8/10/09 University of Missouri Extension

Low Soybean Aphid Populations in West Central Missouri

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Across the Midwest, university extension agronomists are monitoring local soybean fields for the presence and severity of soybean aphid. Regionally, Wisconsin has observed the greatest pressure from soybean aphids, with several sites recording more than 500 aphids per plant. However, all monitoring sites across Iowa have reported less than 40 aphids per plant as of August 4th. Illinois is reporting similar data, with all monitoring sites reporting an average of 6 or fewer soybean aphids per plant. The extension service in Illinois notes that as of August 3rd, soybean aphid numbers are exceedingly low in production fields across the state. See the PIPE (Pest Information Platform for Extension and Education) website for regional soybean aphid data:
http://sba.ipmpipe.org/cgi-bin/sbr/public.cgi?host=All%20Legumes/Kudzu&pest=soybean_aphid

Dr. Wayne Bailey, MU Extension Entomologist, notes that low numbers of soybean aphids can be found in some north Missouri soybean fields. However, I encourage producers in west central and central Missouri to exhibit caution before proceeding with an insecticide application. Currently, soybean aphid pressure in west central Missouri does not warrant treatment with an insecticide. On July 23rd, while investigating a field near the Ray and Lafayette County border, I recorded a per plant average of 0.1 soybean aphid. For every 10 plants examined, I found 1 soybean aphid. When surveying the same field on August 6th, the soybean aphid population remained unchanged. Similar to the July 23rd data, there was a per plant average of 0.1 soybean aphid.

Treatment is not recommended until there are a minimum of 250 soybean aphids per plant. Numerous university research studies have investigated the effect lower soybean aphid populations have on soybean yield and have repeatedly shown that 250 aphids per plant is below the damage boundary. There were no yield losses observed for populations that peaked at 250 aphids per plant.

Soybean growers should not employ a “preventative” strategy for soybean aphid, as this strategy can actually result in higher soybean aphid numbers and potentially greater yield loss. When an insecticide treatment is applied before it is warranted, the grower puts him or herself at risk for resurgence of the soybean aphid population. Insecticides will kill not only the soybean aphid but also beneficial insects, such as the ladybird beetle, insidious flower bug, and damsel bug. Beneficial insects are slower to recover from an insecticide application than soybean aphid, and therefore, the field is left “unprotected” from resurgent aphid populations. When applying an insecticide in a preventative manner, growers can inadvertently worsen the situation because they remove the beneficial insects and allow for greater populations of aphids than would have been present had they not sprayed at all.

Research has shown that soybean aphid populations have little impact on yield once the soybean plants move past the R5 growth stage. The R5 growth stage is designated by the presence of a 1/8” seed in the pod at one of the four uppermost nodes on the main stem. Therefore, growers should predominantly be concerned about monitoring fields that have yet to reach R5.

If you would like to receive email updates regarding local crop conditions and pest alerts, send your request to Julie Abendroth at abendrothj@missouri.edu or contact her at 816/776-6961.

See below for images of soybean aphid.

Soybean aphids (winged and wingless forms can be seen) on soybean leaf.
Photo Credit: University of Missouri Extension.

Wingless aphids on soybean stem. Photo Credit: University of Missouri Extension.
Note wingless aphids are 1/16” long, light green to pale yellow with two dark-tipped cornicles (tail pipes) near the end of the abdomen.