



Arkansas Plant Health Clinic Newsletter

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Canola

Both *Pythium* and *Phytophthora* species can attack the roots and crowns of canola when soil conditions are right for infection. Heavy soils and poor drainage provide optimum conditions for root diseases caused by this group of pathogens. Above ground symptoms are wilting, yellowing, and stunting. Root symptoms are blackening and rot of both feeder roots and taproots. Often the plant can be easily pulled from the ground because there are no roots left to anchor it. Control consists mostly of improving drainage and not planting in fields with a history of the disease.

Canola Pythium Root Rot-*Pythium* spp.



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Asparagus

Asparagus is a favorite spring vegetable wherever it is grown. It is now available year-round in U.S. markets. Asparagus spear rot caused by *Phytophthora megasperma* is a serious problem in warmer areas of the U.S. Symptoms are soft water-soaked spots on the spears slightly above, or below the soil line. The lesions expand as they age, eventually collapsing and shriveling. This collapse causes the spear to bend like a shepherd's crook. The internal tissues become discolored, turning brown to black as the crown rots. The extent of the damage depends on rainfall and soil drainage. Mefenoxam is effective but must be used cautiously to avoid promoting resistant strains.

Asparagus Spear Rot- *Phytophthora megasperma*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Asparagus Spear Rot- *Phytophthora megasperma*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Nemesia/Impatien

Nemesias are popular annual bedding plants. They are compact, bushy, plants 8-12 inches tall, and are available in a wide range of colors, both solid and bicolor. In addition, they tolerate half a day of shade as well as full sun. It is unfortunate that Nemesia is one of many species susceptible to Impatien Necrotic Spot

Virus (INSV). INSV was formerly known as the I strain of Tomato Spotted Wilt Virus. It has recently been confirmed as being a separate virus. INSV attacks many of our most popular greenhouse grown plants. The vector is the western flower thrip, *Franklinella occidentalis*. Symptoms are stunting, wilting, and brown, black, or purple ring spots on leaves and stems, and flowers. Some infected plants remain symptomless while others collapse and die quickly. Virus is not curable. Once virus has been identified, plants with symptoms should be destroyed to prevent the virus spreading to healthy plants. It takes only 30 minutes of feeding on an infected plant for thrip larvae to acquire the virus. After a latent period of 3 to 18 days the thrip can pass the virus on to new plants after only 5 minutes of feeding. Control measures must be rigorous to limit infection in greenhouses. Suspect plants should be tested for the virus. Infected plants along with their potting soil should be removed from the greenhouse and destroyed. All weeds in the greenhouse should be removed to limit year-round host plants. All vents should be screened to prevent thrip entry. Install yellow or blue sticky traps help monitor thrip numbers. Insecticides labeled for thrips may be used at 3-5-day intervals when numbers of thrips are high. Care must be taken to switch between chemicals to avoid insecticide resistance.

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Impatien With Impatien Necrotic Spot Virus (INSV)-*Tospovirus*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Wheat

Barley Yellow Dwarf Virus (BYDV) has been identified in several wheat samples the clinic has received. BYDV is the most economically important of the wheat viruses. Hosts include all cultivated cereal crops as well as many cultivated and wild grasses. Aphids acquire and pass on the virus by feeding on the phloem sieve tube elements of cereals and grasses. They must feed for several hours to pass the virus to a host plant. Symptoms are stunting, fewer tillers, and a weak root system. Leaf discoloration from tip to base in shades of yellow and/or red is common. In severe cases, leaf twisting, poor grain fill or sterility may occur. In

the field, circular yellow or red patches of stunted plants may indicate BYDV. Early planted winter wheat is most vulnerable to infection. Avoid planting very early as this exposes young plants to active aphid populations. Seed treatment with Gaucho has been shown to reduce the incidence of BYDV. If you suspect a virus problem, submit samples to the clinic for testing.

Wheat Yellow Barley Dwarf Virus (BYDV)- *Luteovirus*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Rice herbicide damage by Bob Scott

Although 2,4-D is labeled for use in rice, it can damage rice if used Preemergence or applied in a burn-down too close to planting. While most 2,4-D labels say do not plant rice for 90 days or until sufficiently dissipated, the University of Arkansas, MP-44 recommends at least 21 days following a rainfall of 1.0 inches or more. 2,4-D symptoms on rice include stunting, fusion of roots and stems and twisting. The plant on the right is from an untreated area of the same field.

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Rice 2,4-D Damage-Abiotic



Photo by Bob Scott, University of Arkansas Cooperative Extension

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.

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