

## A Greener View: Petunia roots fail to thrive in waterlogged soil

by Jeff\_Rugg

Q: I have been having a problem with my petunias this year. I planted them as I always do on Memorial Day weekend in Miracle-Gro potting soil; however, they are all dying on me. They become limp like they have too much water in them and start to die. They don't turn yellow; they turn brown.

I replanted thinking the problem might have been where I got my first plants. But the new group from a different place is doing the same thing. I wonder if it is the soil. I notice it has a lot of wood chips in it this year. Plus the weather has been weird, so the soil has not really dried out.

Any ideas before I buy more flowers?

A: If the soil is not drying out, then petunia roots will have a problem. They need a soil that drains. They can do OK in a soil that retains some dampness, but they don't do as well in a soil that stays waterlogged.

A second problem is there are many kinds of decay organisms that live in soil. The ones that like to consume petunias are being fed by continued use of petunias in that particular bed. It is a good idea to rotate the kinds of plants you use in any flower bed. So, for instance, one year use petunias and another year marigolds and then begonias. By rotating the crops, you will keep the disease organism population lower than when you keep replanting the same plant in the same spot.

If the flower bed gets some shade, try replanting with impatiens. They can grow along the shoreline of a water garden where the roots are growing in wet soil.

Q: I have an approximately 8-foot-tall blue spruce that I planted about seven years ago. Its top 1 foot has turned brown and the next foot or so is showing signs of this as well. I fertilize with evergreen spikes every fall. This spruce is one of five located on a slight hill in the rear of my property about 10 feet from a creek (the

creek is the natural boundary for my lot). It is for now the only one looking poor, just recently - last few weeks.

Can I do anything to save it? The area is fairly fertile due to the creek and the spruces have always done fantastic until now.

A: Spruce trees have few insect or disease problems. I suspect that the tree has a spider mite or aphid problem. Both are tiny insects that suck the juice from plant leaves. The needles die and then fall off. It is also possible that the top was damaged by a bird or lightning. Once it starts to die, it can die back for several feet. A strong hose spray of water will help wash the insects away if they are the culprits. This is not a fertilizer problem.

If the top is dead, I would prune the deadwood and see if there is a live branch that can be held in an upright position with a tall stick; it can replace the top growth of the tree in order to maintain the tree's shape.

There is a pretty common disease of Colorado and Norway spruces, hemlocks, and Douglas fir called Cytospora canker. It usually affects trees that are older than 15 to 20 years old or taller than 20 feet. The disease usually starts on the lower branches of the tree and progresses upward. The needles first turn purplish, then brown and finally drop, leaving dry, brittle twigs. The fungus enters the tree through wounds. You might see a coating of white resin on infected twigs.

This is a stress-related disease, so trees should be kept mulched and watered well during dry periods. Even though Colorado spruces are commonly planted on berms, this isn't the best location for them. Another source of stress is planting spruces close together in a group or row where they become intertwined.

Remove infected branches promptly during dry weather to reduce the spread of the disease. Disinfect your pruning tools between each cut. Unfortunately, there is no chemical control.

Q: I recently moved to South Florida and have become aware of the termite problem here in this small community of single-family homes.

I read your article on carpenter ants in the Miami Herald and would appreciate your advice as to whether nematodes can effectively resolve the termite problem in my small property.

A: Beneficial nematodes are microscopic, non-segmented roundworms that occur naturally in soil throughout the world. There are thousands of kinds and some feed on plants, while others attack insects or other nematodes. The kinds that attack insects have a bacteria growing in their gut. The nematode infests the insect and the bacteria then kills the host insect. As the bacteria breaks down the insect's body, the nematode feeds on the resulting nutrients. Yuck.

The nematode reproduces inside the dead insect and then goes out trying to find more insects. The problem is that the microscopic nematode can't move very far. It is helped by water moving in the soil, but it really is hit and miss.

Termites, beetle grubs in lawns and other problem insects can be killed with nematodes. The challenge is getting them into position to do so. Most nematodes are killed in winter weather so more applications are necessary in northern climates. Termites appear to be able to figure out and wall off the infested individuals, thus limiting the infestation. Nematodes are not the best termite control for existing household infestations, but they can be added to the arsenal to help prevent an occurrence.

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