

VEGETARIAN

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TO: COUNTY AGENTS, ASSOCIATES AND ASSISTANTS

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I. FLOODING PRACTICES--WHAT ARE THE ADVANTAGES?

Insect Control -- Mr. Genung states that flooding fields for 48 hours will control cutworms 100 percent if there is no trash or litter for them to climb on. The cutworm moth will not lay eggs on flooded land.

Wireworms are also controlled by flooding; however, a longer flooding than 48 hours is necessary.

Disease Control -- Control of celery pink rot and lettuce Sclerotiniase disease caused by Sclerotinia can be had by flooding for six weeks. Flooding causes the Sclerotia to rot and breaks the reproductive cycle of the fungus.

Flooding of organic soils is an approved soil conservation practice to reduce **subsidence** through oxidation and a conservation payment can be received for flooding. Dr. Wehlburg states that there is little danger of spreading black rot bacteria by flooding because these bacteria need cabbage plant debris to live on and this plowed in debris rots very rapidly. He states that about 8 weeks waiting period between flooding and planting should free the soil from any pathogenic bacteria that might have been in it.

The Fusarium wilt fungus may be spread by flooding.

Complete soil submergence and for a duration of at least six weeks is necessary for best results. This practice works on all soil types.

II. HOST PLANTS FOR BLACK ROT OF CABBAGE

Dr. John Darby, Central Florida Experiment Station, has found two weeds of the

area that are hosts for the black rot bacterium (Xanthomonas campestris). This partially explains the relatively high incidence of the secondary stages of the disease in cabbage, broccoli and cauliflower in Florida, even where seed has been hot water treated. These two weeds are Chinese Mustard (Brassica juncea) and wild radish (Raphanus raphanistrum). These two weeds have been found in the Hastings area and are no doubt present in other areas of the state.

III. BLACK SPECK OF CABBAGE HEADS

This disorder has caused serious loss to cabbage grown in the Sanford area and has been observed to lesser extent in other areas of Florida. No pathogenic organism can be associated with it. It occurs on mature heads and becomes more severe after harvest and in transit. The small black specks are described by Dr. Darby as usually following leaf margins and depressions in the leaf surface. Specks may occur on every leaf all the way to the core or specks may occur on one leaf with no specks on the leaf below. In a Variety Trial at the Central Florida Experiment Station during the winter and spring of 1965, Badger Market, Globe and Marion Market showed the lowest incidence with 0 percent to 7.5 percent at 106 days of age. The hybrids King Cole, Market Topper, Market Prize, Market Packer and Harris 63-74 all showed from 90 percent to 100 percent black spot at 106 days of age. With the increased popularity of hybrid cabbage, this disorder could become quite serious.

IV. BLACK HEART IN CELERY, ENDIVE AND ESCAROLE

There has been serious losses this winter from black heart in endive and escarole. This is the same disorder as occurs on celery and can be controlled with the same treatment. Control should be on a preventative basis. Work by Dr. Geraldson at Bradenton and subsequent work by Drs. Westgate, Forbes and Burdine have confirmed that the basic cause is from a calcium deficiency in the plant. Sprays with soluble calcium salts applied to the heart of the plant is the best control. Either 5 pounds of calcium chloride or 10 pounds of calcium nitrate per 100 gallons of water weekly-- watch for black margins of heart leaves and begin sprays when they first appear.

V. SHORT SUBJECTS

A. Copper fungicide applications this past winter at Belle Glade on cabbage and at Zellwood on carrots indicate that where copper was not used in the spray program these two crops were more resistant to cold.

B. The Vegetable Field Day at the Belle Glade Station will begin at 9:15 A. M. on May 4, 1965. We previously announced it for 10:00 A. M.

C. A lot of cabbage leaf browning in the Hastings area this spring has been attributed to black rot and other diseases. Dr. Hensel has definitely attributed most of it to potassium deficiency. Particularly on lighter soils with low amounts of potassium applied and following heavy rains. Dr. Hensel recommends side dressing with a mixed goods which contains both potassium and nitrate nitrogen.

D. Size and spacing of cabbage transplants.--It looks like from work in progress at Hastings that grading cabbage plants into uniform sizes may pay. First harvest yields increased linearly as size of plant and spacing increased. Remember a 16" spacing must produce twice the size plant to equal the yields of an 8" spacing.

E. Pesticides toxic to Bees.--USDA and University of California workers have classified 124 pesticides as to their toxicity to Honeybees; 37 were highly toxic, 19 moderately toxic and 68 relatively non-toxic. The non-toxic group were evenly divided between insecticides, fungicides and herbicides.

Take every reasonable precaution to apply pesticides so that a minimum of injury will occur to bees. We blame bad weather or the variety for poor fruit set on vine crops when in most cases it is from low bee activity.

F. Chemical Bird Management.--The bird communication process of "flock alarming" is used by feeding a few birds food which has been treated with chemicals which make them utter distress calls which repel other birds in the flock. The chemicals are registered for control of sparrows, starlings, cowbirds, pigeons and blackbirds, around buildings and feed lots. Chemicals are for sale only to be applied by trained pest control operators.

G. Wind Breaks.--Dr. Forbes at the Central Florida Station is evaluating wind break plants including rye, blue lupine, sorghum (wind breaker), oats and sunflower. Preliminary results indicate that for early fall, planting sunflowers are best, for later in the winter or early spring, rye or a mixture of rye and oats appear best.

H. Recent Pesticide Registration Changes.--

1. Dosage of 2-capryl-4,6-dinitrophenyl crotonate (Karathane) on cucumbers has been reduced from 0.5 pound of active per acre to 0.25 pound of active per acre. The interval between last application and harvest remains at 7 days.

2. Dieldrin use on carrots was removed from registration on March 15, 1965.

3. "Zinc ion + manganese ethylene bisdithiocarbamate complex"--this is the name which has been accepted by the Pesticides Regulation Division of The United States Department of Agriculture for a compound trade named Dithane M-45. For clarification, this compound is chemically different from the two other mixtures of maneb + zinc salts which are sold under the trade names of Dithane M-22 Special and Manzate D. This compound requires a separate registration from the other two compounds mentioned and from maneb and zineb. Dithane M-45 is registered on peppers and tomatoes at 1.8 pounds of actual per acre and 1.5 on tomatoes, with the limitations of "do not apply after fruit buds form." Potatoes were registered at 1.6 pounds with "no time limitation." On March 15, 1965, cantaloupes, cucumbers, melons, pumpkins and squash were added to this registration at a dosage of 2.4 pounds of active ingredient per acre, with the limitation "do not apply after edible parts begin to form." Onions for dry bulbs were also labeled at 2.4 pounds of active ingredient per acre with a 7 day interval between last application and harvest with directions, "do not apply to exposed bulbs." These registrations are limited ones and are established on the basis of no residue remaining on the crop. Growers should use this chemical with this in mind.

We have just received notice that the Food and Drug Administration has granted the following tolerances for Dithane M-45 on melons:

7 ppm on the whole fruit with no residue present in the edible pulp after peel is removed, with no time limit between last application and harvest. The melon group includes cantaloupes, Honey Dew melons,

muskmelons, pumpkins, watermelons, winter squash, but it does not include cucumbers and summer squash. These latter two crops can be consumed with the peel intact and hence a no residue registration for edible portion is out of the question. Dithane M-45 can be used on cucumbers and summer squash until fruit begins to form.

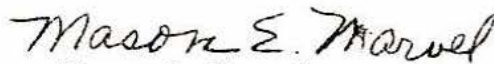
Sincerely,



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