

## **Extension Notes**

Personal Column for February 22, 2010

By Gary Hall, Iowa State University Regional Extension Education Director

### **Ouija Board for Bean Leaf Beetles**

Now how can you predict how many bean leaf beetles will survive all of this snow and cold? ISU Extension Entomologists can tell you all about it so you can plan for at least one pest in your soybeans.

Bean leaf beetles have adapted to Iowa's winters by protecting themselves in leaf litter, but they are still susceptible to cold temperatures. Harsh winters can cause significant mortality. In general, bean leaf beetle adults will die if temperatures fall below -10C. An overwintering model was developed by Lam and Pedigo from Iowa State University in 2000, and is helpful for predicting winter mortality based on accumulating subfreezing temperatures. Here is where we can sing the praises of cold temperatures. In general, Iowa experienced very low temperatures, with predicted mortality ranging from 82-99 percent. North Iowa is estimated to have about 99% mortality. So all that cold weather was good for something.

As with all insects, growth and development is highly regulated by temperature. In other words, warmer temperatures will shorten the time it takes to become adults. The overwintering adults become active in late April or May, and begin looking for food. Often soybean isn't emerged at this time, so the adults may be feeding on alfalfa or other wild legumes. As soybean emerges, the adults will move into fields. The first generation becomes active in July and the second generation emerges in late August or early September. Usually the second generation is much more abundant and has the potential to cause economic damage.

Overwintering adults are strongly attracted to soybean and will move into newly emerging fields. Bean leaf beetle is easily disturbed and will drop from plants and seek shelter in soil cracks or under debris. Sampling early in the season requires you to be sneaky to estimate actual densities. Although overwintering beetles rarely cause economic damage, their presence may be an indicator of building first and second generations later in the season. The good news is that we don't expect a lot of beetles to survive this winter so now you can enjoy the cold.

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