

Research Summary & Conclusions

- Only the Rag1 gene was tested in our field experiment. It is the most common source of aphid resistance and will be commercially available in 2010. Other sources of aphid resistance have been identified and may be released in the near future.
- In 2007 and 2008, soybean aphids exceeded the economic threshold in the resistant and susceptible varieties. However, the aphid growth rate was slower in resistant plots compared to susceptible plots. This pattern of aphid growth was also observed in other states.
- Yield loss from soybean aphid is still possible even from aphid-resistant plants. Insecticides may still be needed to protect yield.
- Aphid-resistant plants will still be at risk for other insect pest problems, like bean leaf beetle or spider mite infestations.

Future work for host plant resistance to the soybean aphid

Research to improve the expression of host plant resistance genes in existing germplasm will continue. Additionally, scientists will attempt to couple genes that impart antibiosis and tolerance to produce more durable aphid resistance. They will also determine if a new economic threshold and economic injury level are needed for aphid-resistant soybean varieties.

Host plant resistance is a new tool for soybean aphid management. However, additional research is needed to evaluate its long-term use in commercial production.

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