

VEGETARIAN

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TO: COUNTY AGENTS, ASSOCIATES AND ASSISTANTS

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* Trade names used in this publication are not intended to be exclusive and no discrimination or indorsement is implied.

1. Botanical Classification of Vegetables

(See sheet)

2. Carbamate Combinations for Disease Control

Recently several combinations of the carbamate fungicides have been marketed. Some of these are purely physical mixtures of two or more of the commonly used carbamates such as zineb, maneb combination or these two plus Ferbam or maneb and zinc ion. The other combination is a chemically reacted combination forming an entirely different end product. Any of these products may be as good as, or superior to, the individual compounds applied separately. The mixtures may be used on any crop for which all the individual ingredients have a label. The chemically reacted products must have a specific label before use on a crop. Examples: The products sold under the trade names of Dithane-M-22 Special or Manzate D may be used on any crop where zineb or maneb has a label.

The product sold as Dithane M-45 which is a chemically reacted product may not be used on crops other than those that have a specific label. At this time, potatoes is the only vegetable crop on which it can be used.

3. Potato Top Killing

Each year we have inquiries about top killing of potatoes.

A. Methods

(1) Mechanical mowing or rotary beating is used to some extent. Advantages are that no chemical residues remain and it removes tall weeds and heavy growth. Disadvantages are the chain type beater which does the best job but is slow and wear is excessive - plants tend to regrow and not die down. This perpetuates weed, insect and disease problems. If the bed is too clean washing down and sunburn becomes a problem.

(2) Flame

The use of oil and gas burners of several types have been used with varied success. No chemical residues remain and with a second

burning all dead tops can be completely eliminated along with insects and disease. Disadvantages are cost and improper equipment not giving complete top kill once over. Too clean removal increases danger of beds washing down and sunburn.

(3) Chemical

Several chemicals are used successfully for potato top killing; however, because of problems with potential applicator hazard, chemical residues on tubers and residues persisting in the soil with some chemicals, the only one we recommend is DNBP or DNBP + DNAP mixture. The most readily available formulation is the mixture sold as a 3 lb. per gallon material under the trade name of Premerge or Sinox PE.

Spray at least 10 days before harvest with 2 to 3 quarts of 3 lb. per gallon material per acre prepared as follows: Mix one pint of a nonionic emulsifier in 5 gallons of fuel oil and emulsify in 35 gallons of water then add the 2 to 3 quarts of DNBP with vigorous agitation and spray at moderate pressure. Apply during warm sunny weather. Complete coverage is essential.

4. Fertilizer and Salt Burn on Vegetables

In recent years more frequent and widespread instances of fertilizer burn or salt injury either from fertilizer or from salty wells has occurred in Florida. Many factors are involved including higher applications of fertilizer, use of plastic mulch which reduces leaching, dry weather and salty water used for irrigation.

The following are some questions and answers on salt tolerance as found in U.S.D.A., ARS Information Bulletin No.205.

A. What is salt tolerance?

The degree to which a crop can produce a satisfactory yield under salty conditions.

B. How does salt affect the growth of vegetables?

Primarily by decreasing the availability of water. In some cases nutritional effects are involved. The saltier the soil, the less available is water and more stunted the plants. These soluble salts that are usually present include not only sodium and chloride, but calcium, magnesium, potassium sulfate, bicarbonate, nitrate, and other ions. Other interferences involved are excess sulfate reducing calcium uptake by plants. Excess calcium may reduce potassium uptake. Sodium causes poor physical condition, such as reduced infiltration and aeration and severe crusting.

High salts speed up maturation of crops such as potatoes and delays flowering in some such as sweet corn.

C. How much salt can vegetables tolerate?

Some can tolerate only 2 millimhos; others up to 8 millimhos (electrical conductivity of the saturation extract of the soil)

SALT TOLERANCE OF VEGETABLES

Tolerant	Moderately Tolerant	Sensitive
8 millimhos ¹	5 millimhos	3 millimhos
Beets	Tomato	Radish
Kale	Broccoli	Celery
Asparagus	Cabbage	Beans
Spinach	Cauiflower	Strawberries
	Lettuce	
	Sweet Corn	
	Potatoes	
	Sweet Potatoes	
	Pepper	
	Carrot	
	Onion	
	Peas	
	Squash	
	Cucumber	
5 millimhos	3 millimhos	2 millimhos

¹ Levels at which a definite but small reduction in yields may be expected.

Climate as well as variety and stage of development all enter in the degree of tolerance a crop may bear.

D. How can the salt hazard be minimized?

Use fertilizer in adequate but not excessive amounts. Place it where it will not concentrate near or under plants.

Use tolerant varieties if available, use overhead irrigation - particularly on young crops.

Test wells and water source periodically for salt level.

5. Notes of Interest

You have probably heard that new processing methods plus resistant tobacco varieties used today eliminate tobacco mosaic virus. Don't believe it. Dr. M. K. Corbett, virologist at the University of Florida, bought tobacco products at a local store and recovered infectious TMV from all types - including snuff, chewing, pipe and cigarette tobacco.

The new bacterial spot disease on watermelon has been found again this year in Central Florida by Dr. Norman Schenck.

Remember the DARE Vegetable Conference at the University of Florida in McCarty Hall on the 19th of May, starting at 1:15 p.m. and continuing through the 20th. Contact your key vegetable people and send some and bring the rest.

Sincerely,

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Enclosure