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When should you be concerned about adult corn rootworm feeding on your corn?

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When should you be concerned about adult corn rootworm feeding on your corn?

Abstract
Last week, we were asked when a grower should be concerned about adult corn rootworms feeding on the silks of their corn. The importance of beetle feeding on corn silks is variable and there is not a definitive treatment threshold. The variability is the result of the environmental conditions and the maturity of the corn in relation to surrounding fields. During the 1970s, Purdue University conducted a study to try to identify a treatment threshold for adult rootworm feeding. The resulting threshold was 5 to 15 adult rootworms per plant.

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When should you be concerned about adult corn rootworm feeding on your corn?

by Jon Tollefson and Marlin E. Rice, Department of Entomology

Last week, we were asked when a grower should be concerned about adult corn rootworms feeding on the silks of their corn. The importance of beetle feeding on corn silks is variable and there is not a definitive treatment threshold. The variability is the result of the environmental conditions and the maturity of the corn in relation to surrounding fields. During the 1970s, Purdue University conducted a study to try to identify a treatment threshold for adult rootworm feeding. The resulting threshold was 5 to 15 adult rootworms per plant.

The primary factor that caused the wide range, they felt, was the weather. If growing conditions were good for corn, they could tolerate up to 15 beetles feeding on the reproductive tissues of the plant without yield losses that would pay for treatment. If conditions were not favorable for pollination of the silks, for example, hot, dry conditions with the silks not actively growing, then as few as five beetles would significantly reduce pollination. A better and more practical threshold might be the growth of the corn plants. If there is ½ to 1 inch of silks exposed on the ears and pollen is available, killing beetles to protect fertilization should not be necessary. If the silks have been chewed back to the husks and pollen is still being shed, a treatment to control the adults would be warranted.

The second factor we listed is the maturity of the corn field in relation to fields surrounding it. If the field was late planted or is a very late flowering variety in relation to the fields around it, then there may be danger that adult corn rootworms will reach very high numbers in the field. This is because the silks will still be green and attractive to the beetles when the silks in surrounding fields have matured and are drying. The fresh, green silks will be attractive to beetles that are leaving the more mature fields, and they may congregate in the later maturing field.

Bottom line, watch corn fields during the time that they are pollinating. If silks are present when pollen is being shed, don't apply chemicals to the foliage to control adult corn rootworms in order to enhance pollination. There won't be an economic return.

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If corn rootworm adults chew silks back to within ½-1 inch of the husk before pollination, then chemical control would be justified. (Marlin E. Rice)

Jon Tollefson and Marlin E. Rice are professors of entomology with research and extension responsibilities in field and forage crops.

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