

# SOME HELP FROM MARIGOLDS

By Ralph E. Mitchell, Director/Horticulture Agent - UF/IFAS Extension Service, Charlotte County

You may have heard information about planting marigolds to suppress that bane of yards and gardens, the nematode! There is some truth in this notion which involves not only the marigolds' resistance and (sometimes non-resistance) to nematodes, but also the marigold root's ability to release a chemical that is toxic to nematodes. The information that we will explore may make it worthwhile to use marigolds to limit the effects of the parasitic worms known as nematodes.

For years marigolds have been touted as having the ability to control nematodes in gardens. Root damaging nematodes such as root-knot nematodes are very destructive plant parasites. Root-knot nematodes affect many different plants causing the roots to develop swollen areas or galls. Nematode affected plants look stunted and they may wilt or die. Some affected plants may become so stressed that they are infected by secondary opportunistic invaders such as fungi or bacteria. While there is really no treatment for nematode infestations after they invade plants, there may be a pre-plant option. In an attempt to suppress nematodes, a

pre-plant treatment with a covercrop of marigolds may be helpful. The ability of the marigold to release a substance to suppress organisms is called allelopathy. The actual chemical that the marigold releases is called alpha-terthienyl which can help limit not only nematodes, but also things like fungi, bacteria, insects, and some viruses.

Marigolds vary from variety to variety as far as their ability to work against nematodes. Research is not fully sure if it is the presence of the chemical that keeps the nematodes at bay or just that some marigolds are naturally resistant and do not attract nematodes. Alpha-terthienyl is noted to inhibit the hatching of nematode eggs. Using marigolds may best be attempted in areas where annual plants are grown and root-knot nematodes are common. If you wanted to try to use marigolds as a covercrop in advance of your main crop, you must consider several issues. Marigolds cannot totally eliminate nematodes and do not work on all types of nematodes. Some types of nematodes such as stubby-root and sting actually increase in the presence of marigolds. For best results, mari-



*Marigold interplanted with coleus. Coleus will not be protected by marigold even though marigold is planted in close proximity.*

golds have to be grown at least two months before you plant your main flower or vegetable plants. Your main crop also has to be planted exactly where the marigolds were planted. Make your planting dense with about seven inches between transplants to keep out weeds or closer if direct seeded. Keep in mind that the active chemical, alpha-terthienyl, is only produced by live roots and is quickly degenerated by UV light. Accordingly, chopping up marigolds and applying plant parts does not work. Also, growing marigolds with your main plant crop (intercropping) does not work well either.

Depending on the size of the spot you are trying to manage and the cultivar of marigolds, planting marigolds for nematode control could get expensive. You would need about 289 plants per 100 square feet of space. Seed could be saved from some crops to use the next time to reduce costs. Some varieties to consider that are root-knot resistant would include 'Crackerjack', 'Scarlet Sophie', and 'Petite'.

The use of marigolds is a fascinating idea that has its limitations and maybe some opportunities. While not a cure-all, consider using marigolds in beds prior to installing ornamentals or vegetables to see if this effort actually works in your individual setting.

*Resource:*

*Krueger, R., Dover, K.E., McSorley, R. & Wang, K.H. Marigolds (Tagetes spp.) for Nematode Management. UF/IFAS Extension Service.*

For more information on all types of gardening subjects, please contact our Master Gardeners on the Plant Lifeline at 941.764.4340 from 1:00pm-4:00pm Mondays, Wednesdays, and Fridays. Our office is located at 25550 Harbor View Road, Suite 3, in Port Charlotte. Our Plant Clinics are available across the county:

- **Demonstration Garden** (6900 Florida Street, PG) Thursdays 9:00am-11:00am.
- **Englewood/Charlotte Public Library** Thursdays 10:00am-1:00pm.
- **Mid-County Regional Library** 1<sup>st</sup> and 3<sup>rd</sup> Thursday of month 1:00pm-3:00pm.
- **Edison College Learning Resources Library** 3<sup>rd</sup> Tuesday of month 1:00pm-4:00pm.

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For more information about our Florida Yards and Neighborhoods Program, please contact our FYN Horticulture Program Assistant, Allison Steele, at 941.764.4351. Allison can help educate you about the Florida Yards & Neighborhoods Program so that you can create a beautiful, Florida-Friendly landscape that saves you time and money while conserving precious water resources and reducing pollution.

Also, our next Best Management Practices Training concerning the new Fertilizer Ordinance for Commercial Fertilizer Applicators is scheduled for September 18<sup>th</sup> at our office from 8:00am-3:00pm. There is a \$25.00 fee and lunch is provided. For more information, please call 941.764.4340.