity on his bogs.

- Deliveries/barrels per acre
- Chemical applications
- Profitability/cost per barrel Sanding and damage



LEE KOZSEY of the Fermenta Plant Protection Company demonstrates the chemigal equipment at the Lee Brothers Farm.

sity, for his thoughtful responses to 18 crucial questions raised by New Jersey growers at the February 11, 1987 Cranberry Nutrition Conference. Although conference proceedings have yet to be published, Lee circulated copies of Dr. Eck's written responses, then highlighted answers to a variety of issues, including suitable soil conditions for optimum vine growth, soil characteristics and how they relate to water availability for cranberries, and nutritional supplements for improved cranberry fruit production. When available, conference proceedings will provide growers with valuable technical information, as well as insight into areas needing additional research.

Al Mitlehner, Leffingwell Chemical Company's eastern regional manager, told growers tests at the University of Massachusetts Cranberry Experiment Station have shown that "properly timed applications of Sorba Spray CaB (a product manufactured by Leffingwell) can increase cranberry yields by 20% or more." Coupled with information generated by last winter's Cranberry Nutrition Conference, apparent that properly ti applications of nutritional plements, including calcium boron, enhance cranberry





W JERSEY growers had a chance to see a variety of pieces of John Deere equipment during ir meeting.

lity as well as berry quality quantity.

litlehner responded to growquestions concerning timing pplication, application techues, insecticide and fungicide patibility with Sorba CaB, recommended concentration he spray in a water solution. rmation about the spray may btained by writing Leffingl, a division of the Uniroyal mical Company, Inc., located diddlebury, CT 06749, or by ing 203/573-3411.

arlington described a new tacle that has appeared on New Jersey agricultural ne—permit requirements for k in the wetlands. Any crany grower wanting to develop we bog in a previously unculted wetlands area is being

# BIG WHEEL TRUCK SALES

42 Quanapoag E. Freetown, Mass.

All types of medium and heavy duty trucks on hand from cab & chassis to dump trucks to road tractors.

Largest used truck dealer in New England.

All types of diesel repair.

Largest tow trucks on the East Coast.

Call Bob or Joe

(617) 763-5927 or

(617) 763-8745

asked to comply with this regulation currently overseen by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency.

This permitting process may also apply to filling related to bog construction, removal of soil and vegetation from ditch cleaning, and clearing and grading of land for agricultural use. It is possible the Army Corps of Engineers will delegate its responsibility to the Pinelands Commission if the corps thinks the commission's regulations are sufficiently stringent. Given the Commission's present stance that cranberry agriculture is a compatible land use within the Pinelands National Reserve, this proposal appears to be contradictory and could be cumbersome.

Based on his recent experience with this permitting process, Darlington cautioned growers that the paperwork is extensive and time consuming.

Peter Furey, executive secre-

tary of the N.J. Farm Bureau, suggested appropriate federal legislators be contacted in an effort to modify this requirement as it pertains to cranberry cultivation. Growers concurred with Furey's recommendation. William Haines, Jr. summarized the situation, saying, "This is a bureaucratic problem, but the solution is political."

Robert Bruch of the N.J. Department of Agriculture's Division of Rural Resources spoke with growers about five pieces to trespass/vandalism legislation that should help farmers counteract the increasing trespass/vandalism problems which annually total over \$1 million dollars. Four of these bills-posting of farmland, an individual's damage to farm property, motor vehicle damage to farm property and liability-have been passed by the New Jersey legislature and are now law. A fifth bill, A-1464. related to parental responsibility of a minor that has trespassed on or vandalized private agricum tural land, is pending. For add tional information about the laws, farmers are encouraged call the N.J. Department Agriculture: (609) 984-2506.

The Morning's session co cluded with an analysis of the continuing research on Ne. Jersey bogs to determine the

# The CHARLES W. HARRIS Company

451 Old Somerset Avenue North Dighton, Mass. Phone 824-5607

AMES
Irrigation Systems
RAIN BIRD
Sprinklers
HALE
Pumps

Highest Quality Products With Satisfaction Guaranteed







Specializing in cranberry applications for more than 25 years Growers fertilizers, herbicides and pesticides applied to growers specifications Mud Lifting – Cranberry Lifting Mats Available

Agricultural Applications • Lift Work • Executive Charters • Aerial Photography

tical temperature range for tiating and terminating coolririgation. During the past o vears, 1985 and 1986, Philip arucci (extension specialist in inberry and blueberry culture d research professor of entoology), Dr. Allan Stretch S.D.A. plant pathologist at research center), and Eck ve tried to determine if control high bog temperatures by aporative cooling (sprinkler igation) will reduce cranberry plosses by preventing upright d blossom blast as well as ysiological breakdown of fruit n scald).

Eck's paper, "Controlling mmer Cranberry Bog mperatures with Sprinkler igation," indicates their earch has not been able to clusively prove that evaporve cooling related to sprinkler gation is significantly helpin improving the quantity d quality of fruit. The earchers will continue to nitor cranberry vine microironment in an effort to obtain initive conclusions.

During the afternoon, growtoured the experimental bogs he Rutgers University Cranry and Blueberry Research iter. Once again, production ords of named varieties like Lear, Wilcox, Cropper, vens, and LeMunyon proved pressive. Unnamed dlings-#35, A.J., and rim—are also producing well. litionally, growers had an ortunity to view the sprinkler ing plots on Bog #11 and see ionstrations of John Deere ivators and crawlers.

he daylong meeting ended at Bros. bogs where Lee Kozresearch development speist from the Fermenta Plant tection Co., demonstrated lication of Bravo 720, using in-line chemigation unit gned for solid setirrigation em. He suggested growers want to use this concept as

### Regional Notes

### MASSACHUSETTS

By IRVING DEMORNAVILLE

A few people began harvesting on or before Labor Day, more like the old days. Color developed very early and was so good that wet harvesting began by the 15th. Howes did not color as well. Early Black size were small, especially during the first two weeks of picking.

Quality appears to be very good or better. We were about one-third harvested by Oct. 1 and probably 50 percent by Oct. 8. The crop will fall under estimate by perhaps 10 percent, possibly more—but still a good crop.

#### OREGON

"This is the worst situation I've ever seen in the 23 years I've been growing in the Bandon area. It's just unbelievable."

That's what grower Roy Peters told Amy Moss of Western World regarding the water shortage that struck western bogs around picking time.

Growers who had problems with wet harvesting piped water in, shared scarce amounts with neighbors and resorted to dry picking.

#### WASHINGTON

Growers, as well as seafood processors, were impacted by the severe water shortage that struck the northwest this harvest time.

"It hasn't reached the stage where we can't take a bath up here, but water has been in short supply," Naselle resident Audrey Wirkkala told Mark Kester of the Chinook Observer.

An Oktoberfest Street Fair was sandwiched in with the three day Cranberry Festival held on the Peninsula in October. An estimated 5,000 people filled the streets of Ilwaco during the event.

"I think we have just had the best Cranberry Festival we've ever had," said Noreen Robinson, festival chairperson.

The Peninsula's 30 some growers harvest about 1 percent of the nation's commercially grown cranberries.

a supplement to aerial application. This technique allows more uniform coverage of a bog and greater penetration of Bravo 720 into the canopy.

### Weather Watch

September temperature was just normal, with daytimes on the cool side and nights warm. The month was very cloudy, but we had the least sunshine since 1935. Maximum temperature was 83 degrees on the 9th and minimum 37 degrees on the 26th. The only warmer than average period was the 8th-10th. Cooler than average days were the 18th-21st and 25th-27th.

Rainfall totaled 4.67 inches or just over 0.8 inch above normal, but many spots were 2-3 inches more than ours. There was measurable rain on 12 days, with 2.67 inches on the 18th-20th as the greatest storm. This was the wettest September since 1977. We are about 3¾ inches above normal for the year and about 2 inches above 1986.

I.E.D.





Equipment, Inc.

381 West Grove St. (Rte. 28) Middleboro, MA 02346

(617) 947-6299

# **EXUBOTA**

Tractors, Excavators and Diesel Generators



Wheel Loaders 3/4 Yd - 6 1/2 Yd

meleon

Screening Equipment

# ECONOMICAL POWER



Diesel pumping units for irrigation and spraying applications.

\* 40 to 760 horsepower.

\*New, used rebuilt and government surplus.

\*Caterpillar, Cummins, Detroit, Perkins and more. Over 1,500 engines in stock

#### **POWER UNITS**

This month's special: 3-53 Detroit diesel power unit. Rebuilt engine. Rediator cooled, skid mounted. 91 hp. @ 2,500 r.p.m. and 64 hp. @ 2,200 r.p.m. New Rockford power take off assembly installed. \$3,250.00 each.

#### D&K IS YOUR HEADQUARTERS FOR AIR COOLED DEUTZ DIESEL ENGINES

50 through 300 horsepower.

\* Call for details

4. 6. 8. 12 and 12t models in stock today.

\*Low time surplus reconditioned 8 cylinder model 8L714. 178 hp. @ 2,300 r.p.m. Large quantity just received.

\*High quality Deutz engines and guaranteed used parts. Reasonable prices. "Your neighbors ere probably using our engines."

\* Available with pump drives, raw flywheel and new (or) used p.t.o. clutch essemblies.

Just arrived: Government surplus WATER PUMPS, National transit. Will pump 500 to 1,500 gallons per minute. Available with Detroit, Cummins, Caterpillar or Waukesha diesel engine. 8" in, 6" out. Low surplus price on these gueranteed units. Call for details.



#### **GENERATOR SETS 20 THROUGH 600KW**

\*25 kva, 20 kw Detroit 3-53 diesel powered 120 amps at 120 volts, 70 amps at 208 volts. 1,200 r.p.m. giving long service between rebuilds. Load bank tested and ready to ship. Over 100 in stock today, \$2,950.00 less gauges. With amp/volt/frequency gauges & safety oil & temperature switches @ \$3,500.00 each.

Call for other sizes. Diesel and natural gas. New, used and rebuilt generators. Expect quality work on time.

#### WE BUY SURPLUS CASH PAID

We buy surplus new and used equipment and tires Cash paid D&K Supply has 14 acres of hard to find items, new and used Government surplus and rebuilt gas and diesel engines, 6 x 6 all wheel drive trucks and components, generatores, power units, tires, lift trucks and cranes. All F.O B. Akron and subject to prior sale

#### 21/2 TON ALL WHEEL DRIVE 6 X 6 TRUCKS



Large quantity. Available as tractor with fifth wheel end as straight truck with a number of wheel base options, 900 x 20 tires. Front winch available. Transmission: 5-spd gear ration high 1:1: Fourth 1.45:1: low 7.55:1. Transfer: 2-spd. Gear ration high 1:1, low 1.98:1. Hard Cabs available. Reconditioned and guaranteed

Gas: \$7,950.00 Diesel: \$11,250,00

Just received:

Low, low time 5-ton 6 x 6. Mack trucks with super long wheel base. One with 300, one with 3,000 miles. Approximately 11 feet from back of cab to center rear bogie. Available in gas and diesel. Call for photo and price.

\*Also available: % ton 4 x 4 vans, 2 ton custom 4 x 4, 2% ton gas & diesel GMC and Reo. 5 & 10 ton heavy hauler 6 x 6 government surplus trucks. All wheel drive. Reasonable prices

Over 1,500 engines in stock. Gas & diesel. New, used, government surplus and rebuilt.

Allis Chalmers...Avco.. Buda...Case...Caterpillar...Chevrolet...Chrysler...Continental...Chriscraft...Cummins...Detroit...Deutz...Ford...GMC...Hal Scott. Hercules...International...Jeep...John Deere...Le Roi...Mack...MPLS...Moline...Mitsubishi...Perkins...Reo...Waukesha...White...Wisconsin...and more Call for free catalogue.

\*We pay 1/2 freight

# D & K supply co.

SEND FOR FREE CATALOG CALL FOR

Replecement diesel and gas engines, ger transformers, custom gauge panels, transfer switches with under/over voltage, over/under frequency er in phase monitor, perallel geer (manual and eutometic) and circuit breekers (manual end shunt

TÓLL FREE 1-800-551-5664 Telex: 98-6483 Dank Akr

In Ohio: 1-216-733-222

Malling Address: P.O. Box 268C, Akron, Ohio 44309 Shipping Address: 1027 Hazel St., Akron, Ohio 4430

# CCGA Agenda a Hectic One

ne Cape Cod Cranberry vers Association met recently Ocean Spray and the Masnusetts Farm Bureau to rmine how much time and gy the organizations were ting to issues of crucial conto the industry.

noted Douglas R. Beaton, GA president, in a letter to nembers.

CGA representatives, he have met with state tax orities several times. The sachusetts Department of nue has hired Northeast aisers of Ithaca, N.Y., to with the cranberry indusand state tax experts to arrive fair evaluation of bog land. aton observed that only 110 of 450 growers have comwith filing regulations under light to Know law.

ll growers must file with the E and, if we don't, our indiil fines could be substan-Beaton wrote.

aton also noted a meeting g CCCGA, DEQE and Ocean y representatives over the r Management Act.

### Paul's Machine & Tool

COMPLETE MACHINE SHOP SERVICE

Specializing in Building & Repair of

Cranberry Equipment

VARRENS WI 54666 608) 378-4511

### A Report From the CCCGA Executive Director

On Friday, Feb. 13, 1987, I joined the (Cape Cod Cranberry Growers) Association as executive director. This marked the beginning of a very exciting and challenging opportunity. Coming from a scientific, academic and bureaucratic background, I selected this position for a number of reasons, primarily because cranberry agriculture is a healthy industry, environmentally sound and growing.

During my tenure, we have been under attack by many groups. The solution to these perceived problems is a positive, educationally oriented program for our neighbors, vested interest groups, the state and federal bureaucrats and others. Your industry has been living in harmony with nature and man for over a hundred years. The quality of the bogs, wetlands, uplands, fauna and citizens of Southeastern Massachusetts attest to the "clean" practice of cranberry growing. You, I and the association must take this message to the citizens of the commonwealth.

In the past seven months, I have had



### Felker Flow Gates

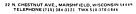
are built to last, thanks to excellent Felker welded construction, generously braced designs, and only the highest quality aluminum materials.

Our standard size conduits range from 15-48 inches in diameter, with widths from 24 to 72 inches. The height of each unit depends on your requirements. Custom sizes as well as single, double and triple log channel designs are available for virtually any water control application.

When you choose Felker, you get time tested reliability.

In Massachusetts, call Bill Stearns (617) 746-6048

The flow gate specialists for generation after generation.





an opportunity to meet some of the growers at the various informational meetings or at our outstanding Centennial Cranberry Celebration. I have not been able to visit your bogs, meet your families and associates or talk to you individually about your concerns and triumphs. During the past months, on a weekly average, I have spent 3.5 days in Boston and only 1.5 days at my office at the station. I have scheduled or participated in 268 meetings, of which 75% were in Boston. I interacted with 17 state and federal agencies, departments, offices, bureaus or divisions in addition to the legislature. The demands of recent laws. regulations and policies precluded some of my administrative duties. One professional cannot successfully be a governmental liaison, a public relationist and an association administrator.

Together, we have weathered and grown through the Carver, root rot and Ridomil crises. We have been attacked by the pens of the Massachusetts Audubon (Society) and the Massachusetts Coastal Zone Management. We stopped the pesticide legislation, testified before the Natural Resources and Agricultural Committee, joined forces with other users to rewrite a pesticide reform act and now are poised to pass this act. We cooperated with the state in the adoption of our industry's aerial spray guideline, only to be surprised with an unworkable set of aerial pesticide regulations! Our only out to these regulations seems to be the legal system, but still we continue to work with the commonwealth.

The Massachusetts Water Management Act evokes very strong emotional responses from all cranberry growers. We have successfully secured 10 acre ft per acre per year. Negotiations are still ongoing with the Division of Water Supply to grandfather all the water which we have created, managed and preserved. The association will take an active role in the formulation of the permitting regulations so that there will be no surprises. Good management of our water resources is everyone's goal. Our future crops and

expansion (depend) upon the availabil ity of water. The association hopes to sponsor a bill to amend the act so tha our rights to water are guaranteed. Mor training sessions will take place afte harvest.

After attending either of the two farr valuation/taxation education sessions you realize that the association, through its committees, is working very hard to keep you informed. Ken Gardener of Northeast Appraisers Inc. has met three times with us. We have tried to educat him so that a fair system will be proposed and adopted by DOR, DPA an FVAC based on the bog-side value c cranberries. The association will have chance to review and comment on a drai of the proposal. A hard, honest, we organized approach often produces lon lasting dividends.

Quite recently, we participated in the initial meeting of an agricultural policy group founded by Farm Bureau. I voluteered to help develop and write the initial draft. The association will car fully review and comment on this doct ment, which may become the backbon of Massachusetts or even U.S. agriculteral policy. Governor Dukakis' campaig for President must include a sound, viu ble policy which ensures the growth an success of agriculture.

With the advent of a full-time exective director, certain changes in the structure of the association were necessary to provide a smooth, workab organization. An executive committe was created to address weekly or dail questions or situations which could ne await a board meeting. Several ne committees were created to cope wit today's and future needs. These committees will be soliciting growers to server members in the near future. Our boar meetings are open to the membersh and all members are encouraged to atter and express their views.

Please accept my apology if you a subjected tomy answering machine. Whe I arrive in Wareham, I will return you call. Besides my responsibilities in Be ton, I will be available to represent the cranberry industry to local groups ar communities. The deeper I get into craberries, water, etc., the more I know th I represent a healthy, clean industry.

May you all have a record harver Dwight G. Peavey, Ph. Executive Direct

No matter how small your business, you ca afford to place an ad in th magazine that serves th industry: CRANBERRIES

# We Still Make House

Like your old family doctor, your Farm Credit representative still makes house calls: . . and he's been treating farm families like yours for a good 70 years.

Farm families count on him to provide the financial support they need—shortterm and long-term credit—that helps them plan for a productive future.

But there's more to Farm Credit than money What makes your Farm Credit representative unique is that he knows your business so well. Which means that he s more than a dependable source of credit. He can provide farm business consulting, tax services, credit life insurance, appraisal service and computer-ized record-keeping.

Give him a call. He could be just what the doctor ordered for you.



#### **CRANBERRY** GROWERS REALTY

Listings of buyers and sellers welcomed on cranberry acreage and upland. Appraisals

DOUGLAS R. BEATON E. Sandwich, Mass 02537 (617) 888-1288



# R.D.GRASSI Cranberry **SERVICES**

**Herbicides Applied** 

Sanding Wipina Wet Harvesting Mowing

> (Mowing includes Hydraulic Arm Flail Mower.)

West Wareham, Massachusetts \*\*\*\*

Ask for Rick at 295-5158

## 2,061.43 Acres For Sale

# Bandon, Oregon

72.5 acres cranberry producing bogs; 30 acres prepared, irrigated, ready for planting; 50 acres recently replanted timber reproduction land; 849 acres cleared land; 996 acrestimber reproduction land; 50 acres marshland; 14 acres nonforest, road, pond and rock pit areas.

Bogs planted with Stevens, Ben Lears, Crowiey. Automatic sprinkler system. Good pond. Pumping System. Graders, back hoes, etc.

## **Asking \$2 Million Cash**

Pacific Corp **Business Credit Inc.** Portland, Oregon 97207 111 S.W. 5th Ave. #2800 (503) 222-7900

Ask for Robert Schaffer



#### A SLEIGHFUL OF BERRY AND MERRY DRINKS

With snowflakes surely on their way and joyful songs as gay as tingling sleigh bells soon to be heard, it's time indeed to give thought to the delights of extending jolly hospitality.

Glistening and bright cranberry juices are the perfect base for preparing a variety of colorful and taste-tantalizing winter drinks—for entertaining a large group or simply for sipping with pleasure after a brisk walk on a snowy afternoon.

"Cranberry Crystal Punch" will be perfect for Christmas or New Year celebrations. It combines cranberry juice cocktail with vodka, sauterne, apricot brandy, sliced lemons, oranges and limes. Serve in a large glass bowl or pitcher. Either way, its brilliant color will add gaiety to your table.

"Cranberry Pink Snow Punch," combining baked apples, heavy cream, cranberry apple drink and rum extract, is quick to make with a speedy blender. Wondrously foamy, it will vanish rapidly, so be sure to make enough to refill your punch bowl.

For children, "Creamy Cranberry Cup" will be a special holiday treat. This pretty concoction uses cranberry juice cocktail, vanillaice cream and strawberry soda. You could make two pitchers of this—the second one, for "adults only," can have a cup and a half of rum added to it. Be sure to mark those pitchers, so there is no confusion! Perhaps paste a Santa Claus cutout on the one



GAY cranberry-bright concoctions just right for the holida and through the wintertime include punches and warm, r spicy brews.

307 West Grove Street (Rte 28) Middleborough MA 02346

### KUBOTA Diesel Equipt.

Tractors 2 & 4 wheel drive — 12-90 hp.

Compact Excavators 1½ to 6 ton

Wheel Leaders ½ to ¾ yd.

Water Cooled Diesel Engines 4 to 104 hp.

All Types of Implements
Polymark Beaver-Mowers
Specialty Fabrication Work

947-6299

Specialty Fabrication Work
Kubota Financing as Low as 81/2%

or the children and a reindeer utout on the other for the rownups. Whether or not your winter

orts include skiing, sledding skating, you're sure to find ourself seeking the pleasures of warming drink after a chilly av. "Garnetberry Brew" is a ix of raspberry gelatin, cranerry juice cocktail, lemon juice, aret wine and sliced orange, hich can be served either hot or old, "Berry Spice Wink" is a arm and tangy blend of cranerry juice cocktail, beef broth, orscht, with onion rings or ckled onions, and vodka. This ne would be super right for an terglow, apres ski!

So, let the winds whistle and e snow fall—here's your sleighful berry drink pleasures!

RANBERRYCRYSTALPUNCH (Makes about 9 cups) cups (1 quart) cranberry juice

cocktail, chilled 1 cup vodka or gin 1 bottle (4/5 quart) sauterne, chilled

¼ cup apricot brandy 1 lemon, sliced 1 orange, sliced 1 lime, sliced

Ice cubes

In a large punch bowl, combine all ingredients except ice cubes, and chill until ready to serve. When ready to serve, add ice cubes. Serve in small punch cups.

> CRANAPPLE PINK SNOW PUNCH (Makes about 2 quarts)

2 cans (21 oz. each) baked apples 1 cup (1/2 pint) heavy cream

4 cups (1 quart) cranapple drink 1 teaspoon rum extract

1 cup Apple Jack (optional)

Pour syrup from apples into blender. Peel apples and dice and add to blender. Pour in cream. Whirl at high speed until smooth. Pour into a bowl and stir in cranapple juice and rum. Chill until ready to serve. Stir. well before pouring into small punch

CREAMY CRANBERRY CUP (Makes about 21/2 quarts)

4 cups (1 quart) cranberry juice cocktail, chilled

1 quart vanilla ice cream

4 cups (1 quart) strawberry soda, chilled

1½ cups dark rum (optional)

Combine all ingredients in a large bowl and beat with a rotary egg beater until smooth and well blended Mixture will foam. Pour into tall glasses and serve with straws. May add 11/2 cups dark rum to the above mixture.

> GARNETBERRY BREW (Makes about 2 quarts)

1 package (3 oz.) raspberry gelatin 4 cups cranberry juice cocktail Juice of 1 lemon

1 bottle (4/5 quart) claret wine 1 orange, sliced

In a saucepan, mix gelatin and 1 cup 

Office 295-2222 BEATON'S

K. Beaton 295-2207

D. Beaton 888-1288



Specializing in

P. Beaton 947-3601

Complete line of portable Crisafulli Pumps 2" - 16" Plastic netting for suction boxes

cranberry juice cocktail. Stir over low heat until gelatin is completely dissolved. Pour into a bowl and stir in remaining ingredients. Chill until ready to serve. Serve garnished with orange slices. Can also be served hot by combining all ingredients in a large saucepan and heating until bubbly.

#### BERRY SPICE WINK (Serves 8, makes about 2 quarts) 4 cups (1 quart) cranberry

iuice cocktail

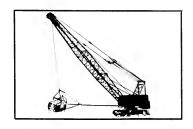
1 can (10½ oz.) condensed beef broth, undiluted

1 bottle (32 oz.) borscht, strained Onion rings or pickled onions (optional)

1 cup vodka (optional)

In a saucepan, combine cranberry juice, beef broth and strained borscht. Heat until bubbly. Pour into heat proof glasses and garnish with onion rings or pickled onions, if desired. May be served with 1 cup vodka added to the above mixture.

CRANBERRIES gives you the news and views of the industry.



### Krause Excavating, Inc.

Canal Work
Pond Construction

Ditching Land Clearing

1-1/4-3 yd. draglines with 80' boom and matts, 2 yd. backhoe, swamp dozer and other related equipment.

Contact-

Roger Krause 1-414-398-3322 Route 3 Markesan, Wis. 53946

# Irrigation Equipment Designed Especially for the Cranberry Industry

- Gorman-Rupp Self Priming Electric Sprinkler Pumps
- Proven Quick Couple Riser
- Polyethylene Main Lines, 3" – 12"
- Butt Fusion Equipment Available
- Paco/Wemco Water Harvest Pump
- Berkeley Self-Priming and Centrifugal Pumps

A Most Complete Inventory of Irrigation Accessories

# IRRIGATION / SNOWMAKING

P.O. Box 66, 11 Larchmont Lane Lexington, Massachusetts 02173 (617) 862-2550

#### Contact

Larchmont Engineering Phil Tropeano, President (617) 862-2550 (Call Collect)

Stearns Irrigation, Inc. 790 Federal Furnace Rd. Plymouth, MA 02360 (617) 746-6048

### OMPANY GETS GRANT OR NEMATODE STUDY

BIOSIS, a Palo Alto, Calif., biotechogy company, has been awarded phase of a research grant from the U.S. partment of Agriculture for the study Dessication of Entomogenous Nemaes for Long-Term Mass Storage."

)r. Irene Popiel, a senior research entist at BIOSIS, will direct the earch, which, under a a phase I grant, eloped techniques for long-term storof nematodes at room temperature. phase II, the goal will be to determine parameters required to define an ustrial scale process.

Inder Dr. Popiel's direction, BIOSIS, the first time ever, has shown that it dessicate insect-killing nematodes

a large scale. BIOSIS has already demonstrated ability to mass produce nematodes in nid culture," said Albert J. Morris, sident of BIOSIS, "and the phase II nt will enable us to accelerate our rts to merge these two technologies.' fematodes, known to be benign to the ironment and harmless to human ags and other vertebrates, could be a nificant alternative to chemical pesdes, said a company spokesman. But ajor stumbling block to such a develnent is the present inability to store ect-killing nematodes for long periods me at room temperatures. Up to now, natode storage has required refrigern, a situation that has inhibited mercialization.

CRANBERRIES is read more than two-thirds the growers in the U.S.

### Pump Repairs

All Types SALES

Field Service & Shop 20 Years Experience

### **AAA INDUSTRIAL** PUMP SERVICE INC.

66 Lake Street Plympton MA 02367 Bruce Sunnerberg (617) 585-2394

### ATTENTION BOG OWNERS

# BOG SAN

### SCREENED OR UNSCREENED

ANY QUANTITIES PICKED UP OR DELIVERED

CALL: Mike (Evenings 6-9) 878-1596 or John (Days) 878-2796 FOR PRICE OUOTES



Same Day Service

Saturday Deliveries

#### SAND & GRAVEL

ROUTE 3-A SAGAMORE 888-1021

MAIN OFFICE 171 V.F.W DRIVE ROCKI AND 878-2955

ROUTE 28 MIDDLEBORO 946-0717

### KUBOTA VERS THE

Kubota has the field covered with dozens of diesel tractors. From 10 horsepower lawn and garden tractors to 85 PTO horsepower turbo charged farm tractors.

And while they vary in size, all are built by Kubota to exacting quality specifications All are powered by Kubota diesel engines. They're sturdy and dependable, fuel efficient, and require little maintenance





KUROTA R AND L SERIES TRACTORS

Model	CYL	HP	Choice of Transmission
B5200	3	13*	Standard
B6200	3	15*	
B7200	3	17*	₹ or
88200	3	19*	Hydrostatic
B9200	4	22 5*	Hydrostatic
		PTO HP	
L245HC	3	21*	Standard
L345	4	29	Standard
L355 SS	4	29*	Hydraulic shuttle shift
L2250	3	21*	Mechanical shuttle shift
L.2550	3	23 5*	Mechanical shuttle shift
L2850	4	27*	Mechanical shuttle shift
L3350	4	32*	(8x8
L3750	5	36*	₹or
L4150	5	40*	Hydroube shuttle shift

CYL	HP	Transmission
2	10	Standard
2	12	Standard
2	12	Hydrostatic
3	14	Hydrostatic
3	16	Hydrostatuc
	2 2 2 2 3 3	2 10 2 12 2 12 3 14



Model	CYL	PTO HP	Forward/Reverse
M4030	6	43 00	6/4
M5030	6	49 00	16/4
M6030	3	57 00	16/4
M7030	4	68 00	16/4
M5030	4	76 00	16/4
M4950	6	49 57	12/4
M5950	3	58 00	12/4
M6950	3	66 44	12/4
M7500 LP	4	72 00	16/4
M7950	4	75 44	12/4
M8950	4**	85 00	24/8

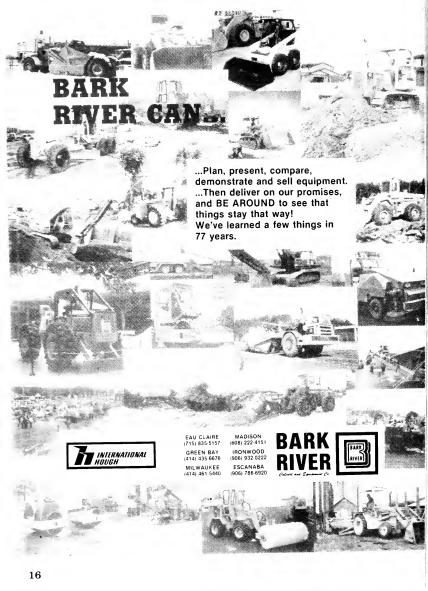
Visit your Kubota dealer to find out which Kubota will be best in your field.

### ⊗KUBOTA

Nothing like it on earth.

### **ELLIS IMPLEMENT**

6639 HIGHWAY 66 STEVENS POINT, WISCONSIN 54481 PHONE (715) 592-4111





ADVANCED SYSTEMS, INC.

# **Cranberry Bog Aqua Sander**



Improve Crop Yields

Eliminate Vine Damage

> Reduce Sanding Costs

> Sand Anytime



Maintenance free Aqua Sander pumps up to 40 tons an hour of sand on your bog without damaging vines or relying on ice.

The Aqua Sander is a highly effective material handling system. The "heart" of the Aqua Sander is the IPEC Universal Jet Pump. The unique design of the IPEC Jet Pump, based upon advanced jet pump technology converts pressure energy into velocity energy. Thus allowing the transport of sand (15 to 30 yards an hour is not uncommon) over long distances through easy to handle 3" diameter hose. Having no moving parts, the Sander is virtually mantenance free, and its simplicity of operation requires no skilled

labor. These two reasons plus the ability to sand anytime make the sander a must for every bog owner. Motive power for the Aqua Sander is normally pressurized water provided by a portable water pump. The sander requires supply pressure of 100 psi at 140 gallons per minute. Maximum transport distance is approximately four hundred feet using 3" hose. Longer transport distances are possible by increasing the supply pressure.

For more information contact:



ADVANCED SYSTEMS, INC.

P.O. Box 996 North Kingstown, RI 02854 (401) 295-8802

OR

Rocky Meadow Bogs 320 Purchase Street Middleborough, MA 02346 (617) 947-2610

#### CHEVRON, JAPANESE COMPANY TO COOPERATE ON AG CHEMICALS

Chevron Chemical Company, a subsidiary of Chevron Corportation, and Sumitomo Chemical Company Limited of Japan have agreed in principle to form a joint venture company to develop and market agricultural chemical products throughout the U.S.

The 50/50 partners intend to market existing and future compounds through the new company beginning early 1988. Staffing for the joint venture will take maximum advantage of the expertise available within the two parent companies.

The joint venture grew out of several years of close ties between the two companies in the development of agricultural chemicals which include Spotless, Danitol, Prunit and Sumagic. These compounds are presently under development and will begin commercialization in 1988.

"Although we are both worldwide companies, this new venture will

strengthen the role of both companies in the U.S. agricultural chemicals market," said Bob Dennison, Vice President of Chevron Chemical Company and General Manager of Chevron's Ortho Agricultural Chemicals Division.

# Irrigation Supplies

- 2" to 12" PVC Pipe with Fittings
- Quick Couple Risers
- Felker Aluminum Flumes & Culverts

Replace old aluminum mains with government approved 4'', 6'' and 8'' polyethylene pipe buried just below bag surface. No insert fittings. Rent our but fusion welder for a continuous main line. Beat thigh cost of custom installation by renting our small 4-wheel drive tractor with mole hole plow for buried laterals.

STEARNS IRRIGATION, INC. 790 Federal Furnace Rd. Plymouth MA 02360 Tel. (617) 746-6048



Serving Massachusetts Cranberry Growers

Contact

John C. Decas DECRAN AG SUPPLIES INC. 219 Main St. Wareham, MA 02571



office: 295-0147 evening: 763-8956 (William D. Chamberlain)

#### SHA INSPECTS BOGS OR FIELD SANITATION

The Occupational Safety and Health gency has been making on site inspec-\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### Niemi **Electric** Company



Robert. Niemi Electrical Contractors

Heat, Light & Power Wiring

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL

Pinehurst Drive Wareham, Mass. TEL. 295-1880

tions of bogs this season, to make certain that growers are complying with new federal field sanitation regulations. according to the Massachusetts Farm

Adequate drinking water and single use cups or a drinking fountain must

now be provided by growers who employ more than 10 hand laborers. Also, toilet and hand washing facilities must be provided within one quarter of a mile of the work field if workers are going to be in the field for more than three hours

# **BOG SAND**

## Sandwich Stump Dump 9nc.

- Large quantities available
- Delivered or picked up
- Reasonable rates

295 Service Rd. 888-3934 Sandwich, Mass. 02537

DICTICAL DICTICAL DICTICAL



# MIDDLEBOROUGH TRUST COMPANY

# The Business Bank.

MTC offers you business banking built to your needs. Personal attention to your special financial requirements now and as you grow. Cooperation. Flexibility. Complete business and personal banking. Member FDIC





Main Office

10 John Glass, Jr. Square, Middleborough

#### **Branch Offices**

Middleboro Square, Rt. 28, Middleborough . Middleboro Plaza, Middleborough Cranberry Plaza, East Wareham . Carver Square, Carver Telephone all offices 947-1313

# **Short-Term Mortgages and Accelerated Payments Can** Save Thousands In Interest

#### By JOSEPH ARKIN

Have you obligated yourself to pay a mortgage for the purpose of purchasing business premises or a personal home?

You'll find that paying off a mortgage quickly is becoming more popular among those who have obligated themselves on mortgages.

And, in addition, some mortgagees are "paying ahead" on conventional mortgages.

Shortened terms on a mortgage can save you tens of thousands of dollars in interest, according to the Florida Institute of Certified Public Accountants.

Shorter-term financing is important to buyers of real estate who must choose among the

hundreds of mortgages availa ble and it may also bring sav ings to those paving off a

### **High Volume Trailer Pumps**

- •12 to 16" discharge
- •20' tongue
- PTO shaft with marine bearing

Phil Helmer 1060 3rd St. N. Wisconsin Rapids WI 54494

(715) 421-0917



#### How Does it Work

Shorter-term financing makes it less expensive to pay off your mortgage because it chips away quicker at your principal and fights interest from accumulating.

"The mathematics of shorterterm financing are basic but astonishing, said Robert F. Richter, chairman of the American Institute of CPA'S Real Estate Committee.

The typical 15-year \$100,000 mortgage currently available saves a mortgagee \$154,000 over a 30-year conventional mortgage.

Take a look at the amounts in principal and interest you pay over the life of a mortgage; With a 30-year \$100,000 mortgage, assuming a 12-percent interest rate, your monthly payment is \$1,029.

But \$1,000 of your first payment goes for the interest on your loan. Only \$29 of that first payment nibbles at the \$100,000 principal.

Ten years hence, after 120 monthly payments, \$935 of your monthly payment is for interest and \$94 goes toward reduction of the principal.

Finally, in the 25th year of this 30-year mortgage, after 292 payments, the majority of your monthly payment— \$518—will go towards principal while \$511 will pay the interest charges.

According to both the FICPA and the AICPA, shorter-term financing cancels the worst

### Wanted

Wisconsin Cranberry Grower wishes to purchase an existing cranberry marsh.

> STEVE (715) 421-0917 (715) 593-2385

effects that interest accumulation has on mortgages. Thus, a survey of your options can save money.

#### Paying Ahead

If you are paying a mortgage, ask the lender if there is a penalty for prepaying your mortgage.

If not, compare the pay-ahead option with the range of investment options open to you.

Paying ahead on a 10-percent mortgage amounts roughly to investing in something with a 10 percent return, according to Mr. Richter.

If you have a 10-percent mortgage, you should opt to pay ahead only if you cannot get better than a 10-percent return elsewhere.

When comparing your mortgage with an array of investment options, keep its poor liquidity in mind. Once you pay ahead on your mortgage, it's expensive to get the cash back should you need it.

Tapping equity you've built up

- -

### **Rock Village Electric**

Full Service Company
Specializing in
New Construction

Commercial • Residential • Industrial

Cranberry Bog Pump Motors & Controls

Quality Service — Fully Insured Bill Gazza, Master Lic # A9628

48 Highland St. 947-6505 Middleboro, Mass.



# TED'S FARM EQUIPMENT

Sales and Service 27 Alden Road Fairhaven, Mass. Phone 994-5312



Custom made & repairs on Hydraulic hoses — P.T.O. shafts

Vicon • White Farm Equipment Company • Bush Hog Go ahead with SAME Air Cooled Diesel in property can often incur a blizzard of refinancing costs.

#### Biweekly Mortgages

An import from Canada, biweekly mortgages are beginning to show up at some neighborhood mortgage lenders throughout the country.

Biweekly mortgage payments are new and somewhat different. Michael Wilson, who tracks mortgage trends for the U.S. League of Savings Institutions, says he doesn't yet know how many lenders are offering this method of paying a mortgage.

Payments on a biweekly mortgage are usually made electronically. Commonly, a borrower's paycheck is directly deposited in a checking account every two weeks and the account is automatically debited for the mortgage payment.

According to CPA Richter, the borrower saves by making 26 payments a year, one every two weeks. This is quite a bit different from making two payments a month, which would result in only 24 annual payments. By making payments biweekly and making the extra two annual payments, principal accumulates at a faster rate and interest accumulates at a slower rate. It results in substantial savings and the automatic debit of your mortgage payment can also be made from a commercial check account of your business firm.

The rates for mortgages vary each month but for the sake of illustration, let us examine the figures for a \$100,000 convential mortgage for a 30-year term, at 13% interest rate.

The monthly payment for interest and principal would be \$1,106 per month.

Compare this with a biweekly mortgages having the same terms. The biweekly payment would be \$553, with a savings of \$138,284 over the life of the mortgage and the mortgage is paid off in about 18 years instead of the full 30 year term.

#### 15-Year Mortgages

This is emerging as a popular financing method. "With a 15-year mortgage, a home buyer or commercial real estate buyer saves on the interest because of the shorter term," says Richter.

"But you also should be able to find a lower financing rate," says Richter, "and you may be able to get a discount of one-half percent below the prevailing rate for a fixed-rate mortgage.

To qualify for a biweekly or a 15-year mortgage you have to meet certain credit criteria. These vary from lending institution to institution and you have to ask about qualifications.

The shorter term or acceler ated payment schedule may mear a little belt tightening but the savings can make it worthwhile ARKIN MAGAZINE SYNDICATI

#### FARMERS DON'T NEED WATER METERS, SAYS WATER ADVISORY BODY

The DEQE Water Resource Managment Advisory Committee has adopted Massachusetts Farm Bureau proposiwhich releases farmers from mandator metering requirements.

The requirements had been called for in the state's Water Management Arregulations.

The Farm Bureau proposal calls for

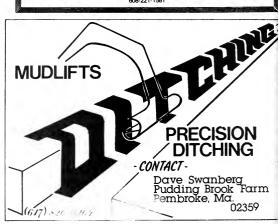
farmers to estimate their water use base on the number of sprinkler heads, output and hours of operation.

### WISCONSIN CRANBERRY HEADQUARTERS FOR

SEVIN XLR
DEVRINOL 10G • EVITAL • GUTHION

Cole Chemical Supply

DIVISION OF **Hapkins** AGRICULTURAL CHEMICAL CO. P.O. BOX 7211, MADISON, WISCONSIN 53707 608-221-1581



# What's In A Name?

By DR. HAROLD GLUCK My father was born before the

Civil War. He didn't fight in that conflict. But he did fight in the Spanish-American War, And I am his son. That means I grew up in a world that no longer exists.

I wanted to be a teacher. My first appointment was to a school located in what best can be called. 'The East Side.'' Being multilingual I had that big advantage. I could converse with the parents in their native tongue.

At our first teachers' meeting. our principal said to us: "I want you to visit the homes of your students. One home a week. The student writes a letter to his parents. And you will then ccompany the student to his ome.

And thus began my adventure nto the land of names. My tudent, Sam Metchin, took me ome. But the name of his parents as Matchinofsky, Elizabeth tosen took me home but the ame of her parents was osenburg. Ira Kelly's parents' ame was Kelinachowskofsky. here was Peter Adrian and the ame of his parents was Adrian-

I was informed by wiser heads an mine that when the parents me to this country and were ocessed at Ellis Island, equently the names were ortened. The kids took the cortened name, though the rents continued to use often e longer name.

Most of these parents came om Russia, Poland, and the old Austrian-Hungarian Monarchy. A small group came from Italy. England and Ireland. Some had Biblical names

It seems that at one time, people didn't have last names. You were David, the Son of Joseph, etc. Then, when the order came to take a last name, many took the name of their occupation, such as Taylor, Goldsmith, Silversmith, Mason, Shoemaker, Fisherman, etc. Others took the names of their masters. And the descendants of slaves can tell you that their freed ancestor took the name of the ex-master.

If you want to trace the background of your name, here are some helpful hints to keep you on the right path.

1) Look at the present spelling of your name. Then ask questions of relatives still alive. "Did my great-grandfather spell the name the same as mine?" 2) Go through old family records. You may still have some old books with the CRANBERRIES
P.O. Box 249
COBALT CT 06414
Tamily name, because there

J.A. JENKINS & SO

Group names of your ancestors near

was a different consonant arrangement. Or even translated their name into the language of the host country, 4) One example might be that of an invading army leaving behind people in the conquered territory who have the names of their country of origin. Then, as years pass, it probably seems strange to find one has the spelling of that old country: for example, De instead of Di, which means in Italy, that person is of Spanish background. 5) You may find that your name has a historical background, such as Turncoat, Seems that certain people took no chances during the wars. Had a coat with two

Enjoy this pursuit. You may even find that you are of royal blood!

sides, one for each clan-

#### \*\*\*\*\*\* STAY INFORMED

subscribe to CRANBERRIES \$10 a year-\$18 two years

MOWING (ALL TYPES) SANDING

DITCHING WEED WIPING

Serving Cape Cod

227 Pine St., W. Barnstable, Ma. 02668

Phone 362-6018





The farmer's cooperative that brings you a wide range of natural fruit juices, drinks and sauces

Ocean Spray Cranberries, Inc., Plymouth, Massachusetts 02360 An Equal Opportunity Employer

