

# When to treat

How many aphids are too many? When is the best time to treat? What about the weather? NCSRP-funded researchers have made good progress in helping soybean growers answer these tough questions.

“Data from several states clearly demonstrate that potential yield loss is related to aphid population density,” says David Ragsdale, the University of Minnesota entomologist heading NCSRP’s research team. “However, yield loss isn’t uniform throughout all plant growth stages.”

## R1 to R3

There’s widespread acceptance of the “250 per plant – if aphid populations are increasing” treatment recommendation in plant growth stages R1 through R3. “When aphid populations peak during the early reproductive stages, you’ll see reduced pod set and plant height, and major yield losses,” says Ragsdale.

“Once we get into later R4, R5 and R6, that 250 threshold likely can be raised,” he adds. “But we don’t know how high.” That’s what scientists on the NCSRP team are studying now.

If the crop has grown well through the vegetative stages and then gets aphids in the later reproductive stages, “It may be able to tolerate aphid numbers as high as 800,” Ragsdale says. “At that point, there’s less influence on yield, either because aphids already have reduced potential yield, or the plant growth is sufficient to overcome the aphids’ drain on yield.”

**The R1 stage** Researchers currently recommend treating when aphid populations hit 250 per plant and are increasing – and when plants are in R1 through R3.



Courtesy of Chris DiFonzo, MSU



Courtesy of David Ragsdale, U. of Minn.

**Scout early and often!** The further north you are, the earlier you should start scouting. Last year in Wisconsin and Minnesota, for example, growers started seeing aphids in early June. “This pest requires multiple, regular visits to the field,” says Eileen Cullen, assistant entomology professor at the University of Wisconsin.