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## Stewart's disease risk for 2004

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## Stewart's disease risk for 2004

### **Abstract**

There have been reports of corn flea beetles in southern Iowa from May 4 to 10. Overwintering flea beetles may be infested with the bacterium *Pantoea (Erwinia) stewartii*, which causes Stewart's disease. Field corn inbreds and sweet corn are particularly susceptible to this disease. Seed producers should pay attention to early season flea beetle populations because, if left unchecked, you could have substantial Stewart's disease during grain fill, resulting in yield loss.

### **Keywords**

Plant Pathology, Entomology

### **Disciplines**

Agricultural Science | Agriculture | Entomology | Plant Pathology

# INTEGRATED CROP MANAGEMENT

## Stewart's disease risk for 2004

There have been reports of corn flea beetles in southern Iowa from May 4 to 10. Overwintering flea beetles may be infested with the bacterium *Pantoea (Erwinia) stewartii*, which causes Stewart's disease. Field corn inbreds and sweet corn are particularly susceptible to this disease. Seed producers should pay attention to early season flea beetle populations because, if left unchecked, you could have substantial Stewart's disease during grain fill, resulting in yield loss.

Stewart's disease can occur at any stage of plant development. Symptoms are almost always associated with corn flea beetle feeding. At the seedling stage, infected plants wilt rapidly from systemic infection, death is common, and plants that do survive are stunted. Leaf blight occurs later in the growing season, usually after pollination. Disease symptoms are long wavy streaks that are initially water-soaked, and then turn yellow and die. Flea beetle tracking lines are visible within the lesions. If the disease is severe, whole leaves may die.



**Corn Flea Beetles on Leaf.**

[Enlarge](#) [1]



**Flea beetle.**

[Enlarge](#) [2]

The risk of Stewart's disease can be predicted. Mild winters favor the survival of the corn flea beetle. A high prevalence of Stewart's disease is predicted for seed corn and sweet corn using Nutter's model if the mean monthly air temperatures for December, January, and February are each above 24°F. When temperatures for two months are greater than 24°F, a moderate to high risk of Stewart's disease is possible. This past winter, the mean monthly temperatures in each district for December 2003 were above 24°F but then fell below 24°F in January 2004. However, the mean monthly temperatures were above 24°F in the east central, south central and southeast districts in February. Therefore, we can predict a moderate to high threat of Stewart's disease in these areas.

This disease can be controlled on susceptible corn by controlling the corn flea beetle with an insecticide. Use the following thresholds: in field corn prior to stage V5, 50 percent of plants

with severe feeding injury and 5 or more beetles per plant; in seed corn on susceptible inbreds, 10 percent of the plants with severe feeding injury and two or more beetles per plant. There are several insecticides registered for corn flea beetles.

**Insecticides labeled for corn flea beetle.**

<b>Insecticide</b>	<b>Rate</b>
Ambush	6.4-12.8 oz/acre
Asana XL	5.8-9.6 oz/acre
Baythroid 2	1.6-2.8 oz/acre
Capture 2EC	2.1-6.4 oz/acre
Discipline 2EC	2.1-6.4 oz/acre
Lorsban 4E	1-2 pt/acre
Mustang Max	2.72-4.0 oz/acre
Nufos 4E	1-2 pt/acre
Pennacap-M	2-3 pt/acre
Pounce 3.2EC	4-8 oz/acre
Sevin XLR Plus	1-2 qt/acre
Warrior	2.56-3.84 oz/acre

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[1] <http://www.ent.iastate.edu/imagegal/coleoptera/fleabeetle/fleabeetlesonleaf.html>

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