DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith

SPDN
Southern Plant Diagnostic Network
Issue 12-May 30, 2012

Arkansas Plant Health Clinic Newsletter

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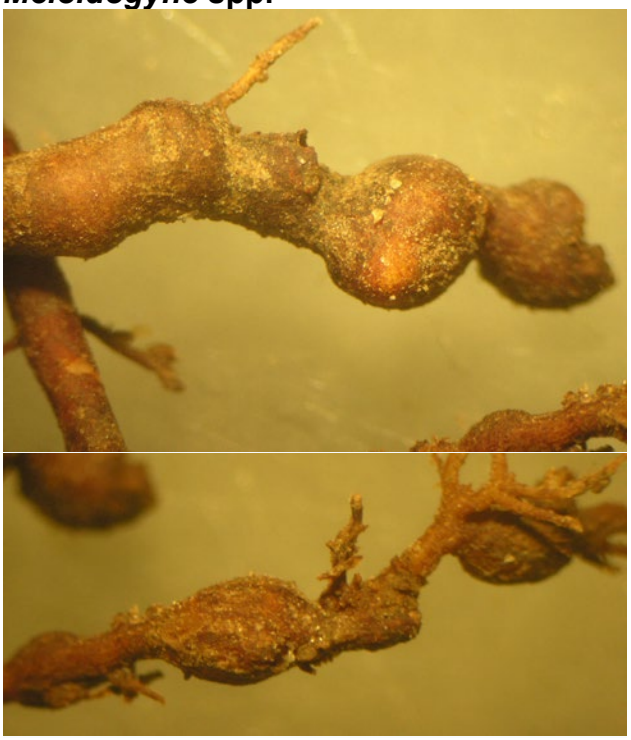
Fig

The common fig, *Ficus carica*, has been cultivated since ancient times. Figs are native to the middle east where they grow wild in dry and sunny areas, with deep soil, and also in rock areas with adequate moisture. It prefers light to medium, well-drained soil, and can grow in nutritonally poor soil. Unfortunately, such soils are ideal habitats for Root-Knot Nematodes (*Meloidogyne* species). Root-Knot Nematodes are microscopic round worms that are parasites on numerous species of plants. Many shrubs, trees, vegetables, and bedding plants are susceptible. Root-Knot Nematode damage is a leading cause of fig decline and death. Symptoms are stunting, yellowing, yield loss, wilting, and death. Root-Knot Nematode damage is not difficult to diagnose. Roots will have swellings that look like knots. Under a microscope, the enlarged females may be observed by cutting into the knots. Infected trees cannot be cured with chemical treatments. Careful pruning of the tops to balance the weakened root system and adequate irrigation and nutrition may stave off death, but the infested trees eventually will die. New fig trees should be planted as far away from the site where the nematodes were found as possible. Submit a soil sample to the nematology lab to be screened for Root-Knot Nematodes, and do not plant figs if they are present.

Fig Root-Knot Nematode Galls- *Meloidogyne* spp.



Photos by Sherrie Smith, University of Arkansas Cooperative Extension

New Guinea Impatiens

Impatiens Necrotic Spot Virus (INSV) and Tomato Spotted Wilt Virus (TSWV) are two viruses that are vectored by insects called thrips. INSV was once believed to be a strain of TSWV, but we now know they are two separate viruses. Both viruses have a large host range, including Impatiens, Fuchsia,

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Begonia, Africa violets, Anemone, Aster, Calceolaria, Chrysanthemum, Cineraria, Cyclamen, Exacum, Geranium, Gerbera, Gladiola, Gloxinia, Kalanchoe, Marigold, Nasturtium, Peony, Periwinkle, Petunia, Phlox, Primula, Ranunculus, Orchid, Snapdragon, Stock, Verbena, Zebra plant, Hydrangea, Tomato, Pepper, Potato, Eggplant, Lettuce, Endive, bean, cowpea, celery, cauliflower, cucumber, and many common weeds among others. Both viruses have similar symptoms, including browning, mottling, ring spots, necrotic spots, and brown-colored stem lesions, stunting, and wilting. Viruses are not curable. Any plants diagnosed with a viral disease should be removed and destroyed. It helps to control the thrips vector by practicing good sanitation. Plant debris and weeds should be removed. Greenhouses may use special screening to exclude thrips. FlyBarr®, BugBed®, and No-Thrips® screens are examples of effective screens. Biopesticides such as 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.

New Guinea Impatiens with Impatiens Necrotic Spot Virus (INSV)-*Tospovirus*

Photo by R. L. Wick, APS Image Library

New Guinea Impatiens with Tomato Spotted Wilt Virus (TSWV)-*Tospovirus*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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New Guinea Impatiens with Tomato Spotted Wilt Virus (TSWV)-*Tospovirus*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Kalanchoe Impatiens Necrotic Spot Virus (INSV)-*Tospovirus*

Photo by R. L. Wick, APS Image Library

Tomato Spotted Wilt Virus (TSWV)-*Tospovirus*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Hosta

Hostas are a mainstay in the perennial shade garden. Given good soil and adequate moisture, they usually have few problems. However, they are susceptible to half a dozen or so viruses. The virus that has received the most attention the last few years is Hosta Virus

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X (HVX). Other viruses identified infecting hostas are Tomato ringspot virus (ToRSV), Impatiens necrotic spot virus (INSV), Tobacco rattle virus (TRV), Cucumber Mosaic Virus (CMV), and several that have not been identified. Symptoms of HVX vary widely depending on the variety. The most common symptom is bleeding of color along veins and blue or green mottling on the leaf surface. Ringspots, zipper-like mottling along veins and necrotic spots may also be present. This is a sap transmitted virus. Plants may become infected through propagation from infected mother plants, or by trimming or dividing infected plants, and then handling other hostas without washing hands and disinfecting tools. Hosta Virus X only infects Hostas.

Cucumber Mosaic Virus has a broad host range, attacking many vegetables and ornamentals. Some ornamentals that are susceptible are China aster, chrysanthemum, delphinium, salvia, geranium, gladiolus, heliotrope, hyacinth, larkspur, lily, marigold, morning glory, nasturtium, periwinkle, petunia, phlox, snapdragon, tulip, and zinnia. Classic symptoms of CMV are narrow, elongated leaves (shoe-stringing), mottling, stunting, and ringspots. CMV is mainly spread by aphids, although it can also be sap and seed transmitted. Any hosta with virus symptoms should be promptly removed from the garden.

Hosta Cucumber Mosaic Virus (CMV)-*Cucumovirus*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Hosta Virus X (HVX)-*Potexvirus*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Hosta Virus X (HVX)-*Potexvirus*

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Hosta Virus X (HVX)-*Potexvirus*

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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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