



University of California Cooperative Extension – Kern County

NEWS RELEASE

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Bulb Mites

Bulb mites are a problem of garlic and onions that often goes unrecognized. These pests can reduce stands, slow plant vigor, and increase post harvest diseases by their feeding on the roots and base of the bulb (stem plate). Bulb mites have a very wide host range, but are particularly damaging to onions and garlic. The reason that this pest often goes unrecognized is that these mites are not easily seen on the bulb, instead crawling deep into crevices between the roots and stem plate.

To determine whether they are present in the plant, the region where the roots and bulb come together needs to be teased apart. They may also be under one or two layers of scales at the lower end of the bulb or clove. Other mites may be present, but with a hand lens the bulb mites can be identified from other mites.

The bulb mite is itself bulb shaped, with its legs moved forward and a bulbous rear end. The mouthparts and legs are purplish-brown while the main bulbous body is creamy white. These mites have been described as looking like tiny pearls with legs. The mites are small ranging in size from .02 to .04 inches (0.5 to 1 mm). It is a very slow moving mite and will try to crawl back into a crevice once exposed. They are usually found in clusters underneath scales and at the base of the roots.

Garlic and onions plants are not only damaged from the direct feeding by bulb mites, but also by also allowing pathogens to enter through the wounds caused by the mites. The wounds that the mites cause are excellent entry points for pathogens like *Fusarium* spp. and various soft-rotting bacteria. Early in the growing season, bulb mites can be responsible for poor plant stands and stunted growth as they feed on the plants. Infested plants can usually be easily pulled out of the soil because of the poor root growth. Later in the season, higher than normal amounts of soft rot and *Fusarium* dry rot may be seen because of the wounds caused by the mites.

Bulb mites survive in the soil on organic matter left behind from the previous crop. As long as there is decaying vegetation matter in the soil, bulb mites can survive in a field. The best way to control bulb mites is then allow the vegetation from the previous crop breakdown before any new crop, especially garlic or onions. Low areas of the field that stay wet along with high organic matter in the soil are especially prone to high levels of bulb mite survival. These mites may also come into a clean field on infected garlic cloves. So the use of clean garlic clove seed or seed that has been hot water treated should be always used.

Bulb mites should be something that onion and garlic growers and their consultants should be aware of and be able to recognize in the field. This is another example where a pest can be avoided with some planning and use of cultural control methods.

