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I. NOTES OF INTEREST

A. Vegetable Crops Calendar.


June 20-24, 1988. 4-H Horticulture Institute, Camp Cloverleaf. (Contact Jim Stephens).


II. COMMERCIAL VEGETABLES

A. Row Covers for early muskmelon production.

Earliness is an important goal in muskmelon production in Florida, especially in northern Florida. Research has shown the benefits of transplanting and mulching to achieve early crops. In more recent research, row covers, used in combination with mulch, produced very early muskmelon crops. With other crops, such as tomato and pepper, variable response to row covers has been observed. Proper time of cover application and removal is critical to success with row covers on many vegetables.

These studies were undertaken to study the relation of row cover time of application to muskmelon yield response. Several row covers were evaluated for their effects on muskmelon growth and yield.

Soil for the experimental area was prepared by plowing and diskin and areas for raised beds were subsoiled to 24-inch depth. Beds were formed on 6-foot centers with fertilizer incorporated in them at the rate of 1000 pounds per acre of a 13-4-13 (N-P\textsubscript{2}O\textsubscript{5}-K\textsubscript{2}O) analysis fertilizer. Soil tests indicated no requirement for lime. Beds were fumigated with a 75:25% mixture of methyl bromide:chloropicrin and covered with black polyethylene mulch.

Plots consisted of a single row of muskmelon plants 24 feet long with 24 inches between plants in the row. Four-week old transplants of 'Magnum 45' cultivar of muskmelon were used for all plantings.

Treatments were 4 row covers and a check (no cover) in each of 3 planting dates (Table 1).
Table 1. Treatments used in muskmelon row cover experiment.

Planting dates:
3. April 6, 1987 covers removed May 4, 1987

Row covers:
1. Check (no cover)
2. KC Farms
3. Agronet
4. Vispore
5. Linktuff tunnel

Covers 2 through 4 were applied after transplanting as a floating row cover, while treatment 5 was applied on wire hoops. Small, wire wickets were placed over each plant before the row covers were applied to prevent wind abrasion. This prevented confounding of results by wind damage.

Covers were removed after flowering had begun except for planting one where they were left on for a longer period because of frosts in early April.

Irrigation was by overhead sprinkler to maintain optimum soil moisture. Pesticides were applied on a timely basis to control insects and foliar diseases.

Fruits were harvested at mature yellow, full-slip stage and graded according to USDA grading standards. Discussion of results will focus on comparisons between row covers and the check (no cover).

KC Farms, Agronet, and Vispore increased early fancy yields over those of the check for planting one (Table 2), a planting that experienced several days of low temperatures (less than 35°F). Linktuff resulted in no yield increase over the check because of loss of early blossoms due to excessive heat. In planting 2, only KC Farms and Agronet increased the yield of fancy fruits. Planting 3 was made too late and row covers did not increase early yields.

Planting one was a more optimum planting date, providing higher yields of fancy fruit, even though the plants endured several nights of low temperatures (Table 3). Total season yields of fancy fruits were increased over those of the check by all row covers except the Linktuff tunnel (Table 4). In this study, yields of fancy fruit alone exceeded the state average for total season production. Overall, seasonal yields were increased by all row covers compared to the check (Table 4). All row covers were similar to each other in their effects on yield. Even though Linktuff was similar to the other covers for total yield, it was probably not favored over the others because of reduced early fancy fruit production, the most valuable portion of the yield. Plants covered with KC Farms and Agronet were superior in production of early fancy fruits.

In summary, row covers appear to have benefits for muskmelon production in Florida, however several factors need to be considered. Some covers are favored over others for early plantings, and some covers, compared to others, have a more favorable effect on fancy fruit production. Clear polyethylene tunnels appear to provide for excessive temperatures which can reduce early fruit set. In these studies, early March to mid March planting dates were best, and
KC Farms and Agronet row covers appeared to offer good potential for light frost protection, increased early fancy fruit yields, and increased total season muskmelon yields.

Table 2. Effects of planting date and row cover type on early yields of fancy muskmelon fruits.

<table>
<thead>
<tr>
<th>Row Cover</th>
<th>1st planting date (lb/acre)</th>
<th>2nd planting date (lb/acre)</th>
<th>3rd planting date (lb/acre)</th>
<th>Interaction LSD .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Cover</td>
<td>0</td>
<td>3654</td>
<td>133</td>
<td>613</td>
</tr>
<tr>
<td>KC Farms</td>
<td>2066</td>
<td>6433</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Agronet</td>
<td>2150</td>
<td>6596</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Vispore</td>
<td>809</td>
<td>4210</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Linktuff</td>
<td>610</td>
<td>2011</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Interaction LSD .05 = 613

Table 3. Average effects of planting date on total (season) yields of fancy fruits and on total marketable fruit yields.

<table>
<thead>
<tr>
<th>Planting date</th>
<th>1st planting date</th>
<th>2nd planting date</th>
<th>3rd planting date</th>
<th>LSD .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fancy Fruits</td>
<td>16856</td>
<td>13554</td>
<td>7636</td>
<td>2310</td>
</tr>
<tr>
<td>Total</td>
<td>28094</td>
<td>26748</td>
<td>17457</td>
<td>1977</td>
</tr>
</tbody>
</table>

Table 4. Average effects of row cover type on total (season) yields of fancy fruits and on total marketable fruit yields.

<table>
<thead>
<tr>
<th>Row Cover</th>
<th>Yield (lb/acre)</th>
<th>Fancy</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Cover</td>
<td>10510</td>
<td>20741</td>
<td></td>
</tr>
<tr>
<td>KC Farms</td>
<td>13006</td>
<td>24842</td>
<td></td>
</tr>
<tr>
<td>Agronet</td>
<td>13548</td>
<td>23874</td>
<td></td>
</tr>
<tr>
<td>Vispore</td>
<td>12883</td>
<td>24633</td>
<td></td>
</tr>
<tr>
<td>Linktuff</td>
<td>11603</td>
<td>24541</td>
<td></td>
</tr>
<tr>
<td>LSD .05</td>
<td>2106</td>
<td>2791</td>
<td></td>
</tr>
</tbody>
</table>

(Hochmuth, Veg. 88-02)

According to the Florida Agricultural Statistics Service in Orlando, the value of vegetables produced in the 1986-1987 crop year increased 17% over the preceding year. Planted acreage was somewhat higher whereas harvested acreage was slightly less than in 1985-86. Fresh market tomatoes continued to be Florida's number 1 vegetable reaching a record value of $514,746,000, over a 12% increase over the previous year. Other big gainers were pepper (+78%), potato (+52%), cucumber (+36%), strawberry (+28%), watermelon (+28%), bean (+20%), and sweet corn (+18%).

Meanwhile, the value of some crops declined: celery (-2%), escarole (-15%), lettuce (-32%), squash (-8%), and radish (-18%). The value of cabbage, carrot, and eggplant production was virtually unchanged from the previous year.

Higher volume accounted for most of the increase in tomato value, on the other hand higher prices accounted for most of the increase in pepper, potato, cucumber, and watermelon. The increased value of bean, sweet corn, and strawberry was related to both higher volume and prices. Lower prices accounted for most of the decline in radish value, whereas lower prices and volume were related to decline in the value of escarole, lettuce, and squash.

Although results of the 1986-87 crop year were not uniformly outstanding, the outcome was generally quite favorable because of the absence of a major statewide freeze, volume consistent with market demands and adequate prices. (Maynard, Veg. 88-02)

III. PESTICIDE UPDATE

A. National Label for Sethoxydim (Poast) on Tomatoes, Bell Pepper and Strawberries.

Poast (sethoxydim) has received a section 3 (national) label for the control of annual and perennial grass weeds in tomatoes, bell peppers, and strawberries.

Poast is a selective, broad-spectrum postemergence herbicide for the control of emerged annual and perennial grass weeds. It will not control sedges or broadleaf weeds.

Apply to actively growing grasses. Unsatisfactory control may result if applied while grass is under stress. A nonphytotoxic oil concentrate at 2 pts/A is to be used in the spray mixture.

A rate of 1 to 1 1/2 pts/A (0.1875 to 2.0 lb ai/A) is labelled for use depending on crop and grass species to be controlled. Under high temperatures and high humidity, do not apply to peppers as leaf injury may occur. Have and read the label or supplemental label and follow all recommendations for use. (Stall, Veg. 88-02)

IV. VEGETABLE GARDENING

A. Feasability of organic gardening and farming in Florida.

Over the years, growing vegetables organically has been a method of production utilized more extensively in home gardens than in commercial agriculture. Even in gardens, only a relatively few, probably less than 5 percent, of Florida's 1,000,000 plus gardens were grown exclusively by organic techniques.

Today, however, many eyes and heads are turning toward organic farming with renewed interest, as the search for alternative crops
leaves few stones unturned. IFAS
administrators and others have
listened closely to leaders in the
produce and fast-food chains express
belief that there may be a place,
although limited, for organically
grown produce in today's
marketplace.

In the past, agricultural
authorities, including Florida
Extension Service, have expressed
several concerns as restraints from
fully promoting organic farming as a
reliable and economical farming
systems approach to providing
consumers with an authentic product.

Most of these constraints are
still viable questionmarks. Last
month, I outlined them briefly to
one of Florida's leading advocates
on organic farming, and received the
following responses.

Constraint #1: Defining "organic".
Can it be defined in such a way that
all will know and agree on what is
meant by "organically grown"? What
authority exists that can say which
practices and products used in
production are "organic" and which
are not?

Response: "In California, there are
two standards for organic crops. A
moderate definition has been defined
by state statute, and to be
advertised "organic" it must conform
to these minimum standards. There
is a private organic grower's group
(California Certified Organic
Growers - CCOF) that has more
stringent requirements - and they
certify each member of their
grower's group - and their produce."
"Furthermore, he added, "the Georgia
Organic Grower's Association (GOGA)
is still in the process of trying to
define the standards for
certification in Georgia. It is not
in printed form yet."

Note (JMS): According to The New
Farm, Feb. 88, now there are 10
states having laws defining how food
must be grown to be labeled
"organic", resulting in a
bewildering array of definitions.

Constraint #2: Certification and
enforcement. Even if "organic" can
be defined to everyone's
satisfaction, what agency can
(should) be responsible for
enforcing the standards and
certifying the product?

Response: "Initially, I feel
certain that the definition and
certification in Florida will come
from the organic growers themselves
as an association - long before
there is any state activity."

Note (JMS): Again, New Farm states
that there is a lack of agreement on
how to enforce the laws. Among
states that try to enforce their
laws, the farmers often bear part of
the financial burden. They conclude
by saying that the laws in their
current form give shoppers little
protection from label fraud, and
organic food is as vulnerable to
consumer skepticism as any other
food. The USDA has added that
before it could allow an "organic"
label, some appropriate
certification would have to be met,
and that has not been determined.

Constraint #3: Pest problems. In
this state with so many pest
problems, how can we solve them with
the technology we have and without
the reliance of chemicals?

Response: "I have quite a list of
companies that sell natural pest
controls - ranging from predatory
nematodes, fungi, bacteria, etc. to
help control pests without
petro-chemicals. The Safer line of
natural pesticides and plant care
products is an example. There are a
number of articles written by IFAS
professors and printed in
professional agricultural journals
which outline the effectiveness of
insecticidal soap in killing whiteflies at economical low application rates. In California it is also used effectively against spider mites on fruits like strawberries."

**Constraint #4. Organic fertilizer.** Where will farmers obtain organic fertilizer in sufficient quantity and quality to produce crops?

**Response:** "Part—not all—of the answer may be in green manures used in crop rotation programs. What we really need is a perennial legume like "Spredor 2" alfalfa that propagates by rhizomes as well as seed, that is adapted to this far south. Farmers could afford to plow down this alfalfa after one or two year's growth.

**Constraint #5. Economics.** Is organic farming of vegetables economical. We need cost and returns studies of production practices, coupled with marketing studies on costs, spoilage loss, labeling, and packaging.

**Response:** In California it is big business; it could be in Florida too.

**Summary**—While the responses to my concerns do not provide a complete and definite solution, they do convey a certain amount of promise. Obviously there are still many answers to be found—for each of the constraints. However, some say IFAS stands for "I'll Find A Solution", so perhaps we will be able to provide enough answers to get at least a fledgling organic component to our industry going someday soon. Until then, wary consumers will be reluctant to buy and pay top dollar for an uncertain product, and the organic way will remain primarily for the gardener. (Stephens, Veg. 88-02)