



Arkansas Plant Health Clinic Newsletter

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Tortoise Beetle

Tortoise beetles are leaf eating beetles, so named because their shells have forward and sideways extensions that resemble the shell of turtles. There are over 3,000 different species. Adults come in a range of color and pattern depending on species. All larval stages are spiny, and often carry their feces on their backs as camouflage. They can be serious pests of sweet potato, riddling the leaves with holes. Sevin, Thioden, Phaser, Marlate, and Spintor are labeled for Tortoise beetle.

Tortoise Beetle Larva- Chrysomelidae



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Tortoise Beetle-*Aspidomorpha miliaris*



Merle Shepard, Gerald R. Carner, and P.A.C Ooi, Insects and their Natural Enemies Associated with Vegetables and Soybean in Southeast Asia, Bugwood.org

Tortoise Beetle- *Aspidomorpha* sp.



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Golden Tortoise Beetle-*Charidotella sexpunctata*



Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org

Cucurbits

Most cucurbits varieties occasionally produce fruits that are abnormal due to ovarian tissue dividing incompletely, giving two fused fruits (Siamese twins). We see it in squash, melons and cucumbers. There is nothing you can do to prevent this condition which is known as fasciated fruit. It is quite rare.

Squash Fasciation-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Squash Fasciation-Abiotic



<http://geraniums.momcom.net/geraniums/squashtwin61806.jpg>



Corn

We're seeing quite a bit of Northern Corn Leaf Blight in the clinic now. This disease causes lesions of varying sizes depending on cultivar susceptibility. The lesions are 3-15 mm long, and start as gray green, elliptical or cigar-shaped spots. As the lesions age, they become tan with dark zones of sporulation. The disease starts on lower leaves and works its way up the plant. The disease can develop rapidly under the right conditions, completely killing the leaves. If the disease is moving up the plant towards the ear leaf, spray with fungicides once you are at plant stage 100% tassel to brown silk. Spray with propiconazole, Stratego, Quilt, Quadris, or Headline.

Northern Corn Leaf Blight- *Exserohilum turcium*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Several species of stinkbug feed on **corn**. They pierce the husk and inject saliva into the kernels to aid in digestion and extraction of plant juices. Fresh damage appears as pinkish discolored kernels. As the ear ages, the damaged kernels become darkened and shriveled. Feeding on young leaves results in stunted plants, wrinkled leaves, pinholes, and whorl leaves failing to expand. The pinholes can expand to up to one inch in diameter, often surrounded by dead, brown tissue, and a yellow halo. Heavily injured plants that are not killed by the feeding will grow new lateral tillers. Synthetic pyrethroid insecticides may be used when there is one stinkbug per five plants.

Corn Stinkbug Damage- Pentatomidae



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Tomato

Tomato Mosaic Virus is also known as Tobacco Mosaic Virus. The virus is transmitted mechanically from infected crops or weeds. It can be transmitted via unwashed hands or clothing that has met infected plants or tobacco products. Smokers are often the means of transmission. It can also be transmitted by chewing insects or tools. Additionally, the virus can persist in the soil on root debris for at least two years. Leaf symptoms are light and dark green mottling to bright yellow mottling. Leaves often have puckered areas, and leaflets may be narrowed giving the plant a ferny appearance. Infected fruit may have green and yellowish-red rings or mottling and dark brown spots. Internal browning of fruit can also occur. Severely infected plants are stunted and affected fruit is not marketable. There are good varieties resistant to this virus.

Cucumber Mosaic Virus infects more than 750 plant species and can be found wherever tomatoes are grown. CMV is usually transmitted by aphids. Infected plants are stunted and bushy with distorted and malformed leaves. Leaves may also show green or yellow mottling. The most classic symptom is extreme shoe stringing of leaf blades. This symptom is sometimes confused with herbicide injury. Infected plants sometimes produce no fruit or small fruit.

We've also seen samples with Tomato Spotted Wilt Virus. The most prominent symptoms are leaf bronzing, black spots, and necrosis of growing tips. Plants start wilting from the top down. Immature fruit have light green rings with

raised centers; ripe fruit will have distinct orange and red patterns. Unfortunately, this virus has a large host range with 176 plant species found to be capable of carrying TSWV. Field crops that are susceptible to TSWV include tobacco, peanut, tomato, pepper, potato, eggplant, lettuce, endive, celery, bean, cowpea, spinach, cucumber, and cauliflower. Most flowering annuals and many herbaceous perennials are host to the virus. Common weeds such as amaranth, chickweed, lamb's quarters, burdock, morning glory, shepherd's purse, yellow clover, and many others serve as reservoirs for the disease. It is spread from plant to plant by the western flower thrip.

Tomato Mosaic Virus (TMV)- Tobamovirus



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension



Tomato Spotted Wilt Virus (TSWV)-Tospovirus



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Tomato Spotted Wilt Virus (TSWV)-Tospovirus



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Cucumber Mosaic Virus (CMV)-Bromoviridae



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Virus cannot be cured. The best prevention is to plant resistant varieties and practice good sanitation and insect control.

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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