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Prepared by Extension Vegetable Crops Specialists

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TO: COUNTY EXTENSION DIRECTORS AND AGENTS (VEGETABLE AND
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I. NOT ES OF INTEREST

A. New Publications


(D. N. Maynard)

B. Vegetable Crops Calendar

January 05-07: Joint National Pea and Bean Conference, Hilton Inn, Gainesville.

February 07-09: Southern Region, American Society for Horticultural Sciences, Howard Johnson, Orlando.

February 16: Florida Seedsmen's Conference, Hilton Inn, Gainesville.


April 20: Sanford AREC Open House and Research Update.

April 28: Immokalee ARC Field Day.

(D. N. Maynard)
II. PESTICIDE UPDATE

A. Section 18 Labels Since Last Report

The Environmental Protection Agency has granted three exemptions and denied one request for exemption under the provisions of Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended.

(1) A Section 18 emergency exemption for the use of methamidophos (Monitor 4) to control aphids, lepidopterous larvae, and leafminers in Boston lettuce, Bibb lettuce, Romaine lettuce and Chinese cabbage was granted for a maximum acreage in Orange County, Florida only.

(2) A Section 18 emergency exemption was denied for the use of methamidophos (Monitor 4) to control certain pests on Florence fennel, Italian dandelion, escarole, endive, napa, pak choi and parsley. The reasons for the denial as stated in the Mailgram from James M. Cenlon, Acting Director, Office of Pesticide Programs, EPA to Doyle Conner, Commissioner, FDACS:

"The toxicity data baseline for Monitor has become seriously eroded and certain toxicity studies are missing. Without these data, we are unable to support any residue levels in excess of 1 PPM of Monitor on any row Agricultural Commodity. Therefore, find it necessary at this time to deny your request to use Monitor on Florence fennel, Italian dandelion, escarole, endive, pak choi and parsley since this use may result in residues levels of 2 PPM.

The use of Monitor on napa, although not expected to result in levels of Monitor in excess of 1 PPM, must likewise be denied because of the potentially large increase in the theoretical maximum residue contribution (TMRC) to the diet of Chinese people."
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(3) A Section 18 specific exemption for the use of Monitor 4 is authorized for use on celery for the control of leaf-miners. The exemption states for use in Orange County, Belle Glade, Pahokee and South Bay in Palm Beach County, Oviedo in Seminole County and Sarasota County.

Several conditions and restrictions are imposed. Be sure to read the label for all detailed information before use.

(4) A Section 18 specific exemption for the use of metolachlor (Dual) to control chickweed, dock, pigweed, purslane, ragweed, signalgrass and crabgrass on broccoli, cabbage and cauliflower has been granted.

Several conditions and restrictions are imposed. Dual BE will be applied as a single preemergence surface treatment; see the label for the difference in rates on sand and organic soils. Applications should also be made at the time of direct seeding or transplanting.

Be sure to read the labels and follow them before application.

(W. M. Stall)

B. Crises Exemption For Use Of Permethrin And Fenvalerate On Cabbage.

Pursuant to title 40, code of federal regulations, Part 166.8, Doyle Conner, Commissioner, Florida Department of Agriculture and Consumer Services has determined that a crises condition exists for cabbage producers. Therefore, using the Crises Exemption provisions, permethrin (Ambush, and Pounce) and fenvalerate (Pydrin) may be used effective November 6, 1981, for the control of cabbage looper and diamondback moth on cabbage.

For rates and specific conditions for use read the updated labels.

(W. M. Stall)
C. Advocacy Of Pesticide Uses Which Do Not Appear On The Registered Pesticide Label; Policy Statement.

In the November 1981, Chemically Speaking, Sam Fluker summarized the Policy Statement of the Office of Pesticides and Toxic Substances Enforcement that became effective October 22, 1981. This information is important enough that it is reproduced here in its entirety.

The Office of Pesticides and Toxic Substances Enforcement has reconsidered its position that the advocacy of section 2 (ee) of the Federal Insecticide, Fungicide, and Rodenticide Act uses be limited to user/applicators. This notice informs the public that since sec. 2(ee) uses are no longer misuse, any person may legally recommend or advertise such uses. This policy statement is effective October 22, 1981.

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) was amended by the Federal Pesticide Act of 1978 (FPA) on September 30, 1978. The FPA broadened the construction of section 12(a)(2)(G) of FIFRA which provides that it shall be unlawful "to use any registered pesticide in a manner inconsistent with its labeling." The new section 2(ee) defines the phrase "to use any registered pesticide in a manner inconsistent with its labeling."

According to the language of this new section, it is a violation of section 12(a)(2)(G) to use a registered pesticide "in a manner not permitted by the labeling" with the exception of four specific areas. Under section 2(ee) it is not misuse to:

1. Apply a pesticide at any dosage, concentration, or frequency less than that specified on the labeling.

2. Apply a pesticide against any target pest not specified on the labeling if the application is to the crop, animal, or site specified on the labeling, (unless the label states that the pesticide may be used only against pests specified on the label).
3. Employ any method of application not prohibited by the labeling.

4. Mix a pesticide or pesticides with a fertilizer when such mixture is not prohibited by the labeling.

This notice informs the public that since section 2(ee) uses are no longer misuse, any claims made regarding these uses are not unlawful unless the registered pesticide label specifically prohibits the use. Thus, to the extent that section 2(ee) allows particular uses, any person may legally recommend or advertise such uses provided that recommendations made under section 2(ee)(1) pertaining to the amount of diluent used in applying pesticides for forestry or agricultural purposes must be made in accordance with the Advisory Opinion published in the Federal Register of March 3, 1981 (46 FR 14965). This Policy does not prospectively amend any existing pesticide labeling; all changes in a registered pesticide label must still be approved by the Agency. This Notice supersedes the Federal Register notice of June 8, 1979, (44 FR 33151) which limited section 2(ee) recommendations to user/applicators.

This new policy not only implements the Congressional intent of section 2(ee) to allow beneficial non-label pesticide uses but also provides for strong enforcement to ensure appropriate recommendations of such uses. The policy statement in no way relaxes the administrative or other civil liability of persons who recommend pesticide uses. It should be noted that the FPA only amends Federal pesticide law and does not purport to affect State pesticide laws or possible private civil liability. The only change is that the Agency no longer limits the advocacy of permitted uses on the basis of financial interest in the use. The Agency will, however, take enforcement action under section 12(a)(1)(B) against any person with a financial interest who makes pesticide use recommendations which exceed the limits of section 2(ee). Additionally, any person who recommends section 2(ee) uses, of course, remains liable for possible civil damages arising out of his own negligence. (FR, pg. 51745, Oct. 22, 1981.)

(Chemically Speaking)

(W. M. Stall)
III. COMMERCIAL VEGETABLE PRODUCTION

A. Copper Fertility In Watermelons

Last year there seemed to be some confusion on copper (Cu) fertility as it affected watermelon production in several areas of the state.

Watermelons grown on deficient virgin sandy soils generally develop severe Cu deficiency when Cu free fertilizer is used.

Deficiency symptoms consist of upward cupping and crinkling of the young expanding leaves and death of leaf tips. As growth continues, internodes are shortened, and because of necrosis of leaf tissue, leaf shapes are irregular. When Cu deficiency is less severe, symptoms do not develop until later growth stages and generally during periods of rapid growth. Expanding leaf tips can become necrotic as the Cu supply is depleted. Flower development and fruit set are greatly reduced in Cu deficient plants.

Growers formerly used natural organics, such as castor pomace, activated animal tankage and sewage sludge as a N source. It was later found that part of the yield responses were actually to micronutrients supplied by the organics. Copper was identified as largely responsible for the yield increases.

Response of watermelons to Cu has been shown to vary considerably with soil type. Response to the addition of Cu is greatest on poorly drained sandy soils and less on upland better drained soils. In replicated tests, watermelon yield on Norfolk soils increased minimally with the addition of Cu whereas, on the more deficient Immokalee and Leon soils, additions of Cu increased yields significantly.

Source and Placement

Copper can be applied to watermelons in several ways: blended in the fertilizer as frits or chelates, blended in
the fertilizer as salts (CuSO₄), applied as salts directly in the soil, or as a foliar application.

In most studies, the slow release form of copper was applied in a glass frit micronutrient mix. Due to the slow release of all the required micronutrients from the frit, it is thought to be possibly a better source of Cu than copper sulfate. Watermelon responses to 30 to 60 lb/acre of frit is similar to that provided with 4 lb/acre Cu from copper sulfate.

The application of Cu, either in the fertilizer or separately is much superior when broadcast and mixed throughout the bed.

Copper can also be adequately supplied as a foliar spray. Because a continuous Cu supply is needed throughout the season, several foliar sprays (0.25 lb/acre Cu) would be required to be adequate.

Interaction of Cu and P

Studies have shown that response to Cu and P are interrelated. Increased rates of applied P to watermelon generally increased P levels in watermelon leaf tissue but decreased Cu concentrations. This reduction of Cu uptake with increased rates of P decreases yields on soils highly deficient in Cu when an additional Cu is not supplied. Interaction of Cu and P fertilization was found to affect watermelon yields particularly where diammonium phosphate (DAP) was used. It is therefore suggested that P sources should be in a greater amount from superphosphate or triplesuperphosphate in addition to that supplied by DAP or ammoniated superphosphate.

Information in this article was extracted from:

IV. HOME VEGETABLE GARDENING

A. Florida Master Gardener Program

January 1982 will begin a busy year for the Florida Master Gardener program. Plans are now being finalized to begin training in Broward, Palm Beach, Pasco, Pinellas and Polk Counties.

Training for these counties (all first year except for Polk) will involve a series of eight classes based on lectures, slide sets and tours; at the end of the eight weeks a comprehensive examination will be given for certification.

Master Gardeners recently completed training in Orange, Lake and Osceola Counties. Approximately 70 persons were certified at the end of their training to become Master Gardeners.

On November 18, Orange, Lake and Osceola County Master Gardeners came to Gainesville and toured the Ornamental Horticulture Greenhouses, Soil Testing Lab and the Vegetable Specimen Garden. A picnic lunch was enjoyed by everyone and during this time, certificates were awarded by J. J. Brasher, Associate Dean for Extension.

The Master Gardener program has proven to be an asset to the Extension horticulture program in counties participating in the program. Many hours of service have been contributed by the Master Gardeners, thus enabling local Extension offices to serve a much larger clientele. More counties have
shown interest in beginning a Master Gardener program than can be included and trained at the present time. This interest level should remain high and the program should continue to grow.

(Ann McDonald)

B. Know Your Minor Vegetables - Naked Seeded Pumpkin

Naked seeded pumpkin, also called squash, (Cucurbita pepo L.) varieties are now available from major seed company catalogs for planting in Florida gardens. The naked-seeded pumpkin has been derived from natural mutants whose integuments (seed coats) were very thin in contrast to the thick, hard and close fitting hulls of normal pumpkins seeds. Since pumpkin hulls are in close contact with the meat (cotyledons and primary axis) of the seed, they cannot be removed easily by the methods used for dehulling sunflower seed.

Sunflower hulls are the pericarp (ovary wall) and are attached to the true seed at only one point, the funiculus. Sunflower integuments, like those of pumpkin, closely contact the cotyledons and remain on the dehulled seed; therefore, dehulled sunflower seed and naked-seeded pumpkin seed are morphologically equivalent.

Even with the seed coat, pumpkin seed for food use has been fairly popular for many years, particularly with natural food enthusiasts and self-sufficient gardeners. Perhaps the Indian word for squash, "askutasquash", which means "eaten raw or uncooked" is derived from the use of raw seeds rather than the pulp. The flesh of wild Cucurbita species is reported to be so bitter that it is inedible, so seeds were likely to have been the first parts eaten. Today most people like the flavor of pumpkin seeds, and with the naked-seeded varieties, pumpkin seed should become even more popular.

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1This article is based primarily on Misc. Report 156-1981, University of Minnesota, Agricultural Experiment Station, by R. G. Robinson.
Varieties - According to the Department of Agronomy at the University of Minnesota, naked-seeded pumpkins have been tested there since 1964 as a potential oilseed crop. However, it was not until the release of 'Lady Godiva' by the USDA in 1972 that there was a popular variety available through national seed companies for grower use. Description of this and other varieties followed:

'Lady Godiva' - Fruit weigh five pounds and are yellow with green stripes at maturity (green fades as a sign of over-maturity). The pale flesh can be sliced and eaten raw, but it is stringy when cooked. The green seed is about three times the size of a dehulled sunflower seed. A bushel of seed weighs about 43 pounds. The long prostrate vine runners reach 10 to 20 feet in length.

'Triple Treat' - A 1977 Burpee Seed Company release, this variety is suggested for jack-o-lanterns, cooking and naked-seed. The deep orange flesh is of good cooking quality. However, the fibrous hulls are noticeable when the seed is eaten (unlike 'Lady Godiva'). Fruits are about five pounds, golden orange in color.

'Steaker' - Orange fruit are suitable for jack-o-lanterns, cooking and naked seeds.

Others - 'Eat all', 'Sweetnut', 'Hull-less'.

Culture - Naked-seeded pumpkins should be grown in a similar manner to other types of vining pumpkins and winter squashes. In Florida this means spring planting throughout the state, and fall and early winter planting in South Florida. Due to the absence of a protective seed coat, it is important to treat the seed with a fungicide and plant shallow (1" deep) 24 to 30 inches apart in 36 inch rows. Like all pumpkins, there are male and female flowers on each plant, and bees are required for pollination.

Gardeners growing naked-seeded varieties do not need to worry about isolating these plants from other squash or pumpkins to prevent cross-pollinated. Although crosses will occur, the seed will not have a tough seed coat since it is maternal tissue. Of course, such cross-pollination seed should
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not be saved for planting, as the next generation will result in seeds with regular seed coats.

Use - Seeds may be removed by cutting open the fruit and scraping out by hand. Seeds should be cleaned by rinsing, then dried on a screen or in the oven.

The seed can be eaten raw, roasted dry or roasted in oil. When dry roasted at about 350°F, the seeds make a popping noise and swell but do not explode like popcorn. Oven roasting takes about 15 minutes.

Nutritional value - In studies at the University of Minnesota, naked-seeded pumpkins exceeded sunflower seed in protein percentage. A daily intake of 1/3 to 1/2 pounds of seed per day would provide the quantity and quality of protein needed per day for adults according to the study. Naked seed of pumpkins contain: 38% protein; 46% oil (80% unsaturated), 4.8% ash; 7.9% fiber; 11.3% carbohydrates; 5.92% N; 1.37% P; 0.99% K; 0.52% Mg; 0.35% sulfur; 0.04% Ca; 0.03% Na; 94 ppm Fe; 92 ppm Zn; 44 ppm Mn; 14 ppm Al; 13 ppm B; 12 ppm Cu.

(J. M. Stephens)

V. YOUTH PROGRAMS

A. National Junior Horticultural Association Convention

Florida was well represented at the National Junior Horticultural Association Convention held in Colorado Springs, Colorado, October 30 - November 3, 1981. Nine 4-H Members from Marion and Leon Counties participated in the national contest.

The horticultural team from Marion County placed second in the 4-H division, with three of the team members placing in the top ten with their individual scores. Florida also had the first, second and fourth high individual scores in the Honors Division.
Each participant in the horticultural identification and judging contest identified plant specimens of fruits, vegetables and ornamentals; judged 8 classes of horticultural products and completed an 80-question written examination.

In the demonstration event, Ricky Jeffries from Leon County received a blue ribbon award in the production division for his demonstration on plant propagation.

After the competitive events 4-H members took part in educational workshops on a variety of horticultural topics and toured greenhouse operations, apple orchards, a cattle ranch and the U.S. Air Force Academy.

Much enthusiasm was evident as awards were presented on Monday evening and we can all be proud of these 4-Hers for an outstanding showing in these contests.

Sponsorship by the Florida Fruit and Vegetable Association, Florida Department of Agriculture and Consumer Services and Dolime Minerals Company made this trip possible for the following 4-H Members:

**Horticultural Contest**

4-H Marion County

Kim Ambrose  
Jeannie Piotrowski  
Torm Siverson  
Rip Haskins

Honors - Marion County

Jana Haskins  
Butch Brady  
Teresa Piotrowski  
Nancy Sawallis

**Horticultural Demonstration**

Production

Ricky Jeffries

(Ann McDonald)

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