



UNIVERSITY OF  
**FLORIDA**

**Cooperative Extension Service**

Institute of Food and Agricultural Sciences

# VEGETARIAN

## A Vegetable Crops Extension Publication

Horticultural Sciences Department • P.O. 110690 • Gainesville, FL 32611 • Telephone 904/392-2134

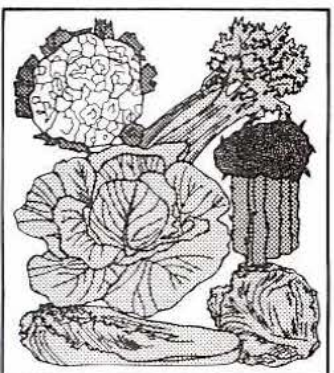
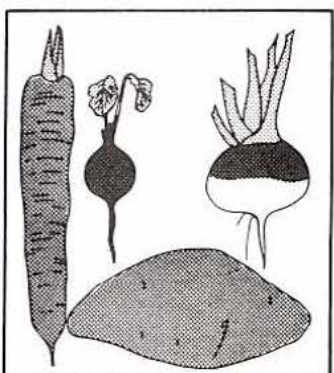
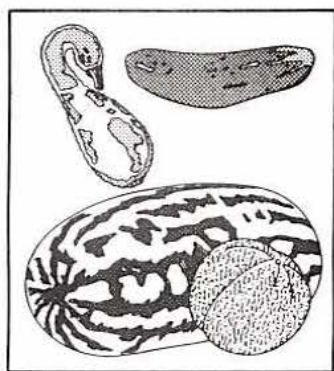
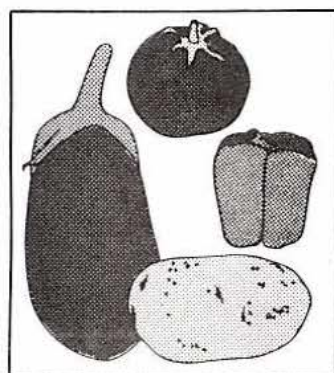
Vegetarian 94-9

September 19, 1994

### Contents

- I. NOTES OF INTEREST
  - A. Vegetable Crops Calendar.
- II. COMMERCIAL VEGETABLES
  - A. Too Much of a Good Thing.
- III. VEGETABLE GARDENING
  - A. Selection of Fresh Florida Mushrooms.

**Note:** Anyone is free to use the information in this newsletter. Whenever possible, please give credit to the authors. The purpose of trade names in this publication is solely for the purpose of providing information and does not necessarily constitute a recommendation of the product.



## I. NOTES OF INTEREST

### A. Vegetable Crops Calendar.

November 1-4, 1994. Cucurbitaceae 94. Radison Resort, South Padre Island, TX. Contact James R. Dunlap, TAES, 2415 East Hwy 83, Weslaco, TX 78596-8399.

## II. COMMERCIAL VEGETABLES

### A. Too Much of a Good Thing.

We have touched on fertilizer management on several occasions in this column usually dealing with decision aids to selecting correct amounts of fertilizer and pointers for best management practices. Overfertilization often is viewed as an insurance policy in case of unforeseen occurrences such as nutrient leaching from heavy rainfall. Sometimes growers err on the side of excess fertilizer because they have very little information guiding them to do anything else. There also have been instances of recommendations of excessive fertilizer with the idea that extra fertilizer helps vegetable quality. An example of this has been potassium fertilization. Extra K fertilizer has been touted to increase yields, improve fruit size, and improve fruit firmness. Growers therefore might be tempted to apply a little extra K to achieve these proposed increases in fruit quality. Most Extension Specialists, however recommend against application of extra fertilizer above and beyond the amount which provides for optimum yield. These recommendations are based on the philosophy that, if enough nutrients are available for high yields then usually the vegetable "quality" aspects are optimized too. Reduced quality is then usually due to factors other than fertilizer, e.g. high or low temperatures, low sunlight, etc.

During our fertilizer studies here in Florida, we have had the opportunity to measure effects of fertilization on vegetable quality. It looks like the extra-K approach might be having the opposite effect to what some recommendations would propose. A few examples from our work are presented in Table 1. These reductions in vegetable quality are occurring when K application is increased by 50 to 100% over the amount recommended. The reductions in quality are on the order of 10 to 20% compared to quality with the recommended K program. The physiological bases for these negative effects of excessive K on vegetable quality are not completely understood. High applied K, in our sandy soils, does reduce plant uptake of Mg and Ca. However, in most cases, the suppression is not extreme enough to cause a Ca or Mg deficiency. Excess fertilizer also could increase salt stress and reduce water availability to plants thus negatively impacting fruit growth.

The postharvest aspect has often not been included in nutrient studies, thus growers have not had much data at their fingertips to guide against excessive fertilization. If our data in Florida is an indication of what might happen elsewhere, then growers would be wise to check it out on their farms. Quality is always an important factor in the produce industry and will probably be even more important in the future. Proper fertilizer management is one of the keys to production of high quality vegetables.



Table 1. Effects of excessive K fertilization on vegetable quality in Florida.

Crop	Maximum K <sub>2</sub> O recommendations (lb/A)	Effects of excessive K on quality
Potato	140	Reduces specific gravity, with no positive effect on yield.
Strawberry	150	Reduces fruit size with no positive effect on yield or fruit firmness.
Pepper	150	Reduces fruit wall thickness with no positive effect on yield.

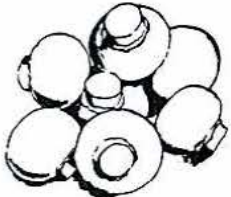
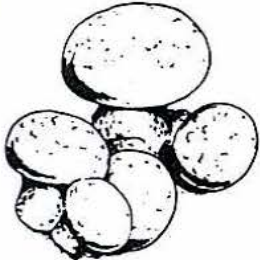
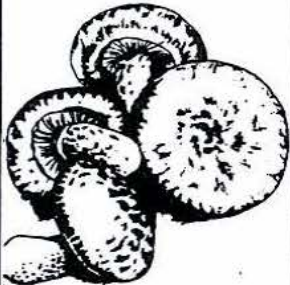
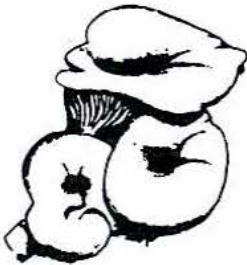
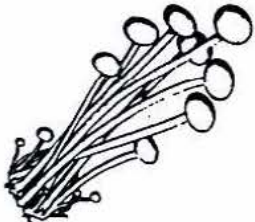
(Hochmuth, Vegetarian 94-09)

### III. VEGETABLE GARDENING

#### A. Selection of Fresh Florida Mushrooms.

While not many gardeners in Florida grow mushrooms for home use, most all enjoy this delectable "vegetable" grown time to time. Of course, the mushroom is not a true vegetable, but rather the fruit of the fungal plant. As consumers, gardeners might find the following information helpful when a yearning for mushrooms reaches irresistible levels. The information was provided by Quincy Farms, a leading producer of Florida-fresh mushrooms.

## VARIETIES

TYPE	DESCRIPTION	FLAVOR	HANDLING	USAGE
<b>AGARICUS</b> (White) 	White to light brown in color. They range in size from small to large stuffer. Also referred to as "button" mushrooms.	Mild flavor which intensifies when cooked. Those with open veils are more mature and have a richer, intense taste.	Refrigerate prepackaged agaricus "as is". Once opened or if purchased loose, refrigerate in a paper bag. Before use, rinse quickly in cool water.	Extremely versatile, add to soups, salads, stir-frys and pasta. Serve raw with dips, or saute to top meat or poultry.
<b>CRIMINI</b> 	Light tan to dark brown in color with deep, earthy flavor. Also known as Italian or Roman Brown.	Meaty, rich flavor; more intense than agaricus.	Refrigerate prepackaged "as is", or in a paper bag if purchased in bulk. Before use, rinse quickly in cool water and trim the roots.	Substitute in any recipe calling for agaricus. Serve with beef, stir-frys and vegetable sautes.
<b>SHIITAKE</b> 	Tan to dark brown in color with large open veil between the stem and cap. Also referred to as Oak, Chinese or Black Forest.	Full-bodied, meaty flavor and spongy texture when cooked.	Refrigerate in a bowl covered with a slightly damp cloth. Before use, rinse quickly in cold water; trim stem. Use only the caps for cooking; stems are tough.	Saute in butter and garlic, grill, or add to stir-frys, pastas, soups, poultry and meat dishes.
<b>OYSTER</b> 	Beige, cream or gray in color with fluted caps that resemble a fan or oyster shell. Also referred to as pleurottes, pleurotes or pleurotus.	Soft, meaty texture and delicate flavor when cooked.	Refrigerate in bowl covered with a slightly damp cloth. Rinse quickly in cool water before use.	Slice raw in salads, or cook with chicken, seafood, veal, pork, or vegetable dishes.
<b>ENOKI</b> 	Long, thin white stems joined at the base and a tiny "button" on top.	Light, mild flavor and crisp texture.	Refrigerate prepackaged "as is". Trim base and separate stems.	Toss raw enoki in salads, tuck into sandwiches, and use as a garnish for soups.



## NUTRITIONAL DATA

## STORAGE

◇ Fresh mushrooms are low in calories and sodium and provide a number of important nutrients.

◇ Serving Size: 2/3 cup whole mushrooms (45 grams or 1½ ounces)

Calories	14
Protein	1 gram
Carbohydrate	2 grams
Fat	1 gram
Sodium	0 mg
Potassium	140 mg
Crude Fiber	200 mg
	(% of U.S. RDA)

Protein	2
Thiamin	2
Riboflavin	10
Niacin	8
Phosphorus	4
Copper	6
Pantothenic acid	4

Here's how to keep mushrooms at their very freshest:

- ◇ Don't wash them until your ready to use.
- ◇ Store them in their package, unopened.
- ◇ Once opened, or if you purchased them loose, store them in a paper bag or damp cloth bag in the refrigerator.
- ◇ Never store in a plastic bag, they will go bad quickly because they can't breathe.
- ◇ Stored properly, mushrooms keep for several days.

A final storage tip: Mushrooms may be frozen. Slice and blanch them, then drain and seal in an airtight bag or container. Freeze until needed.

RB

Data provided by Quincy Farms.

(Stephens, Vegetarian 94-09)

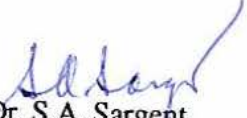
Prepared by Extension Vegetable Crops Specialists

Dr. D.J. Cantliffe  
Chairman

Dr. G.J. Hochmuth  
Professor

Dr. D. N. Maynard  
Professor

Dr. S.M. Olson  
Assoc. Professor

  
Dr. S.A. Sargent  
Assoc. Professor & Editor

Dr. W.M. Stall  
Professor

Mr. J. M. Stephens  
Professor

Dr. C. S. Vavrina  
Asst. Professor

Dr. J. M. White  
Assoc. Professor