

Eriophyid mites on stored garlic

Cause

Aceria tulipae Keifer (= *Eriophyes tulipae*)

This mite is known as the dry bulb mite. This is not the same as the wheat curl mite, which infects cereals and other grasses. Eriophyid mites are tiny banana-shaped mites that are too small to see without magnification.

Occurrence

Aceria tulipae is common and infects wild and cultivated members of the genus *Allium*, including onion, garlic, and leeks. It also infects tulips.

Symptoms

In storage, feeding injury is seen as sunken brown spots on garlic cloves. Feeding damage on garlic leads to drying of cloves and rotting by disease organisms.

Life cycle

Aceria tulipae is found between the layers of the bulbs in storage. The eggs, nymphs, and adults overwinter on infected garlic while in storage, and can also survive in the soil. Infested cloves are the most frequent source of infection in the field.

Maximum egg hatch while in storage occurs at close to 100 % relative humidity, and the time to complete a life cycle, from egg to adult to egg was 8-10 days at 75 – 80 °F.

Management

- Avoid successive onion and garlic crops.
- Flood irrigation or heavy winter rain will reduce mite populations.
- Hot water treatment of bulbs prior to planting can reduce mite populations, but effective temperatures also reduce germination. Effective times and temperatures were 130 °F for 10-20 min, or 140 °F for 10–15 min.
- Good control was reported with soaking affected cloves for 24 h in 2% soap (not detergent) and 2% mineral oil.
- Light or moderate infestations are controlled with the normal drying process prior to storage.

References

CAB International Crop Protection Compendium, 2006. CABI, Wallingford, UK (<http://www.cabi-publishing.org/>)



Streaks and spotting of garlic due to eriophyid mites.



Eriophyid mites on the surface of a garlic clove. The arrow points to one that is broadside to the viewer.

Photograph by Melodie Putnam

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- Keifer, H.H., E.W. Baker, T. Kano, M. Delfinado & W.E. Styer, 1982. An illustrated guide to plant abnormalities caused by Eriophyid mites in North America. Agriculture Handbook Number 573. United State Department of Agriculture
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