

INTEGRATED CROP MANAGEMENT

Spider mites are burning soybean fields

Twospotted spider mites can become serious pests of soybean whenever hot, dry weather persists. We have confirmed reports from Lee and Wapello counties in southeastern Iowa where fields have been sprayed because spider mites are "burning" the leaves and causing plant defoliation.

The twospotted spider mite is named for the two dark spots on the sides of the abdomen, which are digested food visible through the insect's translucent body. Three or four spots may be apparent and are most prominent on adult mites.



[1] **Two-spotted spider mite.**

Spider mite injury to soybean can resemble herbicide injury or a foliar disease; however, characteristic signs are tiny yellow spots, or stipples, on leaves. As the injury becomes more severe, leaves turn yellow, then brown or bronze, and finally die and drop off. Soybean plants injured by mites mature early, have increased shattering, produce smaller seeds, and may produce wrinkled seeds. Early and severe mite injury left untreated can completely eliminate yields. More typical mite injury, occurring during late vegetative and early reproductive growth, will reduce soybean yields 40-60 percent. Spider mites can cause yield reductions as long as green pods are present. Soybean plants can recover from substantial amounts of mite injury after treatment, although less compensation is possible in later developmental stages.



[2]

Soybean leaf showing the early symptoms of stippling from spider mite feeding.



[3]

Damage to soybean field from twospotted spider mites.

Before spraying, scout the field and confirm that living mites are present. Examine other areas of the field, especially downwind, to identify the extent of the infestation in healthy

plants. Because they are small and stay on the undersides of leaves, spider mites can be difficult to see. One way to spot them is to slap leaves against a white piece of paper and look for moving yellow dots on the paper.

Under the locally dry conditions this year in some parts of Iowa, treatment is recommended when plants in infested areas have substantial stippling or leaf-yellowing and live spider mites. Treatment may be delayed if cooler temperatures and high humidity are expected; however, scattered thunderstorms and rain alone will not reduce mite infestations. Closely monitor infested fields if treatments are delayed, and treat before mites cause leaf browning and leaf drop. Spot treat if the infestation is localized, but check other areas for mites.

Under drought conditions, treatment is recommended if leaves in infested areas are stippled and live mites are present. Before treating, check the entire field (and adjacent fields) for mites. Under very dry conditions, mites usually will occur throughout the field and spot treatments are unlikely to prevent the infestation from spreading. If mites are found throughout the field (even in low numbers) in addition to the more heavily infested areas, treat the entire field. Closely monitor treated fields for reinfestations. Avoid unnecessary sprays, but treat before injury becomes severe and leaves drop.

Late infestations can be difficult to control because mites accelerate soybean maturity and increase shattering. Chemicals labeled for mite control have 21- to 28-day harvest intervals. Consequently, if infested fields still have green pods but seeds are filling, it may be better to accept some yield loss from mites and not treat, rather than treat and have shattering but be unable to harvest. Scouting for mites now will help avoid problems with harvest intervals.

If an insecticide is needed, either dimethoate (formerly sold as Cygon) or Lorsban should be considered for spider mite control in soybean. Both materials were tested during the drought and spider mite outbreak of 1988, and there were no detectable differences in performance. Labeled rates and preharvest intervals in soybean are as follows: dimethoate 4EC or 400 (1 pint per acre and 21-day preharvest interval), dimethoate 2.67EC (1 1/3 pints per acre and 21-day preharvest interval), and Lorsban 4E (0.5-1 pint per acre and 28-day preharvest interval).

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