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I. NOTES OF INTEREST

A. Vegetable Crops Calendar.


II. COMMERCIAL VEGETABLES

A. Sweet Corn Rust Resistance

Early in the growing season, a few rainy days and a missed fungicide application, or two, led to a healthy outbreak of rust in our sweet corn variety trial. There are thirty named varieties or experimental lines of Sh₂ sweet corn from seven sources that are being evaluated for marketable yield, ear size, ear tip fill, ear husk cover, and flags. Included are 19 yellow, six bi-color, and five white entries. Thirteen entries are named varieties and 17 are experimental lines.

The rust infestation was severe enough to reduce, and in some entries, eliminate marketable yield. Using a scale of 1 being a severe rust infestation, and 5 having few or no visible rust lesions on the leaves, each entry was given a numerical value. Eight entries had good rust resistance with one being moderately resistant. Yellow corn with a rating of 4.5 or better was Bandit (Harris Moran), Prime Plus (Rogers), GSS-3587 (Rogers), HMX 5351S and HM2384S (Harris Moran). BSS-1605 (Rogers) was the only bi-color in this trial with rust resistance, but BSS-9686 (Rogers) did have a score of 3.5 (intermediate). Two white-kneled corn entries showed resistance, Ice Queen (Harris Moran) and FMX 413 (Ferry-Morse). In a nearby grower field where fungicide applications were made in a timely fashion, Day Star (Harris Moran) was rated 4.5, but in our trial it was rated 2.5.

This trial identified several Sh₂ sweet corn varieties and several experimental lines with excellent rust resistance. They may be recommended to organic growers and those interested in reduced spray applications. Yield data and other results will be included in a Research Report available shortly after harvest is completed.

(White and Tyson, Vegetarian 97-06)

B. 1997 Florida Agricultural Conference and Trade Show.

VEGETABLES

George Hochmuth, Program Coordinator

Tuesday, September 30
Morning Session
Title: Insect Management for Vegetables
Moderator: Jim Fletcher, Extension Director, Madison County, Madison, FL

9:00 AM Shifts in Major Florida Vegetable Insect Pests, Dr. David Schuster, Entomologist, GCREC, Univ. of Fla., Bradenton, FL
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:20 AM</td>
<td>Insect Transmitted Viruses - Past, Present, Future: Solanaceous Crops, Dr. Jane Polston, Virologist, GCREC, Univ. of Fla., Bradenton, FL</td>
</tr>
<tr>
<td>9:40 AM</td>
<td>Insect Transmitted Viruses - Past, Present, Future: Cucurbit Crops, Dr. Susan Webb, Virologist, CFREC, Univ. of Fla., Leesburg, FL</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>New Technologies to Combat Viruses in Vegetable Crops, Dr. Tom Kucharek, Plant Pathologist, Plant Pathology Department, Univ. of Fla., Gainesville, FL</td>
</tr>
<tr>
<td>10:20 AM</td>
<td>Panel Discussion - The Role of Scouting Use of &quot;Soft&quot; Pesticides, and Encouraging Beneficials in Managing Vegetable Pests</td>
</tr>
<tr>
<td>1:50 PM</td>
<td>Export Opportunities to Emerging Markets, Ellen Welby, Marketing Specialist, USDA, Washington, D.C.</td>
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<tr>
<td>2:10 PM</td>
<td>Competitiveness of Florida Vegetables, Tom Mueller, Product Manager, Rogers Seed Company, Naples, FL</td>
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<tr>
<td>2:30 PM</td>
<td>Direct Marketing, Alden Miller, Mass. Coop. Ext. Serv., Waltham, MA</td>
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<tr>
<td>2:50 PM</td>
<td>Experiences in Local Marketing, David Solger, County Extension Director, Washington County, Chipley, FL</td>
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<tr>
<td>3:10 PM</td>
<td>Panel Discussion</td>
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**Wednesday, October 1**

**Morning Session**

Combined Vegetable Citrus Session

**Wednesday, October 1**

**Afternoon Session**

Title: Regulations, Rules, Registrations in the Vegetable Industry

Moderator: Austin Tilton, Extension Agent, Putnam County, East Palatka, FL

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:30 PM</td>
<td>Surviving an Environmental Audit, Dale Dubberly, Bureau Chief of Compliance, Dept. of Agr. and Environmental Serv., Tallahassee, FL</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>Regulations Affecting the Vegetable Industry, Roy Carnler, Professor, Food and Resource Economics, Univ. of Fla., Gainesville, FL</td>
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**Tuesday, September 30**

**Afternoon Session**

Title: New Marketing Strategies for Florida Fresh Produce

Moderator: Stephen Brown, Extension Agent, Lee County, Ft. Myers, FL

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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:30 PM</td>
<td>Recent Developments in Fresh Produce Regulations, Doug Archer, Chair, Food Science and Human Nutrition, Univ. of Fla., Gainesville, FL</td>
</tr>
</tbody>
</table>
Since Fall 1996 significant progress has been made toward forming a working group of researchers who are working on innovative techniques and practices which will improve the competitiveness of Florida-grown tomatoes. This group is comprised of individuals from several UF/IFAS departments and REC’s as well as the USDA/ARS whose areas of expertise include breeding, molecular biology, culture/nutrition, postharvest physiology & technology, sensory analysis, flavor chemistry and marketing.

As John VanSickle (Food & Resource Economics Dept.) and I outlined in our talks at the 1996 Florida Tomato Institute, the overall goal of this program is to develop and evaluate new techniques and technologies which will allow Florida grower/shippersto compete with other production areas with consistently high-quality tomatoes within the constraints of our production systems.

An example of an on-going project is that of Fernando Maul, a graduate student in the Horticultural Sciences Department, who is studying the effects of harvest maturity and handling conditions on tomato quality. Fernando and Dr. Charles Sims (of the Food Science & Human Nutrition Department) are currently training a descriptive taste panel for tomato flavor. In several recent tests, panelists were presented lightly blended samples of tomatoes at table-ripe stage. They were able to distinguish between tomatoes which had been ripened under several different scenarios. For example, they could detect flavor differences between tomatoes which were harvested “vine-ripe” (pink to light-red stage) and those which required 2 days gassing to reach breaker stage (Table 1). They were also able to determine differences between those requiring 2 and 3 days gassing. In a separate test, panelists also found a difference between “vine-ripe” harvested tomatoes and those which required 4 or 5 days gassing (data not shown).
Table 1. Perceived differences by taste panelists between table-ripe tomatoes which were harvested “vine-ripe” or gassed using Difference from Control Test.

<table>
<thead>
<tr>
<th>GASSING TREATMENT</th>
<th>DIFFERENCE FROM CONTROL RATING</th>
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<tbody>
<tr>
<td>Vine-Ripe Control</td>
<td>3.10 a^2</td>
</tr>
<tr>
<td>1 day to breaker</td>
<td>4.25 ab</td>
</tr>
<tr>
<td>2 days to breaker</td>
<td>4.55 b</td>
</tr>
<tr>
<td>3 days to breaker</td>
<td>6.65 c</td>
</tr>
</tbody>
</table>

^2 Different letters within a column represent significant differences as determined by Duncan’s Multiple Range Test at P<0.05.

In a third test one group of tomatoes at breaker stage were stored below the recommended temperature of 55F (12C) at 41F (5C) for 7 days and allowed to ripen, while another group was ripened and then stored at the same temperature for 7 days. These conditions could be encountered at times during commercial handling. Panelists could distinguish between tomatoes which had been harvested “vine-ripe” and those ripe tomatoes stored for 7 days at the low temperature (Table 2). Tomatoes stored at breaker stage at the low temperature, though rated higher than the control, were not statistically different from the other treatments.

Table 2. Perceived differences by taste panelists for table-ripe tomatoes which were harvested “vine-ripe” or stored at breaker or ripe stages for 7 days at 41F (5C) (Difference from Control Test).

<table>
<thead>
<tr>
<th>STORAGE TREATMENT</th>
<th>DIFFERENCE FROM CONTROL RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vine-Ripe Control</td>
<td>2.00 a^2</td>
</tr>
<tr>
<td>Stored at Breaker Stage</td>
<td>4.45 ab</td>
</tr>
<tr>
<td>Stored at Full-Red Stage</td>
<td>6.54 b</td>
</tr>
</tbody>
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^2 Different letters within a column represent significant differences as determined by Duncan’s Multiple Range Test at P<0.05.

These results indicate that development of “home-grown” tomato flavor during ripening can be suppressed by harvest maturity and subsequent handling temperature. We will continue to determine the effects of simulated commercial handling on final tomato flavor in the upcoming months.

(Sargent, Vegetarian 97-06)
III. PESTICIDE UPDATE

A. Status of Mineral Spirits as a Herbicide.

At the present time there is not a label for the use of mineral spirits/Stoddard Solvent as a herbicide. Agents should take note that this product should be removed from the recommendations on carrots, celery etc.

Carrot growers in Ohio, Michigan, as well as Florida have inquired on registering the product for use as a herbicide. This does not look promising.

Michael Aerts in the pesticide coordinator’s office has been researching the problem with these other states and EPA. Our understanding of the status of mineral spirits is as follows:

A. Mineral spirits are classified as aliphatic petroleum hydrocarbons along with many other petroleum compounds. Aliphatic petroleum hydrocarbons are classified as a group as exempt from tolerance. They are not exempt when applied at the time of or after harvest.

B. Companies may not sell mineral spirits as a herbicide unless there is a label for that use. There is not a label. Companies may sell mineral spirits to anyone, however, as mineral spirits with no warranty as a herbicide.

C. Private applicators may apply mineral spirits to their own crop. It is exempt from tolerance. A private application is liable for any damage to their own crop from its application and liable for any environmental damage should any be discovered.

D. A commercial/custom applicator is prohibited from applications of mineral spirits to any crop that is not their own. There must be a label for custom application as a pesticide. There is NONE.

At the present time we know of no registrant that is willing to reregister mineral spirits as a herbicide. I do not look for a label to be forthcoming.

If anyone has either further confirming or conflicting information on the use of mineral spirits, we would appreciate receiving that information.

Any new developments that we may have will be passed on.

(Stall and Aerts, Vegetarian 97-06)

IV. VEGETABLE GARDENING

A. The Rawlings House Garden: Two Ducks Died But The Corn Didn’t

Most of you are familiar with Marjorie Kinnan Rawlings. She wrote and received the Pulitzer Prize for “The Yearling” while residing at Cross Creek, Alachua County, Florida, in 1935. Marjorie grew vegetables in her back yard garden. This Spring the house staff spaded up Marjorie’s old garden plot next to her famous kitchen and the duck pen, and endeavored to grow organically the things Marjorie had grown from 1928 through 1941. Not that this was the only garden planted there since that time, but it was my first personal experience and witness of a garden on that plot. And since I volunteer some of my time at
the house, I'm allowed to help a bit with the weeding and general cultivation.

Our soil test taken in March showed just how lovingly the soil had been cared for over the years. The soil pH was high (almost 7.0), indicating frequent liming. Better than neglect, and it was still not too alkaline for good plant growth. We will take heed and refrain from spreading any dolomite for awhile.

A check of the roots of some winter-grown chard exposed a soil problem that could have been causing trouble since Marjorie's days. The roots were swollen and knotted—the undeniable symptoms of root-knot nematodes. However, there was no effective means of control short of "voo-doo" for these tiny "creturs" (to use a favorite Rawlings expression). The soil went untreated and the garden was planted around mid-March.

The garden plan centered around Marjorie's favorite vegetables, and a few of the herbs she counted on to flavor her "cracker-style" dishes. The Swiss chard and a few collard plants were left where planted in the Fall, for both of these cooking greens were still healthy. The chard always gained attention from visitors due to its attractive bright red stalks and glossy green leaves. Chard was ringed about with spring onions for bunching, and a few curled-leaf parsley sets.

The first of the Spring planted items was Irish potatoes. Fat red "seed" tubers were cut into 2-ounce pieces and planted deep into a high, wide 30-foot bed of dark hammock soil. Along the fence on the East side were planted pole beans and slicing cucumbers, while sunflowers bordered the garden on the woods side. Almost a third of the garden was planted to sweet corn. Marjorie had noted that corn should be planted in blocks rather than in a single row to improve pollination. In center stage, several hills of crookneck squash were seeded and an assortment of tomato kinds and varieties popular in the 1930's were planted. The last open space provided for a single row divided equally with peppers and eggplants.

Outside the plot, on either end of the duck pen, the chayote vine emerged for its annual task of shading the mallards from the harshness of the Cross Creek noonday sun. The tender growing tip of this cucumber-like vine are "deerly loved", so are protected by a barrier of hardware cloth. Hopefully, with a running start the vine will reach the top and curl over the pen before being detected by the sharp-toed midnight marauders.

So that was the plan for the spring garden. Not all of Marjorie's favorites had been included. Notable exclusions were cowpeas, okra, and sweet potatoes. These would be added later following the digging of the potatoes and other harvests.

By mid-May, the entire garden was swinging into full stride. Today, house visitors pause on their traverse of the west porch to gape at the luxuriant, verdant patch stretching from the kitchen to the out-house.

The sweet corn is most noticeable, for it occupies the most space and is quite tall. Early on its fate was questionable. A close hoeing had cut some of the anchor roots, resulting in heavy "lodging" as winds blew over many of the 3-foot stalks. But with some propping and cultivation, the entire stand survived. Each stalk now supports two fat ears, each racing toward sweet maturity. Beyond the corn at the hammock's edge, the
mallards race for a katydid. A rattler strikes and their number lessens. Two ducks died, but the corn didn’t.

Much of the collards and chard have filled the cooking pot in MAR.’s famous kitchen, sending wonderful aromas wafting towards the quizzical nostrils of visitors and staff. Plants of both kinds left in the garden still have a growing bud above the scars of the removed leaf-stalks.

The yellow crookneck squash has yet to put on its crop. True to the finicky ways of all squashes, the first batch of blossoms have been mostly males. The bees are present, but seem angered to find no female nectar to attract their pollination. In time, a balance will come and the young tender yellow morsels will be abundant. Not all the plants will produce, however. The invasion of the squash vine borers has occurred. I split a stem at the soil line and removed a wriggling tiny white grub. That plant would survive, but there were others still infested.

Half of the potato row has been dug. Each plant had 5-6 fair sized spuds and a few more just right for boiling. Already this area of Florida has been invaded with late blight, so I was glad to find it had not come our way. In another close call, the high beds saved the little crop from the heavy rains in late April which devastated the big crop at Hastings.

The beans have been easy to grow. Sown along the fence for trellis, the long vines have soared upward then bent with a heavy load of pods. Unlike those in Marjorie’s story, A Crop Of Beans, no cold came to claim its share. Today, in her kitchen a big iron pot simmers on the old wood burning stove as the house visitors traipse by, relishing the fragrance of cooking beans and fatback.

But the most luscious jewels of the harvest-time have been the brilliant red tomatoes which have come into ripeness. Those of the old Rutgers variety have done well. With just enough acidity with their sweetness, their flavor makes us forget their lack of size. No monsters, they, but splendid reminders of just how good Florida-grown garden tomatoes can taste.

The staff at the Rawlings house has done well with this garden. Today it stands as a testament to the good life that Marjorie often enjoyed at the old farm between the big lakes Lochloosa and Orange. She wrote of enduring many times of hardship, but through her vegetable garden saw Spring as a season of plenty. I’m happy to have enjoyed a glimpse of the past through this gardening encounter.

(Stephens, Vegetarian 97-06)