



Arkansas Plant Health Clinic Newsletter

Follow us on social media



Garlic/Onion

Bulb mites in the genera *Rhyzoglyphus* and *Tyrophogus* have a wide host range, feeding on onions, garlic, ornamental alliums, amaryllis, crocus, freesia, gladiolus, hyacinth, iris, lily, narcissus, and tulip, preferring those bulbs with loose fleshy scales. They also feed on several vegetable crops. Bulb mites are shiny, creamy white, mites that range in size from 0.02 to 0.04 inches (0.5 to 1 mm) long and look like tiny pearls with legs. They usually occur in clusters in damaged areas under the root plate of onion bulbs or garlic cloves. They can infest bulbs in storage or in the field. They are most damaging when plant growth is slowed by cold, wet weather, and they are most active when the humidity is high and the temperature is between 60° and 80°F, becoming inactive at temperatures below 50°F and above 90°. When conditions are favorable for reproduction, numbers can rise rapidly. Bulb mite eggs are white, minute and lay singly on the bulbs. They hatch in 2 to 7 days. A female may lay 50 to 100 eggs at the rate of six to eight per day. The entire life cycle may be completed in 2 to 4 weeks. Their feeding activity penetrates the outer layer of bulb tissue and allows fungal and bacterial pathogens to enter the clove.

Seriously infested cloves often will not sprout and rot in the field. Stand may be reduced, and plants stunted. Control is mainly cultural. Rotate out of garlic and onions for at least 4 years. Garlic and onions should be planted only in fields where crop residues are completely decomposed, as they will persist on crop residues. Cole crops especially may harbor large bulb mite populations. They are particularly fond of cauliflower. Flood irrigation in the winter may lower mite populations. Hot water seed treatment may reduce mite infestation but can reduce germination. Put seed in water heated to 130°F 10-20 minutes, or 140°F for 10-15 minutes. Predator mites of the genus *Stratiolaelaps* may be useful in controlling bulb mites.

Garlic Bulb Mite Damage- *Rhyzoglyphus* sp.



**Photo by Sherrie Smith, University of Arkansas
Cooperative Extension**

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.



Garlic Bulb Mite Damage- *Rhyzoglyphus* sp.

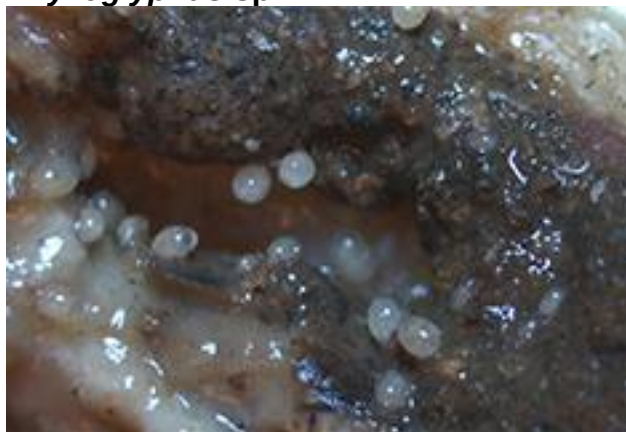


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Deer Damage to Arborvitae- Abiotic



Photo by Ryan Neal, University of Arkansas Cooperative Extension

Arborvitae

It always surprises folks to find out how much deer like arborvitae. During the summer months you wouldn't commonly find deer browsing on arborvitae, but during the winter when other green foods are scarce, they can do a lot of damage in a night or two of browsing. If you don't catch them in the act, a homeowner may be considerably bewildered at finding their arborvitae sporting strange haircuts.



Deer Damage to Arborvitae- Abiotic



Photo by Ashley Totten

Grape

In the warmer parts of the state, grapes are starting to bud. It is easy this time of year to mistake cold damage for the fungal disease Esca. Multiple species of *Toginia* (asexual: *Phaeoacremonium*) and *Phaeomoniella chlamydospora* have been associated with Grape measles (Esca), Young Esca, and Petri Disease. Esca is one of the earliest described diseases of grapes, found most frequently in warm temperate zones. Symptoms may appear on the entire vine or just part of the vine. Young vines may have significant differences in vigor, diameter of trunk, shortened internodes, reduced foliage, and reduced leaf size. Foliar symptoms are the most obvious and frequently observed sign of the disease. Symptoms usually appear first on the leaves at the base of shoots and spread to the rest of the leaves. Leaves display small chlorotic interveinal spots that

enlarge and dry out. This often causes premature dropping of leaves. Shoot tip dieback and wilting may occur. Leaf symptoms are most prevalent toward the end of summer. Affected fruit may not mature properly or have pinprick black spots (measles) distributed in the epidermis. The most dramatic symptom is sudden death of all or part of the vine. This occurs because this is a vascular pathogen. In the wood a characteristic zone of brown necrosis forms around a central area of soft damaged wood. Vines with Esca characteristically exude dark gums from transversely sectioned vascular tissue. Grape leaves showing these foliar symptoms without vascular discoloration are probably symptomatic of magnesium deficiency instead of Esca. Control is difficult. Some benefit has been observed by dormant season applications of liquid lime sulfur to the main trunk of the vine, but these have been inconsistent because of the nature of the pathogen. *Trichoderma* spp. has been shown to help protect pruning wounds, basal ends of propagation material, and graft unions before infection. A product containing *Trichoderma harzianum* Rifai strain T-22 (Rootshield) may be used at the rate of 1-1.5 lb per 1000 sq. ft. Avoid planting or propagating from vines with vascular discoloration.

Grape Esca Vascular Streaking- *Phaeoacremonium* spp.



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Grape Esca Vascular Streaking- *Phaeoacremonium* spp.



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Grape Esca Leaf Symptoms- *Phaeoacremonium* spp.



Photo by W. Gartel, APS Image Library

**Sherrie Smith
Keiddy Urrea**



Issue 3, March 9, 2020

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.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.