

Spider Mites Problems Emerging In Dry Areas Of State



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Two-spotted spider mite problems in soybean began during the past few days. Although recent precipitation in some areas of the state slowed the growth of spider mite populations in field crops, the threat from this pest remains high in most areas of Missouri. Southern Iowa producers have been experiencing problems with this pest in past weeks with most problems in Missouri being reported in counties located adjacent to the Iowa-Missouri border. In Missouri, all areas with dry, dusty conditions are at high risk from spider mites where these conditions prevail. Precipitation in the form of rain or heavy dew conditions often cause two-spotted spider mite populations to collapse within a few hours of being exposed to moisture. However, mite populations can double about every 5-7 days under drought conditions. Spider mite infested fields which receive rainfall should continue to be scouted as damaging levels of spider mite may redevelop if drought conditions return.

Spider mites are small organisms most closely related to chiggers and spiders than to insects. The two-spotted spider mite, *Tetranychus urticae*, is often an economic pest of soybean and to a much lesser extent of corn in Missouri during periods of drought conditions. This pest gets its name from two dark spots on the sides of the abdomen which are visible through the mite's translucent, greenish-yellow, white, orange, or red colored body. Spider mites feed on the underside of soybean leaves and are difficult to detect due to their small size of about 1/60 of an inch. Damage to soybean is thought to be caused by the mites piercing individual plant cells with their mouthparts and then feeding on cell contents. Spider mite problems in soybean are often first reported when areas of soybean plants begin to yellow along field borders or waterways (where mites often overwinter). Upon inspection of specific plants growing in these yellowed areas, spider mite injury initially appears as yellow stipples, speckling or spots on soybean foliage. In heavy infestations the yellow stipples are generally followed by the injured foliage turning yellow, then brown/bronze and finally dropping from the plant as soybean leaves

dry. As mite populations increase, damage moves across the field as mites infest additional soybean plants. Identification of this pest is best accomplished using at least a 10X magnification lens (20X magnification better) or by shaking infested leaves over a white paper and watching for the small yellow mites to crawl about the paper after being dislodged from the soybean plant.

In most years problems with two-spotted spider mites in soybean occur on plants in the reproductive stages of growth during late summer when dry conditions often prevail. This year damage is being found early in the growing season on seedling soybean. A general recommendation for two-spotted spider mite on soybean is to control this pest when foliage yellowing reaches 20 percent before pod set and when foliage yellowing reaches 10 percent and mites are present after pod set. In either case, heavy infestations of spider mites can cause severe damage to soybean plants in both vegetative and reproductive stages of growth. Concerns with seedling soybean plants include the small size of soybean seedling at this time in the growing season, the resulting loss in photosynthetic efficiency and possible loss of plant foliage, and the continued exposure to drought conditions. Soybean plants infested during reproductive growth stages often experience increases in both soybean maturity and shattering of grain following economic infestations of spider mites.

Although soybean plants can often compensate later in the season if growing conditions become favorable, treatment of plants in both vegetative and reproductive stages of growth is recommended during drought conditions if yellowing of foliage reaches 20 - 30 percent with stipples or speckling present of soybean leaves and live mites are present. Infestations of this pest generally move downwind, so it is necessary to scout the entire field to determine if mites are present in spots or throughout the entire field. If hot and dry conditions persist, the entire field may require treatment even if mite numbers are low in some areas of the field. The following insecticides are labeled for control of two-spotted spider mite on soybean. Note that treated soybean plants may continue to exhibit additional damage symptoms for up to 7 - 10 days following removal of spider mites. Δ

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