VEGETARIAN NEWSLETTER 75-2

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I. NOTES OF INTEREST

A. Strawberry Field Day

A field day has been announced for February 20, 1975 to be held at the Agricultural Research Center in Dover, Florida. An announcement with the planned program will be distributed shortly, but interested parties should note this date on their calendar now and make plans to attend this event.

(Kostewicz, Kelly)

II. COMMERCIAL VEGETABLE PRODUCTION

A. Smokylee Watermelon Performance in Florida

An internal disorder referred to as "water-soaked tissue" was observed by growers in Smokylee watermelons grown in 1973. The condition was found in 1974 in research plots at Gainesville and Live Oak. Melons cut in these plots at harvest time exhibited distinct areas of water-soaked tissue which detracted from general appearance of these fruits. This disorder has been observed to some degree in the past on other watermelon varieties that were harvested over-mature or handled improperly in transit.

In reviewing the problem, Dr. James Crall, the breeder of Smokylee, suggested that growers may be harvesting over-mature watermelons. He suggests that Smokylee be harvested in the "pale-red" stage.

Since Smokylee is a variety of watermelon with the highly desirable characteristics of Fusarium wilt resistance and high sugars, every effort will be made to solve this problem. Extensive research is planned on this problem at Gainesville and Leesburg this Spring. Until more is known, growers producing Smokylee should plan to harvest watermelons in the pale-red stage which might mean 3 to 5 days earlier than would appear to be normal harvest maturity for other varieties. Smokylee sugar levels are already high at this stage of maturity.

(Montelaro)

B. Internal Darkening and Tissue Breakdown in Eggplant Fruits

In the December, 1972 issue of the Vegetarian, we described a disorder of eggplant fruits which caused portions or all of some crops in Florida to be unmarketable. It was described as follows:

"The disorder is characterized by slight depressions of various sizes on the surface of the fruit. In the early stages, the skin of the fruit may not be broken. When the fruit is cut crosswise or lengthwise, discolored tissue may be found adjacent to the surface depression and in other isolated areas of the fruit. Fruit of this type is not marketable."

At that time, we stated:

"Based on this information (no pathogenic diseases observed) and other preliminary investigations, we feel that the condition
is a "disorder" related to the physiology of the plant. From our observations, we feel that it may be associated with a calcium-boron unbalance in the plant."

In an exploratory study to determine the cause of the fruit disorder in eggplant, Dr. C. M. Geraldson, Soils Chemist, Agricultural Research & Education Center, Bradenton, was able to reproduce the condition with low calcium in nutrient solution. He is expanding his study presently to check his preliminary observations. Dr. Geraldson feels that eggplant growers would be well advised in the meantime to follow a program of high calcium nutrition as recommended for tomato production in Florida. The program requires: (1) an adequate supply of available calcium in the soil, and (2) environmental conditions in the soil conducive to mobilization of the calcium by plants. Following are steps which can be used singly or in combination to implement a high calcium nutrition program for a crop of eggplant.

(1) Maintain soil pH between 6.0 to 6.5.

(2) Supply at least 1½ units of nitrate-nitrogen in the initial fertilizer application at planting time. Use a nitrate source when applying supplemental nitrogen.

(3) Maintain a Ca/mg ratio of about 5 to 1 in the soil.

(4) Use plain superphosphate as a source of phosphorus (superphosphate contains gypsum which is a good source of calcium).

(5) Maintain calcium at 15% of total soluble salt in soil solutions from I and B test results.

(6) Spray plants with calcium chloride (5 lbs/100 gals. water/acre) following heavy, leaching rains during fruiting period.

C. Retail Farmers Operations

In the past year and a half, numerous retail farmers' markets and outlets for selling locally-grown vegetables have sprung up around the state. The success of these operations has been variable, but generally these markets have been of benefit to small growers. In addition, the setup has varied from the very small or limited facility where produce is sold from the back of pick-up trucks to somewhat permanent type stalls on a nearby State Farmer's Market. In each case, the arrangement has been tailored to meet the needs of the particular situation.

From our experiences and observations of these, some general guidelines can be drawn which may help in setting up similar arrangements in other interested counties.

(1) Organization - A definite organization should be set up as a means of establishing a set of goals or objectives of the setup, of establishing the rules by which it will be run, and as a vehicle for making new rules and getting old rules changed. It will be responsible for carrying out or operating the facility and conducting meetings with the participating growers. The "officers", of course, should be growers with the County Extension Agent being primarily an advisor to work with them.
(2) Establish rules for operation - This is a key part of the setup. The rules should be in writing, well defined, given to all participants and enforced effectively or conflicts can result. The rules should be in accordance with existing ordinances and authority to enforce them delegated appropriately. The rules should cover, for example:

(a) Times and days of operation.
(b) Who can sell on the facility, members only or anyone?
(c) Source of produce - locally grown only? Or, can shipped-in produce be sold?
(d) Any costs involved should be spelled out completely. Stall rental, etc.
(e) Priority on stall locations, etc.
(f) Cleanup and storage

(3) Have a good manager - This is the person that will make the whole operation work. He has to be effective, able to "police" the operation, and handle the many large or small problems that will crop up periodically. He should have enough authority to make the decisions "on the spot" and not have to argue with other officers of the organization before making a decision or ruling.

(4) Other areas to consider

(a) A variety of produce - As much of a variety should be emphasized to draw customers. This will be difficult at some times of the year.
(b) Emphasize quality - "Trash" or culls won't sell even though it's fresh or locally grown. "If you wouldn't buy it, don't expect somebody else to."
(c) Don't overlook
   (1) Parking facilities
   (2) Signs that can be read easily and at a distance
   (3) Scales for weighing
   (4) Selling containers - paper bags? customer's own?

As we emphasized earlier, the exact nature of the operations will vary according to the locale. A well-planned and organized outlet can indeed be very productive and beneficial to small growers in an area.

We would be happy to help any agent interested in pursuing this area further.

(Kostewicz)

III. HARVESTING AND HANDLING

A. Pepper Research Conference

Florida, as the nation's leading producer of sweet peppers, was host on January 9 and 10 for the 2nd National Pepper Research Conference attended by approximately 85 people from state and federal agencies and industry representatives located throughout the United States. The purpose of this conference, coordinated by Dr. T. A. Zitter of the Agricultural Research & Education Center, Belle Glade, was an exchange of the latest research information on peppers among the scientific community to determine where we stand and where we should be headed.
The harvesting and postharvest sessions of the program began with discussions and movies of pepper harvesting machines. Joe Freeland of the McIlhenny Company, Avery Island, Louisiana, showed how jets of water could be used to selectively harvest red-ripe Tabasco peppers from tall plants without damaging the green peppers to be harvested at a later date. These peppers mature first near the base of the plant and later fruit develop at progressively higher levels. This mechanical harvester straddles a row of plants and those nozzles on each side of the row which are level with the area of ripe peppers are turned on to move the fruits to one side and snap them from the stems.

J. G. Futral of the Georgia Experiment Station at Experiment, Georgia, reported on their successful pimiento harvester which has been adapted to harvest bell peppers with counter-rotating picking cylinders that remove the fruit with a combination shaking and snapping action. This harvester also has cleaning rolls that remove leaves and stems and a sizer to discard small fruit. L. N. Shaw of the Agricultural Engineering Department at the University of Florida, showed movies of his bell pepper harvester designed for selective harvesting of fruit that have reached marketable size by a combing and pulling action. The high detachment force for Early Calwonder peppers for this type of harvesting has resulted in much plant breakage and fruit damage.

Decay caused by bacterial soft rot is second only to mechanical injury as the principal causes of cullage of Florida peppers in New York wholesale and retail markets. J. A. Bartz of the Plant Pathology Department, University of Florida, reported that pepper varieties were not equally susceptible to soft rot. After inoculation with the soft rot organism, fruit that rotted ranged from 3 to 75% among varieties and the tolerance was inherited. R. H. Segall of the USDA Agricultural Research Service, Orlando, told the researchers at the conference that much of the soft rot in peppers resulted from contamination by the causal bacteria during packinghouse washing. Pepper soft rot could be increased by adding bacteria to the wash water, and effectively controlled by maintaining a chlorine concentration of 20 to 250 ppm in the water.

Other characteristics that affect marketability of peppers such as size, firmness, wall thickness and color were discussed by R. K. Showalter of the Vegetable Crops Department, University of Florida. As peppers grow to marketable size, wall thickness increases and they become more firm, but peppers in retail stores are often soft and flabby with no evidence of decay. Loss of moisture and firmness during marketing is a principal form of quality deterioration that can be reduced by better packaging and handling. There has been very limited market demand for mature bell peppers which are red in color, but sales are increasing. R. F. Matthews of the Food Science Department, University of Florida, reported that red peppers have ten times as much β-carotene as green peppers. Peppers are also high in vitamin C and a 100 gram serving of green or red pepper could provide 300% of the recommended dietary allowance. Recently enacted regulations permit voluntary nutritional labeling of processed foods and the fresh fruit and vegetable industry is now seeking ways to inform the public of the nutritional composition of fresh produce.

The pepper researchers concluded their conference by visiting pepper harvesting and packing facilities and the Pompano State Farmer's Market to better acquaint themselves with the status and needs of the industry.
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IV. VEGETABLE GARDENING

A. Timely Gardening Topics

These questions and answers are provided for your use in developing periodic (weekly) radio or newspaper briefs. They are based on letters of inquiry received from Florida gardeners.

(1) Timely Topic for week of February 16-21.

Question

I have more seed potatoes than I have room to plant in my garden. Would it be okay to eat the extras?

Reply

Potato tubers purchased for seed purposes should not be eaten. Frequently, such tubers have been treated with highly poisonous chemical solutions for the purpose of breaking the "rest period" of the potatoes. Such a rest period occurs after harvest when the tuber buds will not develop sprouts even though environmental conditions are favorable. Therefore, like all "treated" seed, seed potatoes should not be eaten as food by humans or animals.

(2) Timely Topic for week of February 23-March 1.

Question

I have a source of chicken manure. Do you advise my using it in my vegetable garden?

Reply

Chicken and other animal manures are very beneficial to gardens, especially on the sandy soils of Florida. The value of manures depends on the plant nutrients they contain and their effectiveness in improving soils.

Plant nutrients in manures come entirely from the feeds consumed by the animals excreting them and from the bedding or litter used. The animals themselves neither create nor add fertility. They merely excrete part of the nitrogen and some of the minerals and organic matter contained in their feeds. The fertilizer value of feeds excreted varies with the kinds of animals, their ages, and their condition.

In general, most Florida gardens will benefit from applications of animal manures within a range of from 15 to 25 pounds per 100 square feet, or 3 to 5 tons per acre broadcast.

(3) Timely Topic for week of March 2-8.

Question

I want to grow a few rows of sweet potatoes in my garden. How do I get seeds or plants?
Reply

Sweet potatoes are started "vegetatively"—that is, from transplants or vine cuttings, rather than from seeds. Transplants, also called draws or slips, are usually grown from bedded roots. A vine cutting is obtained by cutting off a 12-inch section of a vine growing in the field. As a gardener, your best procedure would be to purchase transplants from the local garden supply stores. Failing there, you should write to the State Departments of Agriculture in such states as Georgia, Alabama, North Carolina, Louisiana and Mississippi, for lists of Certified Sweet Potato growers in their respective states.

(4) Timely Topic for week of March 9-15.

Question

What might be causing my radishes to produce small spindly roots or no roots at all?

Reply

There are several possible explanations. First, some varieties are better adapted to Florida's climatic conditions than others. Even these react differently to seasonal changes. Most have shorter tops and better roots during cool periods than during warmer growing periods. Some varieties produce mostly tops with spindly or elongated roots during prolonged warm spells. In one test with one variety, Cherry Belle, 85% of the roots produced in April was elongated, while only 12% was elongated in January and 18% in October. Such varieties as Red Prince, Scarlet Knight, and Icicle should be tried throughout Florida.

Other possibilities are too close spacing, in the row and between rows, resulting in shading and crowding; too much shade from trees or buildings, too much fertilizer and too deep planting.

(Stephens)

B. Know Your Vegetables - Dry Beans

Dry beans, also called field beans, belong to the same botanical classification as garden beans—Phaseolus vulgaris. Edible dry beans include a wide assortment of varieties, differing in size, shape and colors. While the dry edible bean is a basic food item found in the markets of cities of every continent, it is fast becoming of interest to home gardeners wishing to produce as much of their food as possible.

Unlike garden beans, dry beans are allowed to mature in the pod on the plant. These beans are used generally as a soup bean, a stewed bean, or as a baked bean.

The following are some of the more popular types grown in the United States:

(1) Pea (Navy) - round, white seed.
(2) Great Northern - similar to enlarged, lengthened Navy beans.
(3) Pinto - similar to Great Northern in size, but more plump; color pinkish buff blotched with dark brown.
(4) Cranberry - Horticultural type; plump, oblong; buff splashed with carmine.
(5) Red Kidney - long, broad-oval, kidney shaped, vary from pink crimson to reddish brown.
(6) White Kidney - similar to red kidney, but white.
(7) White Marrow - short, plump, rounded, white.
(8) Black Turtle Soup - also called Black Spanish, Tampico and Venezuelan. Small, elongated, flattened, round ends, jet-black color.
(9) Yellow Eye - large, broad, plump, white, with distinct darkened area around the hilum.
(10) Jacobs Cattle - plump, elongated, rounded ends, unusual color pattern having brownish crimson round spots and blotches on cream surface.
(11) Soldier - intermediate in shape between navy and marrow; brownish red with blotchy markings.
(12) Regular beans - planted for fresh use. May be dried and stored in a home gardening situation.

Traditionally, dry beans have been grown commercially in western states and such states as Maine, Michigan and New York. Production in Florida has been limited, not only because of marketing situation, but due to rainy weather conditions during the curing and drying periods. Dry beans grow best between 65° and 75°F.

For those wishing to try growing dry beans in Florida, allow about 120 days for production in the early spring or late in the fall and follow a cultural program of spacing, seeding and fertilization similar to that for fresh bush snap beans or southern peas. High temperatures and humidity cause damage to the beans curing on the plant or in windrows. Allow the beans to become mature and the beans dried down in the pods; then pull the pods and shell the dried beans. Curing is sometimes necessary on the colored varieties and Navy beans by piling in windrows, then turning and drying out the beans in about two days. More curing is needed if wet, humid weather sets in during harvest. An alternative approach to drying the beans as quickly as possible is to pull the plants with pods attached and hang or spread in an airy, sheltered place.

(Stephens)