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.

Onion

All members of the *Allium* family are susceptible to White Rot, caused by *Sclerotium cepivorum,* including chives, shallots, leeks, onion, and garlic. Crop losses can be severe in fields with a history of the disease. Infected plants are usually stunted with yellowed foliage. White fluffy mycelial growth on the stem plate extends around the base of the bulb, moving up the bulb and inward through the storage leaves, causing a soft rot. Small, black, poppy seed-sized sclerotia form in the dying tissues. The sclerotia can remain dormant in the soil for up to 15 years until the roots of host plants begin to grow nearby. Sclerotia then germinate, and the mycelia typically grow up to several inches through the soil to attack the roots and bulb of the plant. However, sclerotia have been known to cause bulb decay when located as deep as 12 inches below the bulbs. Sclerotia can be spread throughout a planting area by flood water, equipment, or on plant material. This is a very difficult disease to control. Fungicides provide only marginal control when inoculum levels are high, and conditions are conducive for disease development. Rovral 75WG and Folicur 3.6F are labeled for use in commercial fields. Wider spacing between plants can slow the spread of White rot. Homeowners with small plots may consider replacing the soil altogether. Soil solarization may have some benefits. The area to be solarized should be raked clean, thoroughly wetted, and clear plastic placed over the area. The plastic should be left in place for 4-6 weeks. Warm season flooding of the soil has been found to greatly reduce the number of sclerotia as this is a cool season pathogen. Boots and tools should be cleaned to prevent accidently moving the pathogen to new areas. Gardeners who grow onions in infected soils have less infection generally by planting seed instead of onion sets. This is because the seedlings have a smaller root mass, thus fewer chemical signals, at the time temperatures are optimal for disease development.

Onion White Rot-*Sclerotium cepivorum*

Sherrie Smith, University of Arkansas Cooperative Extension

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DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith

SPDN
Southern Plant Diagnostic Network

Department of Plant Pathology
PLANT HEALTH

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Gardenia

Gardenias are grown for their wonderfully scented white flowers and evergreen foliage. Depending on cultivar, they range in size from 2- 8 ft. tall with a naturally rounded form. They grow best in full sun to light shade in moist, rich, well-drained soil with a pH of 5.0-6.0. Gardenia need an inch of water a week and fed monthly during the growing season. Most are winter hardy only in zones 8-10, although there are a few newer cultivars that can tolerate colder temperatures.

A common leaf problem of gardenia is Bacterial Leaf Spot caused by *Xanthomonas maculifoliigardeniae*. Symptoms begin as small, light yellow circles on the upper surface of the leaves. The lesions enlarge and become a reddish brown with a yellow border. Spots may coalesce into larger irregular lesions. Heavily infected leaves may turn yellow and drop prematurely. The disease is favored by crowding, high humidity and warm spring temperatures. Rain or irrigation splash spreads the bacterium within the plant. Often the problem begins in propagation greenhouses where conditions are ideal for disease development. Cultural controls are usually enough to control the disease in the home garden. Overhead watering should be avoided. Leaves that have spots can be removed and destroyed. Commercial nurseries may use ornamental streptomycin for severe cases.

Gardenia Bacterial Spot-
Xanthomonas maculifoliigardeniae

Sherrie Smith, University of Arkansas Cooperative Extension

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Xanthomonas maculifoliigardeniae

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Osteospermum

Tomato Spotted Wilt Virus (TSWV) has a huge host range, infecting over 1000 plant species and causing significant economic damage to many agronomic and horticultural corps. Stunting is a common symptom of TSWV infection, and is generally more severe when young plants are infected. Chlorotic or necrotic rings may form on the leaves and fruits of many infected hosts. Necrotic lesions ranging from specks to spots may develop in the foliage of some

hosts. On tomato, bronze or black netting may appear on the leaves. On peppers, typically the newest leaves at the top of the plant turn black and wilt. The virus is passed plant to plant by species of thrips.   These tiny insects feed by puncturing the epidermal (outer) layer of host tissue and sucking out the cell contents, which results in stippling, discolored flecking, or silvering of the leaf surface.   If a thrips carries the virus, the virus can be passed to the host plant during feeding. The virus may also be transferred by thrips via pollen.   Viruses are not curable.   Infected plants should be pulled up and destroyed. Good weed control, sanitation, and the use of selected pesticides after monitoring helps limit the spread of TSWV.   Be aware that there are some resistant cultivars available in vegetable varieties.

Osteospermum TSWV- Tospovirus

Sherrie Smith, University of Arkansas Cooperative Extension

Tomato TSWV- Tospovirus

Sherrie Smith, University of Arkansas Cooperative Extension