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Prepared by Extension Vegetable Crops Specialists

J. F. Kelly
Chairman

James Montelaro
Professor

J. M. Stephens
Assistant Professor

S. R. Kostewicz
Assistant Professor

TO: COUNTY EXTENSION DIRECTORS AND AGENTS (VEGETABLES AND HORTICULTURE) AND OTHERS INTERESTED IN VEGETABLE CROPS IN FLORIDA

FROM: S. R. Kostewicz, Assistant Vegetable Crops Specialist

VEGETARIAN NEWSLETTER 73-3

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I. COMMERCIAL VEGETABLE PRODUCTION

A. Revision of U. S. Standards for Fresh Tomatoes

Diameter measurements for the various size classifications in the current U. S. Standards for fresh tomatoes became effective in 1953. These standards have considerable overlap between sizes and they permit variations in size classifications for tomatoes of the same diameter. In a recent study of California tomatoes, the University of California found that variability of fruit sizes in packed containers is rather high. More than 50 percent of the tomatoes in a given container could be in the next smaller size and still comply with the overlapping USDA standards.

The Florida tomato industry, under the leadership of the Florida Tomato Committee, has been using size standards since 1956 which have no overlap. Fruit size is an important economic factor for tomatoes since prices are higher for large sizes than small sizes. Differences in sizing practices and labeling of sized tomatoes among individual shippers in an area and among various production areas result in unfair trade practices.

New sizing standards proposed by the USDA, Florida Tomato Committee and the California Fresh Market Tomato Advisory Board were recently evaluated by R. K. Showalter, University of Florida, and Adel Kader, University of California. Changes in the standards of as little as 1/32 inch (fruit diameter) had considerable effect on the number and weight of fruit in the various size classifications.

The tomato industry is also seeking to reduce the number of size classifications (eight) between the smallest (7x8) and the largest (4x4) in the U. S. Standards. The present size requirements in the Standards are based on possible arrangements of place-packed tomatoes in Los Angeles lugs. This terminology is rather meaningless for jumble-packed fruit in cartons, and it has been suggested that descriptive words for the sizes would be much better.

In April, 1971, the USDA submitted to the tomato industry of the United States a proposed revision of the U. S. Standards, but action was withheld until a sizing study of California tomatoes could be completed. Data similar to that compiled by the Florida Tomato Committee on weekly shipments by sizes were not available for California.

A conference of tomato growers and shippers from major production areas and state and federal personnel was held in Los Angeles, California on February 10, 1973 to discuss and exchange views and size data relating to tomato size classifications.

About 200 tomato growers, shippers, repackers and receivers attended the meeting of the Tomato Division of the annual convention of the United Fresh Fruit and Vegetable Association in Los Angeles on February 13 and passed a resolution to revise the Standards for fresh tomatoes in a manner which it determines to be in the best interest of growers, shippers, distributors and consumers. This revision is to contain the following:
1. The eight size classifications in the present U.S. Standards should be reduced to six by combining the (5x6) and (5x5) into a single classification and by combining the (4x5) and larger into a single classification. The descriptive words Mini, Small, Medium, Large, Extra Large and Maxi are recommended as optional size designations for the six sizes. The fruit diameter ranges for the four smallest classifications are those used in Florida before the 1973 season.

2. No overlap is needed between sizes provided a 10 percent tolerance is allowed for variations incident to proper sizing, and the method for determining compliance remains unchanged.

3. To allow for variations incident to proper packing, the net weight of the tomatoes in any container may not exceed the designated net weight by more than 1½ pounds.

4. Since the color classifications in the present U.S. Standards are intended to indicate the degree of ripeness of mature tomatoes; the word mature should be inserted into the descriptions for green, breakers, turning, pink, light red and red.

Acceptation, modification or rejection of these revisions will be published in the Federal Register.

(R. K. Showalter, Professor [Horticulturist])

B. Pinworm Outbreak on Tomatoes

A serious outbreak of tomato pinworms was recently noted in the Immokalee area. A warning that this might happen was given in the March, 1972 issue of the Vegetarian Newsletter. A description of this insect is given in that article. Since this is a relatively new problem pest, it is receiving close attention from research and extension workers of the University of Florida.

The tomato field in the Immokalee area infested with tomato pinworms was heavily damaged when observed by a team of University specialists. Many of the tomato plants had suffered considerable damage to the leaves. In some cases, plants were almost defoliated and appeared to be dying. County Agent Don Lander reported light infestations of tomato pinworms in other fields, also.

The following recommendations were made by Dr. S. L. Poe, Assistant Entomologist, and Mr. J. E. Brogdon, Entomologist:

1. Systox - 1 pint per acre + Parathion 6,3 - 1/2 pint 9E
2. Systox - 1 pint per acre + Lannate - 1/2 pound 90%
3. Systox - 1 pint per acre + Guthion - 1 quart 2E
4. Systox - 1 pint per acre + Sevin - 1¾ pounds of 80%
They suggest that the materials be used in rotation at three to four-day intervals. These suggestions are based on preliminary research and are apt to change as more information is developed. Mr. Lander has subsequently reported promising results from these materials in the badly-infested tomato field.

Dr. S. L. Poe recently made another survey of the Immokalee area tomato fields. He feels that early treatment is a must for control of pinworms. After pinworms enter the leaf tissue, they cannot be easily reached with most insecticides. The mixtures recommended all contain a systemic material for that reason.

Growers are advised to check their fields carefully for pinworms so that control measures can be started early. Pinworms will attack eggplant, potatoes and tomatoes. Any suspected infestation should be reported to the county agent so that we can maintain a statewide check on this potentially dangerous pest.

(Montelaro)

C. Pointers on Using Herbicides Correctly

Good weed control doesn't just happen, it must be planned. Herbicides are an established tool in the grower's arsenal of weapons to combat weeds. However, as is the case with any tool, it must be used in the proper manner before it can do the job for which it was intended. This implies that the user must know something about how to use the tool.

Growers know that many variations in weather occur from season to season. These variations modify the results desired from many of the best thought-out, carefully planned and carried out cultural steps in production. The weed control program is included in this observation. While little can be done about controlling the ravages of unkindly weather, a great deal can be done about preventing the ravages of "man-made" errors compounding the results.

Let's take a look at some of the basic premises upon which good weed control programs are based. Detailed discussions of each will be forthcoming in future articles, but for the present an overview will be helpful.

1. Herbicide
   a. Use only materials labeled and recommended for the crop.
   b. Use a material fulfilling the above requirement that will solve the specific weed problem of your area.
   c. Use a rate that will neither be too high (crop injury and residue) nor too low (poor weed control).

2. Application Equipment
   a. Use an applicator designed for herbicides.
b. Keep it functioning properly - proper pressures, agitation, not leaking, etc.

c. CALIBRATE FREQUENTLY - right pattern, right delivery, right height, etc. (calibrate in the field using water only).

3. Soil Conditions

a. Too many clods? - large clods shade the pattern getting uneven coverage.

b. Avoid excessive undecayed plant residues.

c. Soil surface should be level and finely prepared.

d. If using "crowned" beds - avoid seed drill depressions, herbicides can wash into the depression resulting in increased rates at the crop plant row: avoid over-crowning which can allow herbicides to wash away from the desired area.

4. Application

a. Use correct timing - too early or too late applications can reduce control or adverse weather conditions can affect activity.

b. Optimize soil moisture conditions - generally low soil moisture hinders herbicide activity but some need more moisture for activity than others. Excessive irrigation, however, can leach or move herbicides from the proper area.

c. Use the right placement - some herbicides must be incorporated for best results. Depth of incorporation must be regulated and done thoroughly.

d. Weather conditions - high temperatures can cause loss of herbicides due to volatilization. High winds can create drift problems.

(Kostewicz)
THE VEGETARIAN NEWSLETTER

II. VEGETABLE GARDENING

A. Using Salty Soil for the Garden

Since most homeowners must use for their garden the same type of soil that supports their house, they often have a problem soil with which to work. Many of these problem soils are "made" soils, having been hauled in by trucks. Such "made" soils can be troublesome due to the hodgepodge of texture, composition and pH.

A related common problem with such soils in certain areas of Florida is their salinity and alkalinity, for even bay bottom soils are hauled or dredged as homesites. Where such are encountered, the following may apply.

1. Saline Soils - These soils contain soluble salts in great enough quantities to interfere with the growth of most plants. The pH value usually is less than 8.5. With a pH as high as 8.5, the normal reaction to solving related problems might be to recommend a minor element nutritional program; however, since salts are the problem, these must be reduced. Profuse watering or sprinkling with a garden hose or overhead irrigation is required to leach out the high concentration of soluble salts.

2. Saline-sodium Soils - These soils contain soluble salts, and, in addition, exchangeable sodium in quantities great enough to interfere with the growth of most crop plants. Sodium usually makes up more than half of the total soluble cations. The pH value still is usually less than 8.5. Leaching such a soil by overhead sprinkling washes out the soluble salts, but causes the soil to become a "non-saline-alkali" soil still high in sodium. Applications of gypsum and organic materials such as animal manures, plant manures and compost are helpful.

3. "Non-saline-sodium Soils" - While these soils do not contain high levels of soluble salts, they do contain enough exchangeable sodium to interfere with the growth of most crop plants. Such soils may be encountered where a garden is attempted on a tidal soil or a tidal fill soil. A soil thus associated with salt water, as along brackish rivers or tidal flats, contains concentrations of soluble salts in the beginning but upon leaching becomes non-saline-alkali.

The usual tip-off that such a soil is involved is pH value in the range between 8.5 and 10.0. Confirmation can be obtained by a test for sodium, as it is usually present as a mixture of sodium bicarbonate and sodium carbonate.

Since these soils are not very productive, they must be specially treated if they are to be used for a garden. The usual procedure is to apply calcium in the form of gypsum (land plaster), and then heavy leaching with water. Leaching causes a gradual solution of the calcium sulfate and replacement of the sodium (calcium-for-sodium exchange), which is then washed from the soil.

Because such soils are usually very fine textured with low water permeability, impoundment of water over the soil surface may be necessary followed by thorough flushing. Again, organic materials are helpful as they increase the permeability and generally improve the condition of such soils.

(Stephens)
B. Know Your Vegetables - Garbanzo

The garbanzo bean (Cicer arietinum) is also known as chickpea, common gram, Bengal gram, pea bean, cecci, Indian gram and gram pea. It has been in cultivation perhaps from before the Christian era. It is a favored dish of Latins.

Garbanzo is a low bushy pea-like annual with hairy stems and with each leaf comprised of several pairs of small rounded or oblong leaflets (compound pinnate). The flowers are white or reddish, small and borne singly at the tip of axillary branches. The edible seeds, borne in pods, are roughly globular, flattened on the sides, somewhat wrinkled, and about 1/3 inch in diameter.

Garbanzo is adapted to warm semi-arid conditions, such as the coastal regions of California. In Florida, it is not a crop of commercial status, and is seldom grown even in home gardens.

Culture is similar to that for dry beans. For those who would like to try a few, plant in February through April, preferably in March. Plant in rows 2 feet apart and thin to 3 inches apart. A starter fertilizer of about one pound of 6-8-8 per 100 square feet might be applied, with little or no sidedressing required later, as the crop grows better under low nutrient and low moisture conditions.

Pests are not a big problem, except for bean beetles. Poorly drained soils and insufficient length of growing season under Florida conditions are most frequently the cause for poor results. A growing season of 4 to 5 months from seeding to harvest is normally required (seed harvested mature).

(Stephens)