7-27-2009

Japanese Beetles Expanding Range in Iowa

Erin W. Hodgson
Iowa State University, ewh@iastate.edu

Japanese Beetles Expanding Range in Iowa

Abstract
Since my June 30 ICM News article about Japanese beetle activity in Iowa, there have been many reports of adults feeding in corn and soybean. Adult Japanese beetles are metallic with white tufts along each side of the body. Several extension field agronomists have also reported seeing beetles in new areas this summer. Japanese beetles have a wide host range, feeding on more than 300 different plant species. With so much corn and soybean in Iowa, it's probably no surprise they are expanding range here.

Keywords
Entomology

Disciplines
Agricultural Science | Agriculture | Entomology

Integrated Crop Management NEWS

Japanese Beetles Expanding Range in Iowa

By Erin Hodgson, Department of Entomology

Since my June 30 ICM News article about Japanese beetle activity in Iowa, there have been many reports of adults feeding in corn and soybean. Adult Japanese beetles are metallic with white tufts along each side of the body. Several extension field agronomists have also reported seeing beetles in new areas this summer. Japanese beetles have a wide host range, feeding on more than 300 different plant species. With so much corn and soybean in Iowa, it's probably no surprise they are expanding range here.

Life cycle. Japanese beetles have one generation per year in Iowa. Adults emerge from grass in late June and immediately begin to feed on low-lying plants such as roses and shrubs. Adults eventually move up on trees and field crop foliage to feed and mate. Mated females move back to grass in August and September to lay small egg masses in soil cavities. The eggs hatch into small grubs that feed on roots underground until late September when the temperature cools. The almost fully-grown grubs burrow down in the soil and remain inactive all winter. In the early spring, grubs become active again and feed until turning into resting pupae. The pupae hatch into adults and emerge from the soil.

Damage and Management. Japanese beetles release a strong aggregation pheromone, and are commonly seen feeding and mating in clusters. Adults are also highly mobile and move frequently in the summer. In soybean, adults prefer to feed on the upper leaf surface. The treatment threshold for Japanese beetles in soybean is 30 percent defoliation before bloom and 20 percent defoliation after bloom through seed set. See Table 1 for labeled products for Japanese beetle in soybean.

Japanese beetles remove tissue from soybean leaves, resulting in a bronzed, lacy appearance.

In corn, Japanese beetles can feed on leaves, but the most significant damage comes from clipping silks during pollination. Consider a foliar insecticide during tasseling and silking if there are three or more Japanese beetles per ear and pollination is not complete. Abundant soil moisture and rapid silk growth should be taken into consideration in making treatment decisions. See Table 2 for labeled products for Japanese beetle in corn.

Adults aggregate during tasseling and can clip corn silks.

Table 1. Insecticides labeled for Japanese beetle adults in soybean

Product (active ingredient)	*Application rate*	*Preharvest interval*
Adjourn (esfenvalerate)	5.8-9.6 oz/ac	21 days
Ambush (permethrin)	6.4-12.8 oz/ac	60 days
Asana XL (esfenvalerate)	5.8-9.6 oz/ac	21 days
Baythroid XL (beta-cyfluthrin)	1.6-2.8 oz/ac	45 days
Endigo ZC (lambda-cyhalothrin + thiamethoxam)	3.5-4.5 oz/ac	30 days
Leverage 2.7 (imidacloprid + cyfluthrin)	3.8 oz/ac	45 days
Proaxis (gamma-cyhalothrin)	3.2-3.84 oz/ac	21 days
Warrior II (lambda-cyhalothrin)	1.6-1.92 oz/ac	21 days

Table 2. Insecticides labeled for Japanese beetle adults in corn

Product (active ingredient)	*Application rate*	*Preharvest interval*
Asana XL (esfenvalerate)	5.8-9.6 oz/ac	21 days
Baythroid XL (beta-cyfluthrin)	1.6-2.8 oz/ac	21 days (0 days for sweet corn)
Bifenthrin 2EC	2.1-6.4 oz/ac	30 days
Proaxis (gamma-cyhalothrin)	2.56-3.84 oz/ac	21 days
Warrior II (lambda-cyhalothrin)	1.28-1.92 oz/ac	21 days

Erin Hodgson is an assistant professor of entomology with extension and research responsibilities. She can be contacted by email at ewh@iastate.edu or phone (515) 294-2847.

This article was published originally on 7/27/2009 The information contained within the article may or may not be up to date depending on when you are accessing the information.