



UF UNIVERSITY of FLORIDA

IFAS EXTENSION

# The Green Machine

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SOLUTIONS  
for your LIFE

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## Receive Technical Support to Transition to Organic Production

Gainesville-based Florida Organic Growers (FOG) is now offering farmers an opportunity to receive free technical assistance to transition to organic production. By pairing growers with crop advisors who are experienced with organic production methods, the program aims to give growers the support, technical know-how, and assurance they may need or desire to successfully make the transition. The U.S. organic food industry has grown from \$1 billion in sales in 1990 to an estimated \$23 billion in 2008 and is expected to average 18% annual growth through 2010. "The organic marketplace continues to expand and Florida growers may want to seriously consider the market opportunities," stated Marty Mesh, Executive Director of FOG. "We are extremely happy to bring this project to growers which ultimately can have both long- term environmental and economic benefits."

Besides assisting transitioning growers, the program is open to any Florida fruit or vegetable producer who is interested in adopting sustainable agriculture practices for reducing pesticide use. Interested growers please contact Matt Vargas at (352) 377-6345 or [matt@foginfo.org](mailto:matt@foginfo.org). More information, including the application to participate in the program can be found at: <http://www.foginfo.org/epa.php>

To find out more about all the programs your local Extension Office offers visit our website at: <http://bradford.ifas.ufl.edu/>

Happy  
Thanksgiving

What are nematodes? Nematodes are unsegmented, mostly microscopic worms. In agriculture, some nematodes are beneficial decomposers or are predators of bad nematodes. Unfortunately others are parasites of both plants and animals.

Symptoms caused by nematodes include yield loss, stunting, yellowing, wilting, nutrient deficiency and some direct damage (knots on roots, misshapen potatoes, peanuts, etc.). Many of these symptoms are also caused by other root ailments.



Life Cycle & Biology Root Knot Nematodes are the most important and damaging nematodes in the Southeastern US. They produce typical knot symptoms on plant roots. Juvenile nematodes move freely in soil, enter the root and have a rapid life cycle (30 days in summer). Nematodes don't migrate freely like insects so it is hard to get nematodes to new sites. *However, once present, they are always present.* Once a crop is infested there is nothing that can be done to manage a population.

Nematode Management Except for root-knot, soil samples are needed to confirm that nematodes are present. Soil and plant root samples should be taken at the end of the crop cycle, or well before planting the next crop to check populations before the next planting. Several different kinds of plant parasitic nematodes may be present in soil. Management is often done 2 to 3 weeks before planting with a soil fumigant.

No Quick Solutions Nematodes cannot be eradicated; once you get them, you must learn to manage them. It is safe to treat nematodes with soil fumigants but this strategy only reduces the nematode population for 1 to 2 growing seasons if crops are rotated correctly. Nematicides are not available for many specialty crops or in organic production so the site must be managed so that it is not favorable for nematode population buildup.

**Sanitation** Avoid introducing pests to new locations. Use clean soil, clean planting material, clean equipment and destroy/remove residues of infected plants.

**Host Plant Resistance and Tolerance Factors** Host resistance is very important since some crops and cultivars are poor nematode hosts. **Resistant crops** have low nematode reproduction on the plant. **Tolerant crops** can withstand nematode damage.

**Crop Rotation** Reduces populations in a site by growing a poor or non host. This will not eliminate nematodes (low numbers may persist for several years). The objective is to lower nematode numbers enough so that next susceptible crop is successful.

**Useful Rotation Crops for Root-Knot Nematodes Management Include:** sorghum, sorghum sudangrass, grains (oat, rye, etc.), many grasses like millet, many marigold cultivars, some cowpea cultivars and some tropical legumes like sunn hemp and velvetbean. Check with your Extension Office to learn suitable rotation crops for other kinds of nematodes. It is very important that your cover crop does not have weeds in it that are susceptible nematode hosts.

**Solarization** Covering the soil with clear plastic for 6 weeks can heat the soil to 122°F. This can kill weeds, nematodes, and other soil pests up to 4 to 6 inches deep.

**Adding Organic Amendments** Decomposition products may affect some nematode populations by making a more diverse soil food web. Increasing organic matter provides an environment where nematode predators can thrive. **Amendments benefit plants whether nematodes are present or not --- they contain N and other plant nutrients!**

**A Myth About Nematodes** **Planting marigolds with tomatoes does not reduce nematodes on your tomatoes. It is true that marigolds are resistant to nematodes. If nematodes are present, they will thrive on the tomatoes and leave the marigolds alone. Planting resistant plants reduces nematode populations by removing the plants they feed on.**

### **Some Great References:**

Dover, K., K.-H. Wang, and R. McSorley. 2004. Nematode management using sorghum and its relatives. ENY-716. EDIS, University of Florida, Gainesville, FL. <http://edis.ifas.ufl.edu/IN531> .

Krueger, R., and R. McSorley. 2008. Nematode management in organic agriculture. ENY-058. EDIS, University of Florida, Gainesville, FL. <http://edis.ifas.ufl.edu/NG047> .

# Operation Clean Sweep

## Statewide Pesticide Pick-Up



Operation Cleansweep is a mobile pesticide collection program that provides a safe way to dispose of cancelled, suspended and unusable pesticides at no cost. Pesticide dealers can participate for a fee.

Farms/Groves  
Nurseries

Pest control Services  
Greenhouses

Forestry  
Golf Courses

## FREE PICK-UP

For More Information

## CONTACT

Florida Department of Agriculture & Consumer Services

[Cleansweep@doacs.state.fl.us](mailto:Cleansweep@doacs.state.fl.us)

Or call Toll-Free

877-851-5285