

# VEGETARIAN NEWSLETTER

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## FEBRUARY IS POTATO-PLANTING SEASON FOR HOME GARDENERS IN NORTH AND NORTH-CENTRAL FLORIDA

As an agent, I'm asked some basic questions which some of you agents in rapidly urbanizing counties might be asked by retirees, homesteaders, and even experienced gardeners who have been "transplanted" from another part of the country or state who need guidance so they can enjoy the growing season of your county:

- Is it too late to lime?
- What to fertilize with in the absence of a soil test?
- What varieties are available to plant?
- How small to cut potato seed pieces?
- How deep and far apart should the potatoes be planted in the row

I'd like to share some of my experiences that might help other agents during this month as you work with clientele who like to garden.

### FERTILIZATION AND LIMING QUESTIONS

It's probably too late to take a soil sample and get the results back in time to lime the garden site properly. However, potatoes grow best in a well-drained, slightly acidic soil (pH 5 to 6), so liming may not be such an issue if the area has been gardened the past season. Many of our soils have a native pH of 5 to 5.5. Liming may not be a major concern on new garden sites.

Without the benefit of a soil test and its recommendations, you may have to rely on experience based on many soil tests taken in the county. Yet, experience is no substitute for a soil test.

- **On New garden Sites: Pre-plant fertilization** with a complete, balanced fertilizer (such as a 10-10-10 analysis fertilizer for example at the rate of 7.5 pounds per 100 square feet of garden area) incorporated into soil may be helpful. Once plants emerge they should be **side-dressed every 3 weeks** at the same rate until flowers form. After the appearance of flowers, there is little advantage to fertilizing.
- **On Old garden Sites: Preplant fertilization** may require more nitrogen and potash than phosphorous (such as 6 pounds of a 13-4-13 analysis fertilizer per 100 square feet of garden area). Once plants emerge they should be **side-dressed every 3 weeks** at the same rate until flowers form. After the appearance of flowers, there is little advantage to fertilizing.

**To answer variety questions**, most garden and farm supply stores stock the old standby varieties: 'White Kennebec' and 'Red Pontiac' ([Fig. 1](#)). Commercial varieties recommended by the University of Florida include white-skinned ones like 'LaChipper', 'Sebago' and 'Yukon Gold'. Recommended red-skinned commercial varieties include 'Red LaSoda' and 'LaRouge'. These varieties are difficult to come by for the average home gardener. Homeowners may want to try a row or two of some of the blue, red, yellow and differently shaped tuber varieties available in seed catalogs as a trial in their garden and compare the yield to the old stands before planting entire gardens to the new varieties.

**To answer on how small to cut seed pieces**, many home gardeners tend to cut the pieces too small. Cut seed pieces should be about the size of an egg with at least one good "eye" on it ([Fig. 2](#)). Fifteen pounds of potatoes should plant about 100 linear feet of garden row. Store the seed pieces in a cool dark room for two days to callus the cut area before planting to reduce the chance of the seed pieces rotting in the ground.

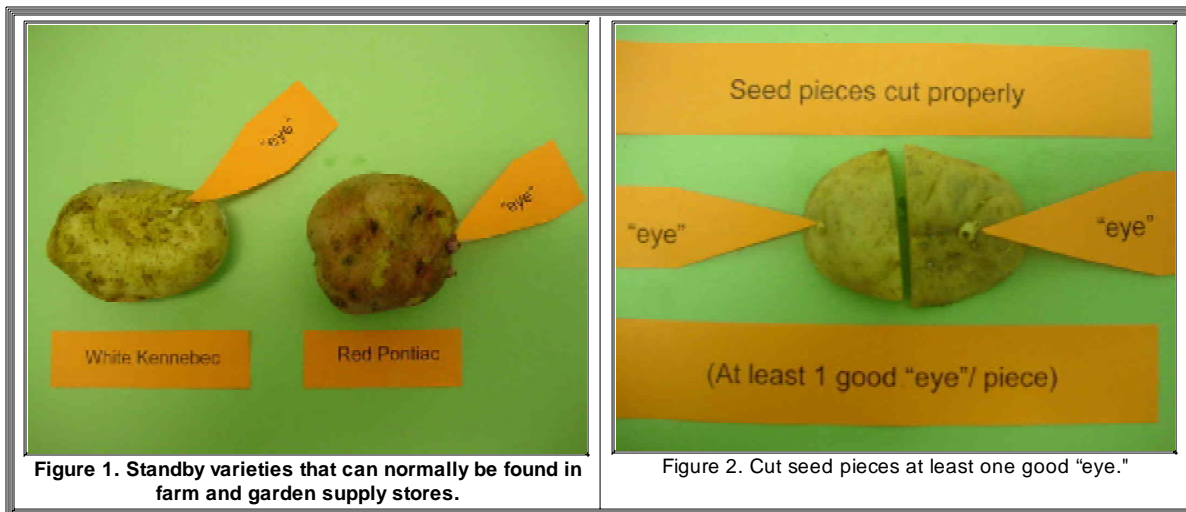
**Planting depth and population can affect late frost survival and yield.** Seed pieces should be planted 4 inches below the soil surface with the cut side facing down. On 36-inch distances between rows seed pieces should be planted 6 to 8 inches apart in the drill (in the row).

Hopefully this short recap of some potato questions has been helpful. You can always direct homeowner and gardening clientele to an excellent reference EDIS publication: <http://edis.ifas.ufl.edu/HS183>

### REFERENCES

Pack, J.E., J.M White and C.M. Hutchinson. 2003. Growing potatoes in the Florida home garden. HS933.

Stephens, J.M., R.A. Dunn, G. Kidder, D. Short and G.W. Simone. 1994. Florida vegetable gardening. SP103.



(Jacque Breman, Union County Extension Director - Vegetarian 04-02)

## INTELLIGENT PEST MANAGEMENT PRACTICES STARTED THE STRAWBERRY SEASON

What a year! From our perspective, 2003 will be one of the most memorable for the strawberry industry (although we still have three months to go until the end of the season!). According to Al Herndon (Ferris Farm, Floral City), "This season has been outstanding as compared with the 2002-2003 season" (Fig. 1). Just to remind you, the low temperatures in the months of January and February 2003 challenged Florida fruit and vegetable production. Nevertheless, by February 2004 the strawberry harvest has been well under way. Some folks had already experienced early problems with twospotted spider mite, aphids, and budworms; however, proper decisions and good timing made control measures effective in most cases.

### SUMMARY OF THE SEASON

Dr. Jim Price, UF Gulf Coast Research and Education Center (GCREC), indicated that this year, strawberry transplants arrived with less than usual spider mites than previous years. Some growers reported better than expected results for spider mite clean-up of young transplants by applying Brigade (bifenthrin) pyrethroid plus diazinon (organophosphate) after the transplant establishment period. Dr. Price added that we should not expect serious losses from spider mites even with an expected increase in mite numbers in February since several effective biological and chemical control measures are now available. Appearances of other pests such as Lepidopterous larvae ("worms") and aphids normally occur in February and thereafter since good control measures are available for these pests. Price indicated that thrip problems increase in warm weather, which continued this season into early January 2004. However, since colder days arrived there seems to be no current increase in thrip numbers. According to Hillsborough county agent, Alicia Whidden (Berry/Vegetables Times January 2004), some farmers reported fruit bronzing and cracks under the calyx. These problems were due to consecutive applications of sulphur for powdery mildew as well as thrip and aphid damage. UF researchers are investigating the sulphur related damage in order to minimize the ill effects of the fungicides.

### BIOLOGICAL CONTROL OF TWOSPOTTED SPIDER MITE

For the past couple of years, we have studied the impact of biological control methods for strawberry arthropod pests. For instance, in an effort to increase the effectiveness of predator mites as a control of twospotted spider mites (Fig. 2), we have set up three experimental trials in Floral City (Citrus County), Plant City (Hillsborough County), and Dover (Hillsborough County) to evaluate the feasibility of using two predatory mites: *Phytoseiulus persimilis* Athias-Henriot and *Neoseiulus californicus* McGregor. This project collaborates with growers, extension agents, and crop consultants to conduct on-farm demonstrations and experiment station trials. The project will also determine the potential for using predatory mites in combination with reduced-risk pesticides to control twospotted spider mites. Information obtained from these studies will be presented in workshops and field-days this spring and summer to train growers in basic biological control pest management techniques.

### BENEFITS OF USING AN INTELLIGENT MANAGEMENT APPROACH

Some of the pesticides that are currently used on Florida strawberry farms to control arthropods and diseases include organophosphates which are considered to pose the greatest risk for human health and the environment. The high level of pesticide use combined with the method of frequency of harvesting means that there is a risk of occupational exposure to these pesticides by crop workers. Reduction of pest control usage in strawberries through Intelligent Best Management practices based on various control measures (cultural, biological, and chemical control compatible with biological methods) are important to follow to reduce environmental hazards and human exposure, cost, and insect resistance. Thus, the continued use of only one practice, i.e. chemical control only, can be extremely costly in terms of not only costs for the chemicals and applications but more importantly losses due to rapid build-up of chemical resistance to the applied chemicals. Ultimately, the combination of control measures leads to the greatest returns to profit in terms of fruit quality and yield for the least 'long term' expense.



Fig. 1. Field strawberry production under way. Healthy young strawberry plants in raised beds and plastic mulch.



Fig. 2. A Twospotted spider mites on a strawberry leaf.

If you have any questions regarding this article, please contact Drs. Silvia I. Rondon ([srondon@mails.ifas.ufl.edu](mailto:srondon@mails.ifas.ufl.edu)) and Daniel J. Cantliffe ([djc@mail.ifas.ufl.edu](mailto:djc@mail.ifas.ufl.edu)) (<http://www.hos.ufl.edu/ProtectedAg/>).

(Rondon and Cantliffe - Vegetarian 04-02)

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## ROTATIONAL CROP RESTRICTIONS

In the past, there have been some questions raised about whether the rotational crop restrictions on a herbicide label are simply for the protection of the manufacturer, in case rotational crops are damaged, and to supply information to the grower about potential crop injury. In fact, the rotational restrictions are fully enforceable.

Barry Brecke, West Florida REC - Jay, sent out a letter documenting the background of cotton injury a year after Cadre application in peanuts. A DOACS inspector was called to a grower field in the panhandle during the summer 2003 to look at damaged cotton. The inspector discovered that they had applied Cadre to peanuts grown in the field during 2002. The inspector told the grower that he was in violation of the Cadre label (which lists the minimum time between Cadre application and cotton planting as 18 months) and wrote the grower a warning letter concerning this "violation" of the Cadre label. The same inspector during a routine check of spray records of another grower discovered that the second grower had also planted cotton in a field in 2003 where peanuts had been grown and treated with Cadre in 2002. In addition, the records of the second grower indicated that the surfactant used with the Cadre contained 70% active ingredient while the Cadre label states that the surfactant with at least 80% active ingredient is to be added to a Cadre application. The inspector included the surfactant "misuse" in the warning letter to the second grower.

Dr. Brecke checked with Dale Doubberly, DOACS Enforcement, and he assured him that the rotational restrictions are an enforceable part of the label. Greg MacDonald also checked with Carlton Lane who is recently retired from US EPA. The following is his response:

*Yes the directions are fully enforceable. Anything on the label that is an affirmative instruction - do or do not - is enforceable even though the grower may have suffered harm as a result of the error or intentional "mistake". There is no such thing under the law as no harm, no foul. An agency might take the harm under consideration and mitigate the penalty, but private applicators who are caught in the practice you describe are simply giving up their free pass. The next time they are caught, it will result in a fine on top of their damage.*

*Vegetable growers are going to have to become more informed on rotational restrictions of the herbicides used and what crops can follow, especially with methyl bromide alternative options under mulch. There still are rotational crops restricted for a period of time even though there are now tolerances and labels of the herbicide or another herbicide with the same active ingredient on that crop. We are working with the companies to reduce or eliminate these problems. If anyone has specific plant-back restriction information that should be brought up with registering companies, please let us know.*

(Stall- Vegetarian 04-02)

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## FLORIDA'S BIGGEST VEGETABLES - 2004 UPDATE

Although retired, Jim Stephens still keeps up with Florida's biggest vegetables as one of his Emeritus Professor duties. The system he employs still requires the assistance of Extension agents in each county following guidelines established in 1989. Prior to that year, no one kept records of big vegetables grown in Florida.

While a record may be established at any time throughout the year, many have been set during agricultural fairs. One such fair that has become quite popular for setting records is the South Florida Fair at West Palm Beach. The fair encourages growers to bring in their largest vegetables by providing very liberal premiums for

winning exhibitors, both youth and adult.

At this year's fair just concluded in January, approximately sixty vegetable specimens were exhibited. From this display, two state records were broken. Gardener Joseph Forcivia brought in a **Florida Broadleaf mustard plant** which tipped the scales at 20 pounds and 4 ounces. That not only won him the \$200 top prize but it established a new standard for mustard greens. Henry Ozaki broke his own record for **cassava** with a root specimen weighing in at 15 pounds 4 ounces. Henry also has the record for malanga which he set back in 1996 at the South Florida Fair.

Perhaps the most notable records set during the past three years were for cantaloupe and pumpkin. Mr. Canniff of Bradenton holds both these records. In 2001, Canniff established the mark for Florida-grown **pumpkins** with his 610 pound Atlantic Giant. Then in June of 2003, he set another record with a 35 pound 3 ounce **cantaloupe**. Both of these records are still unbroken.

Palm Beach County holds the most Florida records with 10 out of the 53 that I keep. The runner-up is Suwannee County, holder of eight records. The following is a list of the current record-size big vegetables (through January, 2004).

Vegetable	Size	County	Grower	Date
Bean, Lima	9 1/2 in.	St. Lucie	Walter	04\12\95
Beet	8 lb. 1 oz.	Duval	Lewis	05\30\98
Boniata	12 lb. 10 oz.	Seminole	Phillips	03\05\91
Broccoli	5 lb. 4 oz.	Suwannee	Graham	06\06\93
Cabbage	20 lb. 9 oz.	St. Johns	Worley	05\28\97
Cantaloupe	35 lb. 3 oz	Canniff	Manatee	06\19\03
Carrot	3 lb. 1 oz.	Pinellas	Nehls	04\16\93
Cassava	15 lb. 4 oz.	Palm Beach	Ozaki	1\23\04
Cauliflower	15 lb. 6 oz.	Alachua	Severino	02\19\92
Chicory	1 lb. 3 oz.	Alachua	Lazin	02\13\86
Collard	13 ft. 3 in.	Leon	Kelso	08\26\93
Corn, sweet	3 lb.	Suwannee	Graham	6\21\00
Cucumber (wt)	4 lb. 7 oz.	Suwannee	Graham	06\29\92
Cucumber (length)	27 in.	Suwannee	Graham	06\29\92
Cucumber Armenian	30 in.	Escambia	Harrison	08\01\96
Eggplant	4 lb. 8 oz.	Palm Beach	Laluppa	01\17\92
Garlic	1 lb. 8 oz.	St. Johns	Hester	05\20\93
Gourd	55 lb.	Suwannee	Graham	08\08\95
Gourd, cucuzzi	61.5.	Hemando	Pizzino	07\18\94
Honeydew	11 lb. 2 oz.	Escambia	Harrison	08\04\96
Jicama	21 lb. 8 oz.	Palm Beach	Oppe	01\26\93
Kohlrabi	19 lb. 8 oz.	Duval	Faustini	06\05\93
Lettuce	58 oz.	Suwannee	Graham	05\06\97
Malanga	29 lb. 15 oz.	Palm Beach	Ozaki	01\12\96
Melon, winter	80 lb. 13 oz.	Palm Beach	Yee	01\17\97
Mustard	20 lb. 4 oz.	Palm Beach	Torcivia	1\23\04½
Okra, pod (wt)	8 oz.	Suwannee	Graham	06\28\93
Okra, pod (length)	22 1/4 in.	Suwannee	Graham	06\28\93
Okra, stalk	19 ft. 10½ in.	Flagler	Mikulka	10\27\94
Onion	3 lb. 11 oz.	Manatee	Geraldson	08\07\90
Pepper	1 lb. 3.84 oz.	Palm Beach	Hyatt	04\12\02
Potato, irish	2 lb. 13 oz.	St. Johns	Kight	05\23\89
Potato, sweet	34 lb. 14 oz.	Manatee	Henderson	01\19\01
Pumpkin	610 lb.	Manatee	Canniff	06\08\01
Radish, S.	3 lb. 12 oz.	Palm Beach	Vanderlaan	01\31\90
Radish, W.	25 lb.	Hillsborough	Breslow	1977
Radish, W.	23 lb. 5 oz.	Alachua	Neilson	03\28\92
Rutabaga	22 lb.	Lake	Salter	11\19\93
Squash, calabaza	36 lb. 8 oz.	Seminole	Chitty	08\16\91
Squash, hub.	131 lb. 12 oz.	Santa Rosa	Bynum	10\26\94
Squash, banana	47 lb.	Putnam	Bryant	07\12\96
Squash, butternut	23 lb. 12 oz.	Santa Rosa	Bynum	09\26\92
Squash, scal.	3 lb. 12 oz.	Nassau	Home	06\22\99
Squash, spaghetti	47 lb. 9 oz.	Duval	Beck	09\09\96
Squash, zucchini	14 lb. 10 oz.	Nassau	Lynch	06\22\99
Squash, Zucchini hybrid	16 lb. 6 oz.	Marion	Licari	06\8\01
Squash, summer	6 lb. 2 oz.	Escambia	Harrison	07\13\95
Taro	8 oz.	Palm Beach	Oppe	01\17\92
Tomato	3 lb.	Marion	Spangler	07\11\90
Turnip	18 lb. 4 oz.	Union	Clyatt	01\20\93
Watermelon	205 lb.	Levy	Bumgardner	07\21\92
Yam (True)	12 lb. 15 oz.	Palm Beach	Oppe	01\26\93
Yardlong Bean	52 in.	Orange	Yoganand	01\07\97

## Extension Vegetable Crops Specialists

<b>Daniel J. Cantliffe</b> Professor and Chair	<b>Rafael Munoz-Carpena</b> Assistant Professor, hydrology
<b>John R. Duval</b> Assistant Professor, strawberry	<b>Mark A. Ritenour</b> Assistant Professor, postharvest
<b>Chad M. Hutchinson</b> Assistant Professor, vegetable production	<b>Steven A. Sargent</b> Professor, postharvest
<b>Yuncong Li</b> Assistant Professor, soils	<b>Eric H. Simonne</b> Assistant Professor and EDITOR, vegetable nutrition
<b>Stephen M. Olson</b> Professor, small farms	<b>James M. White</b> Associate Professor, organic farming

## Related Links

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Florida Cooperative Extension Service  
North Florida Research and Education Center - Suwannee Valley  
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