Vegetarian 88-03

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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. Fertilizer Expressions Explained.

There are several statements or expressions that Extension faculty often hear from growers or salesmen that really need to become teachable moments. While you can make your own lists of such expressions, here are a few from our list.

Statement: "I have an active fertilizer program. I apply 20 units per ton."

What the grower is trying to say is that the fertilizer dealer is billing him for 20 units of some nutrient (which one?) in each ton of fertilizer that the grower received. The grower MUST understand that he should be paying for pounds of that nutrient per acre. It is this rate of application that determines whether or not the crop has been properly fertilized. Growers who talk in units per ton are missing a fundamental point in their understanding of fertilizer management.

Statement: "I like to take the fire out of my potassium by applying it in the fall for a winter or spring potato crop."

As the fire goes out of the potassium, the potassium goes out of the soil. The grower who applies potassium fertilizer in the fall for a spring planting in Florida's sandy, low exchange capacity soils is losing that nutrient to leaching rains. This statement has been verified by soil test experiments under field conditions. Put the fertilizer on just before your crop will be using the nutrient. This practice minimizes exposure to leaching losses.

Statement: "I fly on nitrogen about a week before I harvest my watermelons. This application make 'em cut red."

Application of nitrogen at this time most often results in leaf die-back. Some of the nitrogen may enter the melons, increasing the probability of hollow heart and whitening of the central tissues (white not red). There are no research data to support quicker maturation of melons, magical gain of weight, or beneficial changes in internal tissue color.

Statement: "I need a 2:1 ratio of potassium to nitrogen in my fertilizer."

This theory started many years ago with tomato as a way to reduce blotchy ripening. The research on which this theory is based is extremely fragmentary. There is no supporting work for other vegetables such as pepper or watermelon. In fact, take a second to think about this "theory". It is based on "hydroponic" logic and really doesn't apply to our soils in
Florida because in many situations, there is a lot of potassium in the soil already. So what's so magical about a 2:1 ratio in these cases. The important aspect that we must teach is to supply the amount of nutrient needed (from soil or fertilizer) and not worry about these magical ratios.

Statement: "I apply foliar fertilizers to supplement my already sound fertilizer program because my plants need "pick-me-up" snacks."

This is an extremely wide-spread practice in Florida that adds increased costs to producing vegetables. Research shows no response to foliar nitrogen, potassium, and phosphorus. Only in some rate situations has research showed a response to foliar micronutrients. These include the alkaline marl and rockland soils in winter where some micronutrients can be "fixed" in the soil. Growers already apply many nutrients such as copper, manganese, zinc, and sulfur to the leaves of the plants by the pesticides. There is much research data that shows reductions in yields by "shot-gun" foliar fertilizers. Growers should conduct tests (collect actual yield data) to prove to themselves the value of foliar fertilizers. Remember, these materials do represent extra cost and the negative side might be reduced yields and the build-up of micronutrients in the soil to toxic levels.

(Hanlon, Hochmuth, Veg. 88-03)

B. Leek Variety Demonstration.

Leeks are one of the specialty vegetables being evaluated at the Gulf Coast Research and Education Center in Bradenton for possible commercial production in west central Florida. To further evaluate the potential for commercial leek production, a farm demonstration was established in Plant City in the fall of 1987.

Transplants, seeded on July 29 and grown by Plants of Ruskin in 080A Todd planter flats, were set in the field on September 28. Thirty-plant plots of 7 varieties were replicated four times. Plants were spaced 3-inches apart in the row on raised beds on 2-foot centers. Cultural conditions were those used by the grower.

The leeks were harvested on January 29, about 180 days after seeding and 120 days after transplanting. Some minor plant loss occurred so that final stand varied between 27 and 30 plants per plot. Plot yields varied from 8.7 to 12.3 lbs with a strong association between yield and plant height. Average plant weight was 0.424 lb for 'Tivi', the largest variety and 0.307 lb for 'Conqueror', the smallest variety. 'Kilima' produced the longest shanks whereas 'Alaska', 'Conqueror' and 'Electra' had the shortest shanks. Highest yielding varieties had blue-green leaves whereas the varieties with lower yields had blue foliage. Several of these varieties had performed well in previous trials at GCREC and growers may wish to include trial plantings to compare them with varieties currently being grown.

Cooperators in this trial were R. L. Mitchell, J. P. Gilreath and P. R. Gilreath.
### LEEK VARIETY DEMONSTRATION - Plant City (1987-88)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Source</th>
<th>Plants/plot</th>
<th>Yield (lbs/plot)</th>
<th>Plant height (in.)</th>
<th>Shanks Length (in.)</th>
<th>Shanks Diameter (in.)</th>
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</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>Stokes</td>
<td>27</td>
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<td>33.5</td>
<td>2.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Conqueror</td>
<td>Harris Moran</td>
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<td>8.6</td>
<td>34.4</td>
<td>2.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Electra</td>
<td>Harris Moran</td>
<td>29</td>
<td>11.6</td>
<td>34.1</td>
<td>2.7</td>
<td>0.9</td>
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<tr>
<td>Kilima</td>
<td>Royal Sluis</td>
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<td>11.0</td>
<td>38.8</td>
<td>5.1</td>
<td>1.0</td>
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<tr>
<td>King Richard</td>
<td>Danfeldt</td>
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<td>10.9</td>
<td>38.8</td>
<td>3.9</td>
<td>1.0</td>
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<tr>
<td>Tivi</td>
<td>Harris Moran</td>
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<td>12.3</td>
<td>37.9</td>
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<tr>
<td>Unique</td>
<td>Stokes</td>
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<td>39.9</td>
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<td>1.0</td>
</tr>
</tbody>
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(Maynard Veg. 88-03)

### III. PESTICIDE UPDATE

#### A. IR-4 Red Alert.

Through a memo from Charles Meister, I have received a publication "IR-4 Red Alert" reregistration update 88:1. IR-4 estimates that 25-50% of the existing registrations for minor uses could be lost as a result of EPA's mandated reregistration program due to lack of adequate residue data for chemical/crop combinations.

IR-4 would like to determine which registered uses are still needed.

The National Agricultural Chemicals Association representatives are in the process of listing exactly which registrations their respective company will defend.

Charles Meister has asked that if you feel any of the following uses are needed, please provide that input to him.

I am only listing those chemicals on vegetables here. For more information please contact Dr. Meister directly.

**Insecticides, Miticides, and Mollusicides**

- **Chemical:** Acephate (Orthene)
  - **Crops:** Bean (including lima bean), celery, lettuce (crisphead).

- **Chemical:** DDVP (Vapona)
  - **Crops:** Radish (greenhouse) lettuce (greenhouse), tomato (greenhouse and postharvest), cucumber (greenhouse), mushroom (storage).

- **Chemical:** Fenbutatin-oxide (Vendex)
  - **Crops:** Cucumbers (greenhouse).

- **Chemical:** Methiocarb (Mesurol)
  - **Crops:** Corn (fresh and popcorn), pepper (grown for seed), agricultural crops (pre-plant application -- crops must be specified).

- **Chemical:** Oxamyl (Vydate)
  - **Crops:** Carrot, ginger, potato, onion (including garlic), celery, tomato, pumpkin.

- **Chemical:** Oxydemeton - methyl (Metasystox-R)
  - **Crops:** Potato, cabbage, bean vines and hay, pea vines, eggplant, pepper, melon, pumpkin, squash, strawberry, and corn (fresh and field).
**Fungicides**

Chemical: Dodine (cyprex)
Crops: strawberry.

Chemical: Folpet (phaltan)
Crops: Garlic, leek, shallot, onion dry and green), celery, lettuce, tomato, cucumber, melon, pumpkin, squash (summer and winter), and strawberry.

Chemical: Mancozeb (Dithane M45 and Manzate 200)
Crops: Carrot, potato, onion, celery, fennel, tomato, cucumber, melon, summer squash, corn (fresh, field, popcorn), asparagus.

Chemical: PCNB (terraclor R)
Crops: Potato, garlic, lettuce, broccoli, brussels sprout, cabbage, cauliflower, bean, pepper, tomato, strawberry.

**Herbicides**

Chemical: Dalapon (Dowpon)
Crops: Potato, corn, bean vine and hay.

Chemical: Diphenamid (Enide)
Crops: Potato, pepper, and tomato.

Chemical: Paraquat dichloride (Gramoxone)
Crops: Potato, turnip, bean vine and hay, pea vine and hay, tomato, cucumber, melon, summer squash, corn (field and fresh).

Chemical: Prometryn (Caparol)
Crops: Celery, corn.

Chemical: Propham (Chem-Hoe)
Crops: Lettuce, spinach, lentil, and pea.

Chemical: Trifluralin (Treflan)
Crops: Potato, corn, mustard seed, and mint.

Note: This information was based on EPA's Guidance for the Reregistration of Pesticide Products Containing (the Chemical) as an Active Ingredient.

(Stall, Veg. 88-03)

**IV. VEGETABLE GARDENING**

A. Using mushroom compost in the vegetable garden.

We all know the benefits of using home-made compost, chicken, cow, and other animal manures as a source of organic fertilizer for the vegetable garden. Now, gardeners in Northwest Florida, in the vicinity of Tallahassee and Quincy have another organic material available for use in home gardens. It is called "spent" mushroom compost, a by-product of a mushroom growing facility called Quincy Farms, near Quincy.

The Quincy plant has been good for Gadsden County for a number of reasons - more jobs and a demand for poultry manure and wheat straw from local farmers. Now it is providing an additional benefit to the surrounding community in the form of organic compost as potential fertilizer and soil amendment.

Since mushrooms are fungi instead of green plants, they cannot use sunlight to make their own food. Instead, they must grow on decaying organic matter, such as animal manure supplemented with straw, fertilizer and other ingredients, which is called compost. Since new compost must be prepared and used with every new crop of mushrooms, considerable amounts of the so-called "spent" compost become available for disposal.

In a report by Leon County agent David Marshall (Tallahassee Democrat, Dec, 1987), spent compost is readily available for vegetable gardens from Quincy Farms, near...
Attapulgus, Georgia. Quincy Farms produces fourteen tractor-trailer loads every 3 days. The compost is for sale at the farm, but only in large quantities. According to Marshall, 4 cubic yards (about a dump-truck load) sells for around $30.00. Delivery of large-truck loads (50 cubic yards each) may be arranged at around $90.00 plus $1.50 per mile. In addition, several middle-men suppliers are offering smaller quantities for sale at sites around Northwest Florida and even as far away as Atlanta, where it sells for about 10 cents per pound in bags.

How beneficial is the compost in the vegetable garden? So far, the relative few who have used it report good results. Still, we in the Extension Service need to learn more about the material before we can tell others how to use it properly.

Trials by the Georgia Extension Service, conducted by Darbie Granberry and gardener Dan Evorts, showed the compost has promise as a soil amendment. Combined with an application of fertilizer, the compost gave impressive results.

A Wakulla garden supply dealer had the compost tested by IFAS (Greenhouse and Potting Mix sample) and found it to contain the following in ppm: phosphorous (30); potassium (3,400); calcium (610); magnesium (204); nitrate nitrogen (10); soluble salts (10,290); and pH (7.4).

Plans are underway with Extension agents in North Florida counties to test the compost with and without additional fertilizer, in demonstration vegetable gardens.

(Stephens, Veg. 88-03)

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