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Contents

I. NOTES OF INTEREST
   A. Vegetable Crops Calendar.
   B. New Publications.

II. COMMERCIAL VEGETABLES
   A. Production of Seedless Watermelons: Part 2.
   B. Fresh Produce Is Best Source of Vitamin A for Senior Citizens.
   C. Quality Produce - Is Branded Better?

III. PESTICIDE UPDATE
   A. Sethoxydim (Post) Labelled on Potatoes.

IV. VEGETABLE GARDENING
   B. Master Composters of Seattle.

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I. NOTES OF INTEREST

A. Calendar.


November 7, 1988. State Master Gardener Advisory Committee Meeting, 1308 Fifield, University of Florida. (Contact Kathleen Ruppert).


June 19-23, 1989. 4-H Horticulture Institute. 4-H Camp Ocala (Contact Jim Stephens).

B. New Publications.


An illustrated compilation of cultural, descriptive and historical information about a multitude of "minor," "miscellaneous," or lesser-known vegetables.

The MANUAL is designed to familiarize the reader with over 100 so-called "minor" vegetables. It includes 175 illustrations and an extensive index of scientific and synonymous common names. A brief discussion of each vegetable includes its description, history, climatic adaptations, cultural requirements, and common uses, with growing tips for Florida gardens.

To Order: see article on same subject in this newsletter, p. 5.

II. COMMERCIAL VEGETABLES

A. Production of Seedless Watermelons: Part 2.

Refer to the September Vegetarian for information on development of seedless watermelon hybrids, the need for and arrangement of pollenizer rows, and the importance of adequate bee population for production of symmetrically-shaped fruit.

Discussion in this section will focus on the characteristics of triploid seed and crop establishment.
Triploid seed, i.e. seed resulting from a cross between a female tetraploid parent and a male diploid parent, is used for production of seedless watermelons. This seed differs in at least two morphological characteristics from common watermelon seed: the triploid seed coat is considerably thicker and the embryo is smaller. The combination of these two factors usually results in weaker and perhaps lower germination. Accordingly, use of containerized transplants for crop establishment is preferable to field seeding.

In tests conducted at the Gulf Coast Research and Education Center, it was found that germination of seedless watermelon seed was highest at 82 and 91°F. Lower germination occurred at 73° whereas at 64°F, germination was only 28%. Therefore, germination temperatures of about 80° are recommended for seedless watermelon seed.

Because of the thick seedcoats and relatively weak embryos, seedcoats sometimes adhere to cotyledons after the plants have emerged. Distorted seedlings are produced if the seedcoats do not split apart naturally or, with the risk of breaking the stem, are physically removed. Seedcoat adherence to cotyledons can be significantly reduced by orienting the seed in the growing mix. Seed placed with the radicle (pointed) end up at 45° or 90° had a much lower percentage of cotyledons with adhering seedcoats compared to those placed horizontally or with the radicle end down at 45° or 90°.

Results of seedless watermelon variety trials will be in the November Vegetarian.

(Maynard, Vegetarian 88-10)

B. Fresh Produce is Best Source of Vitamin A for Senior Citizens.

Elderly Americans should get their vitamin A from fruits and vegetables rich in beta carotene -- a nontoxic source, according to a recent study conducted at the Human Nutrition Research Center on Aging at Tufts University in Boston. Senior citizens who get their vitamin A at the drug counter may be building up toxic levels because prolonged daily use of supplements containing retinyl esters, the pure form of vitamin A used in multivitamins, can lead to low-level toxicity. Retinyl esters are not toxic themselves but once in the blood they can be converted into free retinyl, which is toxic.

In a survey of 562 men and women over 60, half reported taking drug counter supplements and several of the participants who had taken these preparations daily for more than 5 years had retinyl ester levels two to three times normal and showed early signs of liver damage. Younger people apparently don't have the same buildup of retinyl esters, the researchers found.

Florida produces an abundance of carrots, squash, tomatoes and dark-green leafy vegetables which are rich in vitamin A. Our high population of senior citizens would be well advised to obtain their vitamin A from these fresh vegetables instead of the drug counter supplements that may be "hazardous to their health".

(Gull, Vegetarian 88-10)

C. QUALITY PRODUCE--Is Branded Better?

First impressions are important but we don't eat impressions. While eye-catching cartons may be image enhancers and product appearance may
be great, there are other factors that determine produce purchases. Unlike manufactured goods where quality control can be minutely regulated, fresh produce is affected by a multitude of environmental factors and therefore consistency of quality is somewhat variable.

Packing by brand name has implied that the produce is of superior quality to non-branded or generic produce. While this may be the case in certain situations, it is not universal as perceived by the customer, according to The Packer's Fresh Trends 1988. Desirability of branded produce was based on six characteristics: taste/ flavor, quality, appearance, price, size, and storage life (the first 3 were slightly more important than the last 3). Of the respondents 60 years of age & older, 57% felt branded produce was superior, while 29% of those between the ages of 18-29 felt branded produce was better. From an income level, 54% of respondents in the lower income level (less than $10,000) felt branded produce superior, and 39% of those in the higher income level ($30,000 or more) were so inclined. However, the majority of respondents felt that markets should carry branded produce.

Origin labeling was not important to the retail customer as only 14% indicated it was a concern. Preferred growing areas were associated with a particular product, for example, California avocados, grapes, lettuce; Georgia onions (Vidalia); Idaho potatoes; Washington apples; Florida citrus; and "locally grown" products of most types.

Various labeling information may influence customers to purchase branded produce rather than generic. Two factors which were most influential in the purchase of branded produce were type/variety information and nutritional information; the factor of least importance for influencing purchases was identification of the grower or marketer.

As expected, most branded produce was associated with various types of fruit. A vast majority of the respondents indicated having no brand preference for vegetables. Actually, most vegetable displays at retail do not feature identification of brand, or label information except in conjunction with special promotion or point-of-sale materials which have been previously supplied.

If Florida vegetable growers expect to enhance their competitive position in the marketplace, they should pack in a container that is attractive and will appeal to buyers/handlers and at the same time protect the contents, and improve the packed product such that when displayed at retail the vegetables will have appearance and quality equivalent or superior to vegetables from other areas.

(Gull, Vegetarian 88-10)


Sweet corn ranks among the most highly perishable of the vegetable crops. A freshly harvested ear respires at very high rates under ambient temperatures, reducing subsequent storage life in several ways. First, water from the kernels and cob is lost through the husk by transpiration. This causes denting in the kernels and desiccation and loss of green color in the husk leaves. Second, the kernel pericarp continues to toughen with time. Third, sugars in the kernels convert to starches, particularly with standard cultivars, such as 'Silver Queen', and the sugary-enhanced
cultivars. However, with greater acceptance of the shrunken-2 cultivars by the Florida industry, conversion of sugars to starches has been greatly reduced when compared to the other sweet corn types. For these reasons, the recommended storage conditions for sweet corn are 32°F (0°C) and greater than 95% relative humidity (Hardenburg, et al., 1986). This includes the packing-house, transport and warehousing storage conditions.

Virtually all commercial sweet corn operations in Florida precool to some extent; however, in some cases, the term "precooling" is used quite loosely. In order to be effective, precooling must be properly defined. A working definition of commercial precooling is the timely removal of at least 3/4 of the field heat from a particular crop by a recommended method. Notice that there are three components to this definition.

Timeliness: Once the crop is harvested, field heat must be removed as quickly as possible to slow respiration. In the case of sweet corn the precooling treatment should be applied within a few hours of harvest.

3/4 Cooling: A successful precooling treatment should remove at least 3/4 of the difference between the initial pulp temperature and the recommended storage temperature. The remaining 25% of the field heat should be removed in the cold room to a final storage temperature of 32°F. Failure to achieve 3/4 Cooling is one of the most overlooked aspects of many cooling operations. This will be discussed in more detail after the following section.

Recommended Precooling Method: The precooling method should not adversely affect the quality of the crop. Since sweet corn is very susceptible to water loss, hydrocooling has traditionally been the most common precooling method for corn packed in wirebound crates. Vacuum cooling is also used in conjunction with a water drench. In more recent years, slush icing has been used as the sole precooling treatment. Slush icing (also known as liquid icing) refers to the injection of a mixture of crushed ice and water into an oversized container. This method is a variation of the more traditional method of package icing, in which crushed ice is placed over the top layer of a container.

The ability to achieve 3/4 Cooling is dependent upon three factors: the amount of time that the crop is in the pre cooler, the temperature of the cooling medium, and the degree of contact between the cooling medium and the crop surface. Since the majority of Florida sweet corn is hydrocooled, these three factors affecting precooling efficiency will be discussed related to hydrocooling.

Time: The precooling operation should be scheduled so as to permit sufficient resident time in the precooler. When the hydrocooler has insufficient "throughput" capacity, the manager may tend to "push the product through" in order to remain on schedule with the corn arriving from the field.

Water Temperature: For maximum cooling the hydrocooler water should be held at 32-33°F. The hydrocooler may not have adequate refrigeration capacity to be able to maintain this temperature throughout the day. Rising water temperatures would require increasingly longer residence times to achieve the same amount of cooling. As a rule, cob temperatures should be measured before and after hydrocooling. Water temperature should also be frequently measured. The cooling time will also have to be
increased if the incoming cob temperature rises during the day.

Degree of Water Contact: Water is an excellent cooling medium in that it has a high heat capacity. In order to utilize this capacity, the chilled water must have intimate contact with the surfaces of the ears. The greatest hydrocooling efficiency occurs with corn in bulk. Hydrocooling corn which is packed in wirebound crates reduces the degree of water contact; contact is reduced even further when palletized crates are hydrocooled.

Consistently high quality sweet corn can be purchased in distant markets when precooling is applied in a timely manner to achieve at least 3/4 Cooling by a method which maintains quality.

NEXT MONTH:
Presentation of recent research results comparing cooling rates of sweet corn commercially precooled by hydrocooling, vacuum cooling and slush ice cooling.

(Sargent, Vegetarian 88-10)

III. PESTICIDE UPDATE

A. Sethoxydim (Poast) Labeled on Potatoes.

Sethoxydim (Poast) has received a label for the control of grass weeds in potatoes. Poast controls actively growing annual grasses at 0.188 lbai (1 pt.) and perennial grasses at 0.28 lbai (1 1/2 pt.) in 5 to 20 gallons of spray per acre. Use 2 pints of a crop oil concentrate in the spray mixture. A total of 5 pints per acre may be applied per season. Do not apply within 30 days of harvest. Consult the label for rate for particular grass species and growth stage for best control.

(Stall, Vegetarian 88-10)

IV. VEGETABLE GARDENING


Florida's mild climate presents the home gardener with an opportunity to grow a wide assortment of vegetables, including not only the well-known types, but many other minor varieties. This factor, combined with that of our large population of retirees who have both the time and inclination to grow and experiment with every type of vegetable, results in gardens containing a multitude of miscellaneous vegetables.

Florida is also a national leader in the production of many vegetable crops for commercial purposes. These include 20 to 30 vegetables usually regarded as major crops. However, quite a few of the so-called "minor," "miscellaneous," or "other crops" vegetables are seasonally found scattered around the state in commercial fields.

Information on the major vegetables is extensive, both from a state and a national perspective. On the other hand, much less attention has been given to the development of cultural information on the minor vegetables, particularly with respect to the adaptability of these crops to Florida conditions. Therefore, this handbook represents an attempt to provide information on the so-called "miscellaneous" vegetables.

Although the use of "minor" and "major" is somewhat arbitrary, "major" is considered here to include those vegetables most often found in home gardens or produced commercially in Florida. Obviously there will be an overlapping of these two categories, with some major vegetables included, and numerous miscellaneous
vegetables of very minor importance omitted.

Vegetables included here are not only those adapted to and grown in Florida, but also many that are not well-adapted. The potential for production of a particular vegetable is discussed briefly in many instances, particularly in reference to home use. In fact, the information is more relevant to home garden than commercial production.

The information has been drawn from the author's quarter century of service to the Florida and national gardening public as Extension Vegetable Crops Specialist. It has been gathered from an array of publications, both popular and scientific, and from notes taken at seminars, workshops, and professional meetings where these crops were discussed.

The vegetables described in this manual are listed alphabetically according to a common name in the order in which they occur in the bulletin. The manual also lists the major vegetables that are not included. Common names are cross-referenced in the index.

Descriptions of vegetables provide first a common name followed by the accepted scientific name, according to *Hortus III* and Smith and Welch (Smith, P. C., and J. E. Welch. 1963. Nomenclature of vegetables and condiment herbs grown in the United States. J. Amer. Soc. Hort. Sci. 84:535-547). The text includes other common and related botanical names, history, description, climatic adaptation, and cultural information. In some cases, a discussion of harvesting, preparation, marketing, composition, and uses is included.

A photograph or illustration of nearly every vegetable occurs with the text. To supplement these, additional photographs can be found in the back of the manual.

**TO ORDER:**

To order send a check or money order in the amount of $3.00 (Florida residents add 6% sales tax ($0.18 per copy) to Publications, IFAS Building 664, Gainesville, FL 32611. Make checks payable to "University of Florida" (U.S. Banks Only).

(Stephens, Vegetarian 88-10)

**B. Master Composters of Seattle.**

It should be of interest to note the emergence of a gardening related project (program) in Seattle, Washington that may have implications for us here in Florida.

Seattle has begun a "Master Composters" program, based on the success of the "Master Gardener" program. Today, according to *Home & Family*, there are 100 accredited members, ranging from housewives to book editors and university professors, who spread the word about home composting.

They go through a 36-hour training course that includes both classroom and on-the-job instruction. Those who successfully complete the course are given a pitchfork, a compost thermometer, and a training manual. Then they are told to go out and spread the word wherever they can and to help gardeners make and use compost in the yard and garden.

To help with the effort, the city has a major composting demonstration site where 16 composting methods are on display. Their idea is to show a range of practical composting options so that homeowners can choose a system that best suits their individual lifestyles. Since
the program began in 1985, there have been over 150 guided tours of the plots and about 20,000 "how-to" brochures handed out.

The city's main objective was the removal of yard waste from the steady stream of municipal waste. In support of this objective, the City of Seattle funded the composting proposal turned in by a group called "Seattle Tilth".

More information on the program can be obtained by writing to:

Seattle Tilth Assc.
4649 Sunnyside Ave.
North Seattle, WA 93103

Send $26.00 for their packet that includes the original proposal, a training manual, educational plans, display site plans, outreach material, and a budget analysis.

(Stephens, Vegetarian 88-10)

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