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Good News—Bean Leaf Beetles Hit Hard by Winter Cold


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Good News—Bean Leaf Beetles Hit Hard by Winter Cold

Abstract

During the last 20 years, the bean leaf beetle has undergone tremendous population changes in Iowa. From 1989 to 1996, the populations (both first generation and second generation) were relatively insignificant and the insect was not considered to be a serious pest. But in 1997, the population in central Iowa began a yearly escalation until it reached a historical high in 2002. Populations that year were nearly 400 times larger than those of the mid-1990s and we believe that this was due in part to milder winters followed by earlier planting of soybeans. Since that time, the population has returned to more normal levels and is similar to what we witnessed at the beginning of the beetle explosion in the late 1990s.

Keywords

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ICM News

April 22, 2008

By Marlin E. Rice and Rich Pope, Department of Entomology

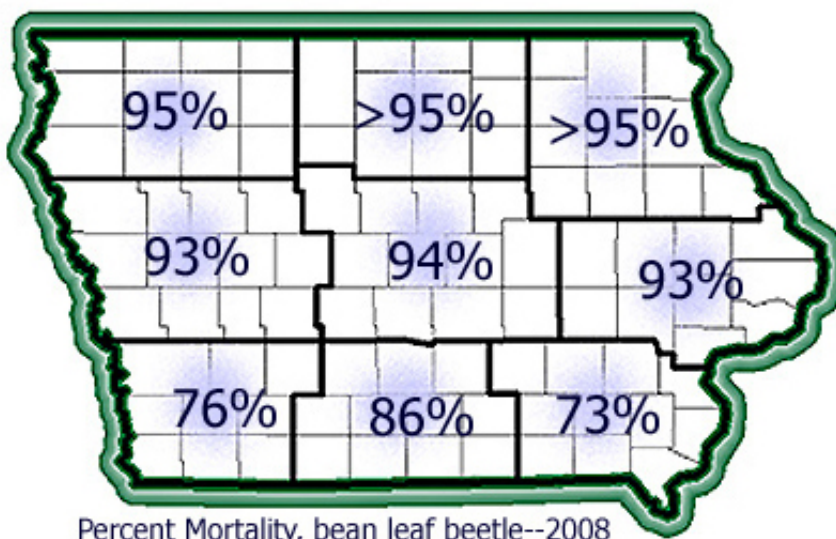
During the last 20 years, the bean leaf beetle has undergone tremendous population changes in Iowa. From 1989 to 1996, the populations (both first generation and second generation) were relatively insignificant and the insect was not considered to be a serious pest. But in 1997, the population in central Iowa began a yearly escalation until it reached a historical high in 2002. Populations that year were nearly 400 times larger than those of the mid-1990s and we believe that this was due in part to milder winters followed by earlier planting of soybeans. Since that time, the population has returned to more normal levels and is similar to what we witnessed at the beginning of the beetle explosion in the late 1990s.

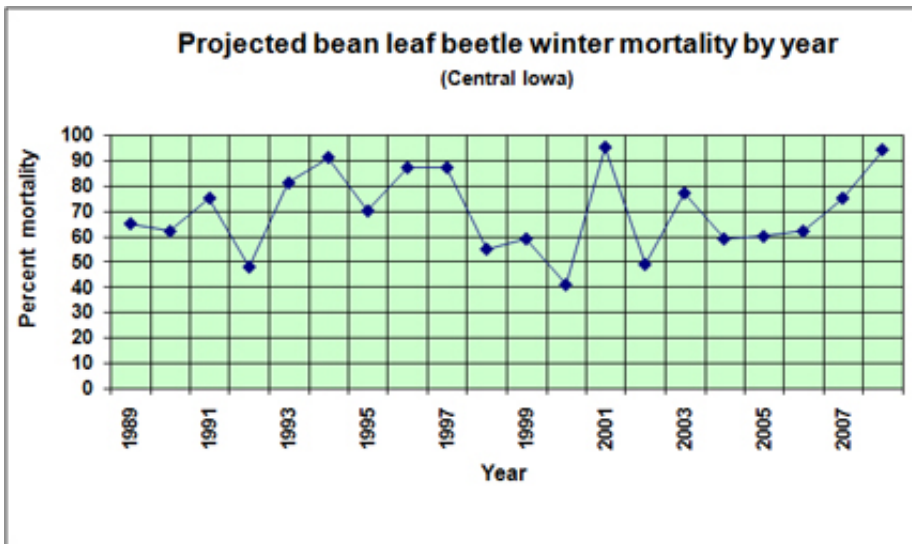


Adult bean leaf beetle. (Photo by Marlin E. Rice)

Since 2002, the bean leaf beetle has hit on "hard times." Insecticide spraying for soybean aphids during July and August may have greatly reduced the second generation. Each year that we spray aphids, fewer beetles survive the summer to go into hibernation. A resulting benefit from the soybean aphid applications is that the bean leaf beetle is now relegated to secondary pest status in many areas.

So what should we expect for 2008? It was a long, cold winter, and based on temperatures, we predict that the mortality of overwintering bean leaf beetles was very high—especially in the northern and central tiers of Iowa counties (see map). To place this predicted mortality into a historical context, for central Iowa the predicted mortality is 94 percent, which is the second highest prediction during the last 20 years (see chart).





Data Source: Midwest Climate Information Center

The beetles will be back again this spring but their numbers should be the lowest of the past seven years. However, the earliest emerging fields in an area (such as several sections) should be closely scouted and managed if necessary. Beetles are highly attracted to these early emerging fields. Fields that should be of greatest concern for damage from this insect, and the virus it spreads (bean pod mottle virus), are food-grade soybeans and seed beans where reductions in yield and seed quality can be significant.

Marlin E. Rice is a professor of entomology with extension and research responsibilities. Rich Pope is an extension program specialist working in the Corn and Soybean Initiative.

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