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

FROM: James M. Stephens, Extension Vegetable Specialist

VEGETARIAN NEWSLETTER 76-5

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NOTE: Anyone is free to use the information in this newsletter. Whenever possible, please give credit to the authors.
A. Vegetable Crops-Rural Development Publication Available

The first in a series of department reports summarizing research results from our rural development efforts to date is available. The publication is: Seasonal Response of Vegetable Crops for Selected Cultivars in North Florida. I. Legumes, Vegetable Crops Research Report 1-1976, L. H. Halsey and S. R. Kostewicz. Agents desiring copies of this report can write the authors in care of the Vegetable Crops Department.

(Kostewicz)

B. Miscellaneous Publications Available

The Vegetable Crops Department has a limited supply of relatively old USDA circulars. Although not suitable as handouts to the public due to out-of-date recommendations, these circulars contain much useful reference material, information and photographs. Those agents desiring a copy, please contact this office. Following is a list of those on hand. Supply limited.

(1) Aphids on Leafy Vegetables--How to Control Them (Farmer's Bull. No. 2148)
(2) Growing Table Beets (Leaflet No. 360)
(3) Carrot Production in the United States (Ag. Handbook No. 375)
(4) An Illustrated Guide to the Identification of Some Market Disorders of Head Lettuce (Marketing Research Report No. 950)
(5) Potato Packinghouses--Guidelines for Plant Layout (Marketing Research Report No. 975)
(6) Growing Pumpkins and Squashes (Farmer's Bull. No. 2086)
(7) Strawberry Culture (Farmer's Bull. No. 1028)
(8) Strawberry Diseases (Farmer's Bull. No. 2140)
(9) Commercial Growing of Sweet Corn (Farmer's Bull. No. 2042)
(10) Insects Affecting Sweetpotatoes (Ag. Handbook No. 329)
(11) Commercial Production of Tomatoes (Farmer's Bull. No. 2045)
(12) Production of Seedless Watermelons (Technical Bull. No. 1425)

(Kostewicz)

II. COMMERCIAL VEGETABLE PRODUCTION

A. On-Farm Testing by Vegetable Growers

Many vegetable growers in Florida conduct various types of trials on their farms each season. These trials may include simple practices like testing new varieties, soil fumigants, fertilization rates or placements, etc. They need not be overly time-consuming or expensive to yield valuable information to growers. The purpose of this article is to give a few pointers to growers which might help them get the most out of on-farm trials with minimal effort and cost.

The first and most important piece of advice is not to abandon a successful practice without first testing the newer practice on limited basis for at least one season or preferably more. Limited basis, as used here, means exactly what it says. One or two rows of a new variety in the middle of a field may be adequate. There is no need to use the test practice on large acreages. The cost on a limited trial basis can be negligible as compared with large plots. Additionally, small tests can be repeated several times or at several locations to insure greater accuracy in observations.
There are several other minor suggestions which, if followed, might avoid partial or complete failure of on-farm tests. Label the test plots with marker stakes, briefly describing treatment, date, etc. Make a map of the test area and record it safely in case markers are lost. The test plots should be treated, as nearly as possible, just like the regular planting to which it is being compared.

Last but not least, plan to obtain all the information possible from the trial. This includes not only final yields and quality, but growth and development characteristics which might prove to be very valuable at a later date.

Grower trials can be of considerable benefit if properly conducted. More growers should conduct on-farm trials to gain experience and knowledge which can be of great benefit for the improvement of farming practices. Growers who are already carrying out trials on their farms might make them more efficient by simply following advice given in this article.

(Montelaro)

B. Some Ripening Characteristics of the 'Morgan' Melon

'Morgan', a new honeydew type melon, was released by the Institute of Food & Agricultural Sciences this past March (Florida Ag. Exp. Station Circ. S-241). This high sugar, green fleshed, creamy-white skinned, non-netted melon could play a very important part in the commercial vegetable industry of Florida in the future.

In many ways, 'Morgan' resembles and tastes like the true honeydew (Cucumis melo var. inodorus), but some differences in ripening characteristics deserve careful consideration. In the early stages of growth, both types grow rapidly in length, are uniformly light green in color, and are very hard and hairy. As they reach maturity, both begin to slow in lengthwise growth and increase in diameter.

In the hard ripe stage, normal fruit size has usually been reached, but there is very little aroma present which characterizes ripe fruit, the flesh is hard, and the skin color fades from a dull greenish white to a creamy white. Fruit picked in this stage usually do not ripen adequately without ethylene treatment. At this stage of maturity, often referred to as shipping maturity, a soluble solids level of 10% (mostly sugars) may be expected if a good vine cover is present. Loss of leaves due to disease, insects, poor nutrition, or inadequate soil moisture may seriously alter the production of sugars, flavor, and aroma components.

For both types of melons, grown in a "normal" spring season, flowering may be expected about 6-7 weeks after planting, and first harvest 7-8 weeks after flowering starts. Fruit harvested "younger" than 6 weeks old will usually not ripen properly even with ethylene treatment.

As the two varieties reach true "horticultural maturity" (the most desirable stage for eating), a rich aroma becomes evident, a waxy coating may be felt on the creamy white surface, and a slight softening of the blossom end may be noted. As "botanical maturity" develops, the creamy white color becomes yellow, the flesh becomes watery soft, the surface waxiness becomes greasy and the aroma becomes very strong.

Some differences between 'Morgan' and other honeydews appear in the period between hard ripe and horticultural maturity. In the common muskmelon (Cucumis melo var. reticulatus), the fruit separates naturally from the vine as botanical maturity approaches, a process called slipping. Approximately 3-10% of the honeydew type slip naturally. In a Fall, 1975, maturity study with 'Morgan', 100 melons were
examined at four harvests for seven external ripening characteristics, taste and soluble solids content. Only 24% of the melons tested exhibited any slip evidence. Expressed in five categories (1, no slip to 5, full slip), there was no statistical difference in sugar content among groups:

<table>
<thead>
<tr>
<th>Slip</th>
<th>Average % soluble solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12.3</td>
</tr>
<tr>
<td>2</td>
<td>12.4</td>
</tr>
<tr>
<td>3</td>
<td>12.1</td>
</tr>
<tr>
<td>4</td>
<td>12.6</td>
</tr>
<tr>
<td>5</td>
<td>11.9</td>
</tr>
</tbody>
</table>

A waxy covering, characteristic of honeydew ripening, is not a very reliable test of maturity in 'Morgan'. Of the seven external characteristics measured, only surface reticulation (mild to heavy skin cracking) correlated with high sugar development (1% level). Yellowing of the surface correlated with cracking, slipping and blossom end softening (1% level), but did not seem to be related to high sugar development.

A search for more reliable and earlier external indicators of high sugars will be continued. For melons to be treated with ethylene, the hard ripe stage should be used.

In preliminary ethylene treatment studies, it was found that only early hard ripe to late hard ripe melons were enhanced by treatment. For local market use, the appearance of an early, slight reticulation of the surface seems to be a good index that high sugars, full flavor and rich aroma will be present. The average sugar level for the entire group in this category ranged from 12.10 to 16.00%, a pretty sure bet that a consumer would be happy with this new addition to the Florida vegetable family!

(Marlowe)

III. VEGETABLE GARDENING

A. Timely Gardening Topics

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

(1) Timely Topic for Week of May 16-22

Question

I would like to build a storage structure (cistern) large enough to provide all the water my garden will need. How large should it be?

Reply

Certainly it will depend on several factors, the greatest of which are size of your plot, rainfall pattern, and your method of application.

Most vegetables irrigated by sprinkling require an average of one inch of water per week. This amounts to 27,000 gallons each time a one-acre garden is sprinkled.

Since the average size garden is about 1,000 square feet, you will need 1/43 of this amount each week, or roughly 600 gallons per week. Sprinkling this amount from storage would require a pump rather than a gravity-feed system. At least two other techniques utilize less water and could operate through simple gravity flow. These are trickle irrigation and hand watering.
Since good growth of vegetables is possible with only 1/3 the water utilized by sprinkling, the trickle concept should be investigated where water is stored in containers for irrigation. Thus, only 200 gallons per week need to be provided for a trickle system on a 1,000 square feet garden.

(2) Timely Topic for Week of May 23-29

Question

What causes my lettuce to grow tall instead of short and compact?

Reply

The lengthening of the plant usually is due to the formation of a seed stalk, a condition commonly referred to as "bolting". It occurs on plants that have been growing for several days at very warm temperatures. Generally, lettuce requires cool nights (50°F) and mild days (75°F) for best plant growth and desired shape. Therefore, it is important to plant lettuce in Florida during the winter or early spring.

Some kinds and varieties of lettuce are affected to a greater degree by warm weather than others. Crisphead lettuce is particularly prone to "bolt" and becomes puffy during warm weather. Several varieties of lettuce have been observed to be resistant to bolting under conditions that allow other less tolerant varieties to produce seed stalks. For example, some of these more resistant varieties are: 'Summer Bibb' (butterhead type), 'Green Boston' (butterhead), 'Improved Bibb' (butterhead), 'Vanguard' (crisphead), 'Bellaverde' (crisphead), 'Climax' (crisphead), and 'Parris Island Cos' (romaine type).

While these are not the only varieties having some degree of tolerance to bolting, gardeners who are trying to extend the planting season into April and May may want to include these on a trial basis.

(3) Timely Topic for Week of May 30-June 5

Question

I have a considerable number of small onion-like plants growing wild around my garden (see example enclosed). Would you please identify and tell me if it is edible.

Reply

The specimen you sent looks more like a leek than an onion. Yet, the botanists say it is the Wild Onion, Allium canadense. It is quite common in Florida. The swollen bulb portion of the plant closely resembles the ordinary bunching onion. It is bright white, rounded on the swollen lower end, with short, whitish roots. The tops are quite different from the regular onion, more closely resembling leek than onion. The leaves are blade-like, flattened, pointed, light yellowish-green in color. A central seed-stalk produces a seed pod similar to a "king's crown", one-half inch or so in diameter. The bulbs are strongly scented with the onion pungency. The plants can cause difficulty for dairymen or milk-cow owners. When the plants are eaten by cattle, the odor comes through the milk. The wild onion is non-poisonous and may be used as green bunching onions.
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(4) Timely Topic for Week of June 6-12

Question

I have grown a huge radish, weighing about 25 pounds, and believe it may be some sort of record. Who could tell me if it is a record and if so, record it officially?

Reply

Record sizes of vegetables and other farm products are not kept officially in the State of Florida. I am not sure if any other state maintains a record system for such products. Such private firms as the Guinness Book of Records may be interested in your large radish.

It is not unusual for the Chinese and Japanese radishes to grow to 25 pounds. The large, many-leaved plants produce immense roots two feet across and weighing 40 to 50 pounds. Of course, 25 pounds may be a record for Florida growing conditions, but we have no official documentation procedure to rely on for verification.

(Stephens)

B. Know Your Vegetables - Asparagus Bean

Asparagus bean (Vigna unguiculata var. sesquipedalis) is also known as Yard Long Bean, Peru Bean and Snake Bean. It is closely related to southern peas or cowpeas. As the names imply, the pods are quite long, often reaching 36 inches long. These long immature pods are often used as snap beans due to their fleshy brittleness. The annual climbing plant resembles the southern pea, but is much more trailing and climbing, often reaching 9 to 12 feet in height. The plant is quite ornamental due to the large violet-blue flowers.

Asparagus bean is seldom grown in Florida even in home gardens. When seeds are planted in late March in the Gainesville area, the plants produce pods quite well. The cultural requirements and problems are much like those for southern peas. However, due to the long trailing nature of the plant, a six foot trellis support should be provided. Space plants 8-12 inches in the row and 3 to 4 feet between rows.

The pods should be picked before the seeds mature. In this tender stage, they can be snapped and cooked in various ways. Some suggestions are: (a) stewed with tomato sauce, or (b) after boiling and draining, seasoned with lemon juice and oil, and (c) simmered in butter with oil and garlic.

(Stephens)