

# Entomological News



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## Japanese beetle *Popillia japonica*

The Japanese beetle was introduced in the United States into New Jersey in 1913. The beetle quickly became a pest when freed from the burden of their natural enemies in Japan. Currently 35 states are considered infested with Japanese beetle, additional states have confirmed the beetle through surveys, but are not considered infested.

Larvae which mature in June create an earthen cell. The prepupa voids its gut contents and appears translucent; the pupa is formed inside the split skin of the pupa

Newly emerged adults release a congregation pheromone to attract other emerging beetles. The females produce an additional sex pheromone. Mating takes place on plants, with both sexes mating several times. After several days the females leave the feeding site, and burrow into the soil typically 2 to 4 inches deep. The female will lay 1 to 5 scattered eggs, before reemerging from the soil. The cycle of eating, mating, burrowing and egg laying is repeated until approximately 60 eggs are laid.

Egg development happens quickly under high temperatures; 8 or 9 days at (80 to 90 F). If soil temperatures are cool (68F), the development can take up to 30 days. By autumn most grubs have reached third instar, and begin to burrow deeper (4-8 inches). As the soil temperatures approach 60 F in the spring, the grubs continue to develop. Late autumn, the grubs start burrowing 4 to 8 inches into the soil and remain inactive all winter.

In early spring return to the turf where they continue to feed, until pupation in late spring. Approximately 10 months of the year are spent underground in the larval stage.









Japanese beetle on corn



Japanese beetles feeding on a rose

With the new Pest Freedom Standards there is no tolerance for Japanese beetles. The table below shows the actions required for infested and non-infested growers and retailers.

Business	Number of grubs	Number of Adult beetles	Actions Required
Retailer-offering plants for sale (applies to heeled in balled and burlapped plants).	1 grub found in root ball		The whole lot does not meet Pest Freedom Standards
Non-infested Grower		Proven by < 3 beetles caught in surveillance traps over the past 2 years (during adult flight time April-May)	No management strategies required
Infested Grower		Proven by $\geq$ 3 beetles caught in surveillance traps over the past 2 years (during adult flight time April-May)	Two management options: 1) Treatment <b>OR</b> 2) Weed free zone 12" beyond edge of the root ball during flight season
Exporters -Growers shipping to <b>Colorado</b> ( everyone must sign a Compliance agreement)	2 or more grubs found digging growing fields		Requires treatment for certification
	Less than 2 grubs found digging growing fields		Certification based on Nursery Accreditation Program using a weed free zone
Exporters- Growers shipping to <b>Other States</b>	Non-infested Grower		Certification based on trapping
	Infested Grower		Certification based on nursery accreditation using a weed free zone or treatment



<http://www.ca.uky.edu/entomology/entfacts/ef451.asp>

## U.S. Domestic Japanese Beetle Harmonization Plan

National Plant Board

U.S. Domestic Japanese Beetle Harmonization Plan

August 19, 1998; Last Revision April 12, 2011

## OAK Commodities Survey

PPWC will be conducting an oak commodities survey during the 2012. Pests surveyed for include, summer fruit tortrix, Asian and European gypsy moths, Rosy Gypsy moth, variegated golden tortrix and codling moth. The study will continue in 2013.

The Survey Guidelines are intended to help determine if one or more of the target pests is present in the United States. Ideally, pest populations would be found while they are still small and restricted to a small area (Davis, Venette & Albrecht, 2006, revised 2010).



Rosy Gypsy moth- *Lymantria mathura*

## Oak Commodity Survey Guidelines

E.E. Davis, R.C. Venette, and E. M. Albrecht

November 9, 2006

Revised 2010

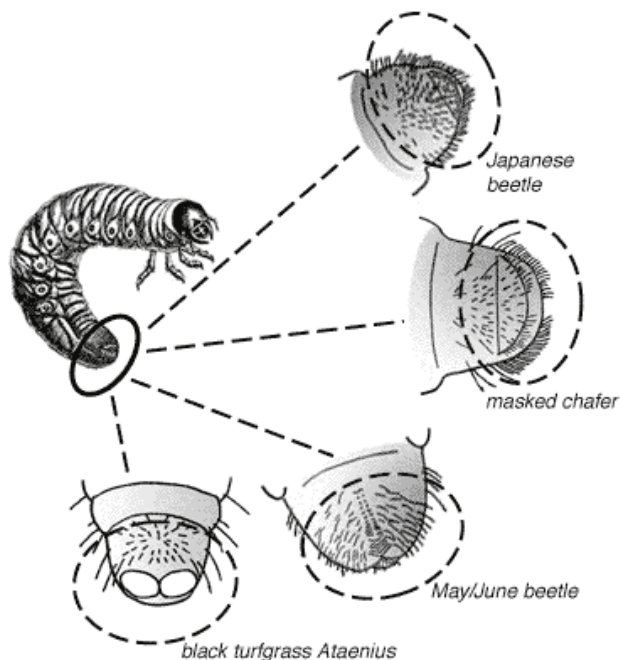
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## Turf beetle rastral (spine) patterns



<http://www.extension.umn.edu/distribution/horticulture/dg7664.htm>

## Managing the Japanese Beetle: A Homeowner's Handbook

United States Department of Agriculture, Animal and Plant Health Inspection Service. Program Aid No. 1599