



This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

Blueberry

Blueberry stem blight, caused by *Botryosphaeria dothidea*, can severely limit the establishment of blueberry plantings in the southeastern United States. The disease enters the plant through wounds caused by winter injury, pruning, or insects. Rapid death of individual canes occurs, often killing the entire plant. Both High Bush and Rabbiteye blueberries may be affected, especially young plantings of the more susceptible cultivars. Symptoms are rapid wilting of individual branches. Stems recently killed by the fungus do not drop their leaves which turn brown or red. The entire bush dies when the infection reaches the base of the plant. A wilted stem may be split lengthwise as an aid to diagnosis. A stem blight-infected stem will have a uniform, light brown discoloration in the wood extending down the infected side of the stem. This discoloration is also highly visible in a cross section of the stem. The stem blight fungus does not respond well to fungicides. Control of the disease relies on good cultural practices and resistant cultivars. Disease is worse on very light sandy soils and on heavy black mucky soils. Stems with lesions should be pruned below the brown discoloration. The diseased clippings should be removed from the field and destroyed. Cultivars which are known to be very susceptible to stem blight should be avoided in areas where stem blight is a problem. Bounty and Bluechip are the most susceptible cultivars. Harrison, Bladen, Croatan, Reveille, and the rabbiteye cultivars Premier and Powderblue are considered susceptible, but have been grown with losses averaging less than 10-20%. Young bushes are the most susceptible. Once established (3-4 yr), these cultivars tend to survive fairly well. The most resistant cultivars are Murphy, O'Neal and Cape Fear, which may become infected, but have rarely been known to die due to this disease.



Blueberry stem blight

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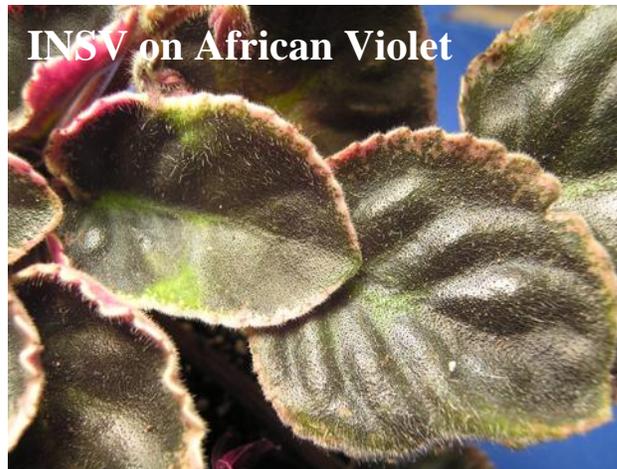


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African Violets

Impatiens Necrotic Spot Virus (INSV) is a destructive viral disease of many foliage, and ornamental bedding plants. African Violets, Anemone, Aster, Begonia, Calceolaria, Chrysanthemum, Cineraria, Cyclamen, Exacum, Geranium, Gerbera, Gladiola, Gloxinia, Impatiens, Kalanchoe, Marigold, Nasturtium, Peony, Periwinkle, Petunia, Phlox, Primula, Ranunculus, Snapdragon, Stock, Verbena, Zebra Plant, and many common weeds, are susceptible. Symptoms are browning, ring spots, mottling, wilting, brown stem lesions, and stunting. Viruses are not curable. Any plants diagnosed with a viral disease should be removed and destroyed. INSV is spread by several species of thrips, notably the western flower thrip. Thrip control is essential but difficult. All plant debris and weeds should be removed from the immediate vicinity. (FlyBarr®, BugBed®, and No-Thrips® screens are effective in preventing the entry of thrips. Control is difficult to achieve through the use of most insecticides. However, biopesticides BotaniGard™ and Naturalis-O™, both of which use *Beauveria bassiana*, have been effective on a schedule of three to five applications at three to five-day intervals. The addition of Azatin™ (a neem product) may increase effectiveness. Conserve is another biopesticide found to be effective.

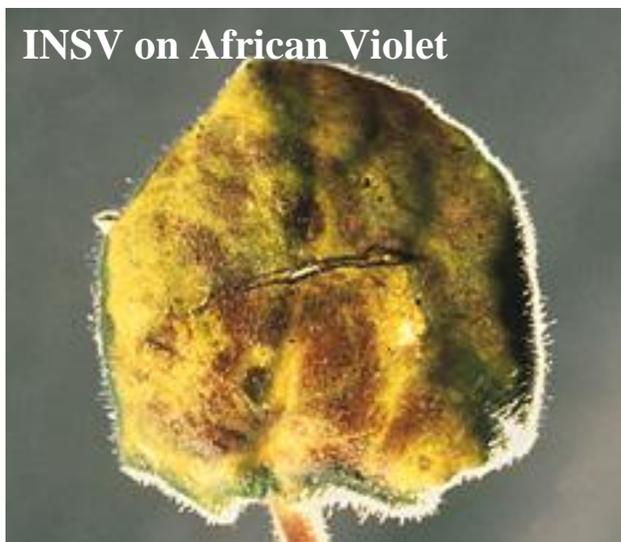


INSV on African Violet

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Iris

It is not uncommon to find iris with Rhizome rot, caused primarily by *Erwinia* species of bacteria. Injury from iris borers can predispose the rhizomes to rot pathogens. The rhizome becomes soft and mushy with a distinctive foul odor. Leaves detach easily. Soft rot is more prevalent when the rhizome is planted; too deeply; on heavy soils; and under conditions of excessive moisture. Iris should **always** be planted with the top of the rhizome protruding above the soil line. They require good drainage and will rot rapidly in soggy soils. Iris should be lifted and separated every 3-5 years to promote good flowering and to help prevent disease. Clumps should be lifted with a garden fork and inspected for rot and borers. Rotted sections should be cut off with a sharp knife, the rhizome rinsed in a 10% bleach solution, (9 cups water to 1 cup bleach), and allowed to air-dry for several days before being replanted. A thorough fall cleanup of garden debris and old iris leaves will greatly aid in the control of rot and Iris borer. A single application of Merit in the spring provides good chemical control of borers.



INSV on African Violet

R. A. Welliver, APS Images



Iris rhizome rot



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Lesion Nematodes (*Pratylenchus spp.*) by Ronnie Bateman

The lesion nematode is a migratory endoparasite that enters the root for feeding and reproduction and moves freely through or out of the root system. They feed almost entirely on the root cortex. It gets its common name from the necrotic lesions it causes on host roots.

It loves most garden crops, a lot of the row crops, grasses, and perennials. They are more likely to be a problem on perennials because the nematode population has more than one growing season to build up (it has been detected in the really high numbers in some of the bulbs). However, corn in Arkansas has the potential to at least suffer spotty damage (Figure 1). There are areas within the state where this nematode can build up to high populations within the plant of the host crop. This was particularly in evidence at the Nematode Diagnostic Clinic earlier this summer when 1,317 lesion nematodes were recovered from 9 grams of corn roots from the Red River bottoms. Although these nematodes were recovered over a 24 day period, the fact remains that at sampling these nematodes were in the root as juveniles or eggs.

This nematode is most active when the plant is actively growing and producing new roots. If a host plant quits actively growing, this nematode will back out of the root system to search for a new location. For this reason it is not uncommon to find no nematodes in the soil of actively growing corn but find a high number within the root system. At or near harvest these nematodes will move back into the soil. If soil sampling for lesion nematodes in the summer some root material should be included with the sample. In the fall they should be in the soil.

Pratylenchus nematodes reproduce more actively on the roots of plants under stress. This includes stress from low soil fertility. It performs better in coarse textured, sandy soils and can survive for more than a year without a host crop in low soil moistures. "Performs better" is a relative term, however, the lesion nematode is also detected in soybean fields in the rice-producing areas of the state.

Although it doesn't appear that the lesion nematode is nearly the problem in Arkansas that it is some states, it does have the potential to cause damage in spots for some crops. If producers get into a continuous corn cycle these "spots" could grow. Those "unexplainable" areas of decreased yield of at least 5-10 bushels of corn should either be sampled for nematode assay or checked the following year to see if the spot has grown. These spots may vary widely in size (from a few square feet to hopefully no more than a couple of acres) but if it is lesion nematode causing the damage and nothing is done the problem will get worse. In the landscape, the perennial that had done so well until last year and is looking worse this year could have a problem with the lesion nematode building up in its root system.

This is not a nematode that one would expect to ever be the problem in Arkansas that the root-knot and soybean cyst nematodes are but keep in mind that in the right soil, with a good host crop, and the right temperature, this nematode can be damaging; it may be the answer to some of the unexplained problem areas in the garden, landscape, or crop.

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Figure1. Lesion Nematode on Corn