



UNIVERSITY OF  
**FLORIDA**

**Cooperative Extension Service**

Institute of Food and Agricultural Sciences

# VEGETARIAN

## A Vegetable Crops Extension Publication

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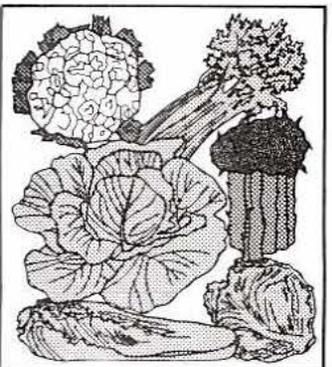
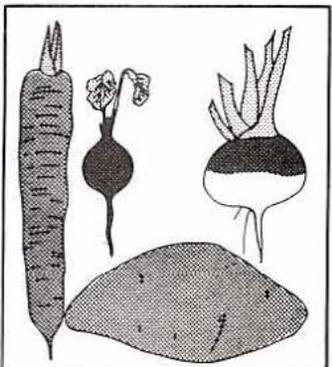
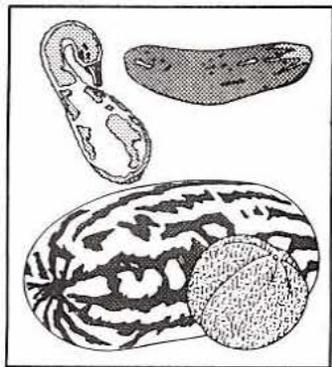
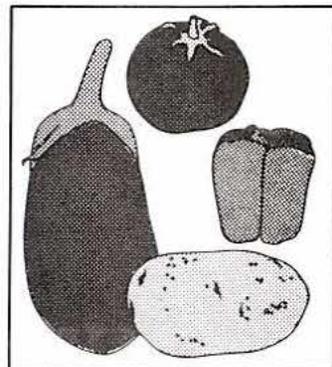
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## I. COMMERCIAL VEGETABLES

### A. Seasonal Differences Occur in Transplants Too.

Raising a crop in the spring requires quite different cultural strategies than raising that same crop in the fall, yet do you consider this in your spring vs. fall transplant production? Surely your water requirements are different and perhaps your pesticide needs, but what about your fertilizer inputs? Research at the University of Florida has shown that if you fertilize in the fall in the same manner you fertilize in the spring, you could be hurting your yield!

Florida vegetable transplant growers essentially produce plants 365 days a year for sale in- and out-of-state. Seasonal production of vegetables dictates that transplants be available for every production slot, be it winter, spring, summer, or fall. We therefore thought it would be interesting to determine if the nutritional needs of transplants change with the seasons.

Utilizing an ebb and flow (bottom watering) production system we set out six nitrogen treatments (0, 15, 30, 45, 60, 75 ppm) based on ammonium nitrate fertilizer. Typically, fertilization began when the first true leaf had expanded to a size of 1/4 - 1/2 inch. The initial soilless mix contained no fertilizer so we could accurately determine the total amount of fertilizer applied, which ranged from 420 to 2100 ppm according to treatment. All other elements, minor- and micro-nutrients, were supplied in sufficient quantity to provide for high quality plant growth. Plants were watered every day with the appropriate solution, weather permitting, and grown for a period of six weeks. Obviously

more irrigations/fertigations were applied in the fall than in the spring due to difference in evaporative and transpirational demand.

We catalogued differences in seedling growth (height, number of leaves, leaf area, etc.) at 6 weeks when the plants were ready to be taken to the field. A major concern for FL growers is plant height upon arrival in the field; they prefer a 4 inch plant. Our N treatments yielded plant heights in the range of 2.6 - 8.5 inches in the fall and 2.2 - 6.4 inches in the spring. Plants from all treatments were then set in the field to determine the impact of in-house fertilization on production. Multiple trials in the spring and fall, at several locations in FL, were conducted to test the seasonal impact of seedling production on yield.

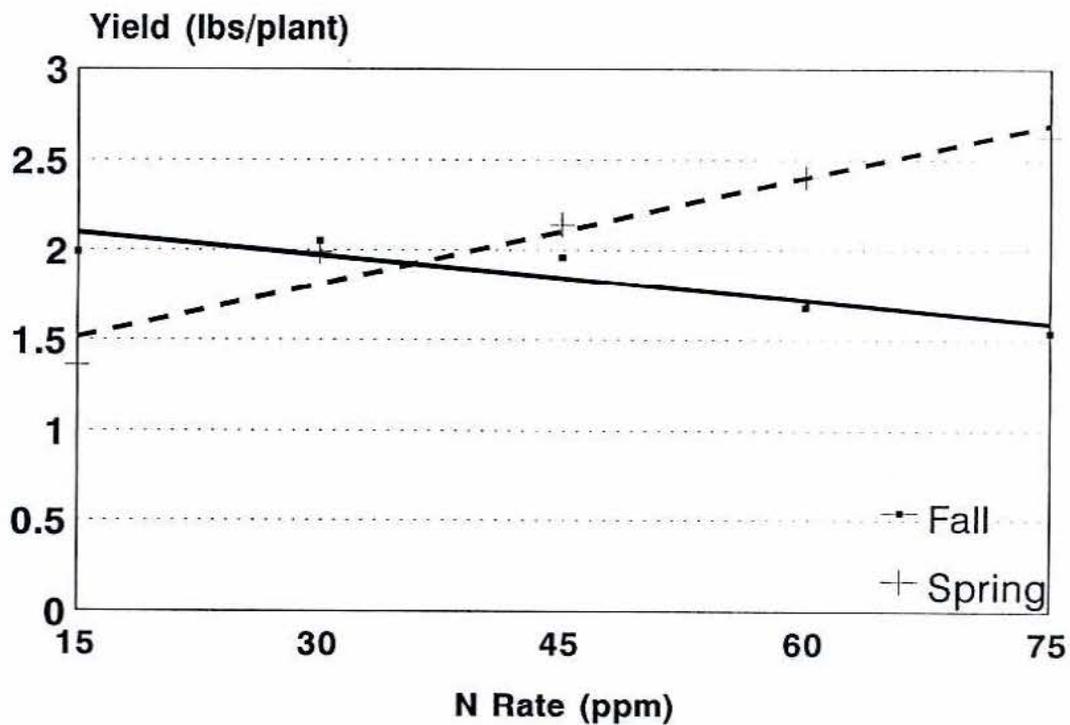
The first thing we learned from this experiment was that fall- grown transplants produce better with decidedly less fertilizer in the plant house than spring-grown plants. Higher rates of N in spring-grown transplants favored higher field yields. However, these same high N rates in fall-grown transplants, suppressed first harvest yields (Figure 1). When considering overall yield (three harvests) the same pattern resulted; decreasing yield with increasing N in fall grown transplants, increasing yield with increasing N in spring grown transplants.

The ebb & flow system uniquely ties irrigation to fertilization, so as you irrigate, you fertilize. It also increases fertilization precision because you are not "washing out" the fertilizer with additional irrigations. It makes sense then that in the spring, plant transpirational demand is lower and they require fewer irrigations. Therefore you will have to apply higher N rates to satisfy the plants needs. Conversely, in the fall, with high

evapotranspirational demands, smaller doses of fertilizer per irrigation are necessary. Additionally, lower N rates appear to more appropriately prepare (harden?) fall-grown transplants for the rigors of the FL fall weather.

So when you begin to prepare for your fall crop and consider how its needs will be quite different from your spring crop; remember your transplants. This is one case where "less is better"!

**Figure 1. Seasonal first harvest yields based on plant house N rates**



(Vavrina and Hochmuth, Vegetarian 96-03)

## II. VEGETABLE GARDENING

### **A. Revised Vegetable Gardening Guide Now Available.**

The "Florida Vegetable Gardening Guide," Circular SP 103, has been revised and is now available from IFAS Publications. The per copy price is 10 cents, as compared with the price of the old (1992) version at \$1.25 per copy.

The new format re-captures the pocket-size, folded style that I used for 30 years when the publication was called circular 104 and was given out to gardeners as a "freebie." When we went to a for-sale version in 1992, the format became a 10 x 12 inch, glossy print manuscript that unfolded into a 20 x 24 inch poster-size planting guide. The lettering was larger and easier to read than the pocket-size format, yet contained no additional information. But at \$1.25 plus \$2.00 handling charge the price was too high, and since it had to be purchased direct from Gainesville by the gardener, the publication did not fill the bill.

Like its predecessors, the new version (Cir 103) does not contain illustrations or photographs - just useful no-frills information supplied by specialists in their field (Kidder, Short, Simone, Dunn, and Stephens). The IFAS media group under Graddy and Woods have done a great job somehow fitting all that information into a presentable format. I personally miss the big wall-chart, and gardeners may too, but the planting guide is still there, just more condensed.

The price certainly is right. At 10 cents per copy and eliminating the handling charge, each of you agents should be able to find a way to purchase several hundred copies

for distribution through your office and staff of Master Gardeners. The information is essentially the same as is on the latest CDROM disk. Sure, you can print your own from the disk, but the purchased version has a much more presentable format, and there's no hassle in collating, folding, and stapling.

I'm not sure that Gainesville IFAS publications will be distributing this publication direct to the home gardener, as we are looking to each county Extension office as the main distribution point. So please get your supply now from Chic Hinton and be prepared for the 1996 spring gardening season.

(Stephens, Vegetarian 96-03)

### **B. Certified Sweet Potato Plant Growers - 1995 Georgia list.**

Many of you agents will be asked by gardeners and growers where to obtain sweet potato transplants for the 1996 season. Since the Florida Department of Agriculture can not certify Florida growers as a source of plants, we must rely on our neighboring states (Georgia, Alabama, Louisiana, and Mississippi) for plants.

The following list of growers having plants in 1995 from Georgia farms may be useful in advising your growers of possible plant sources. If need be, you can contact the Department of Agriculture in those states I mentioned for their most current lists.

**1995 GEORGIA CERTIFIED SWEET POTATO PLANT GROWERS**

<b><u>COUNTY</u></b>	<b><u>NO. BUSHELS</u></b>	<b><u>VARIETY</u></b>
<b>APPLING COUNTY</b> James R. Cook Rt 3 Box 501 Baxley, GA 31513	350	Georgia Red
Curtis Herndon PO Box 161 Surrency, GA 31563 (912) 367-3331	140 150	Georgia Red Alabama Nuggets
W. R. Lightsey 296 Johnnie Thornton Road Odum, GA 31555 (912) 267-6781	500	Georgia Red
<b>BACON COUNTY</b> Steve Hutchinson Rt 1 Box 131-A Nichols, GA 31554 (912)632-8875	38 78	Georgia Jets Georgia Red
Troy L. Johnson Rt 1 Box 126 Nichols, GA 31554 (912)632-4907	24 16	Georgia Red Georgia Jets
<b>CRISP COUNTY</b> Powers Farms 206 Powers Rd. Cordele, GA 31015 (912)273-5874	200	Georgia Red
<b>DOUGHERTY COUNTY</b> Piedmont Plant Company PO Box 224 Albany, GA 31708 (912)435-0766		

<u>COUNTY</u>	<u>NO. BUSHELS</u>	<u>VARIETY</u>
<b>IRWIN COUNTY</b>	1,200	Beauregard
Joey Veal	180	other varieties
Rt 1 Box 545 Ocilla, GA 31774 (912)468-9526		
<b>LEE COUNTY</b>	14,700	Beauregard
Leeland Farms	3,200	other varieties
PO Box 690 Leesburg, GA 31763 (912)759-6523		
<b>LOWNDES COUNTY</b>	65	Beauregard
Steve Stalvey	60	other varieties
Rt 2 Box 1290-9 Ray City, GA 31645 (912)247-5794		
<b>TIFT COUNTY</b>	9,000	Beauregard
Pond-O-Gold	5,000	other varieties
PO Box 205 Omega, GA 31775 (912) 528-6767		

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(Stephens, Vegetarian 96-03)

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