

Cooper County

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Pest Alert: Japanese Beetles are Active in Cooper County in Agriculture Crops



Japanese beetles collected in traps have reached levels where we should be scouting our crops. I have been monitoring Japanese beetle in Central Cooper County for the past several years. The numbers collected will steadily increase through June then slowly decrease. You should be scouting now when peak numbers will result in the most damage. Adult Japanese beetles typically feed on green silks and tassels in corn, foliage feed on soybean, and damage the foliage of alfalfa.

The Japanese beetle is still in a colonization stage of population growth with continued dispersal in most counties of the state. At present, most rural areas of Missouri will experience increasing populations of this pest for the next 7 to 10 years and maybe beyond, according to Wayne Bailey, Extension entomologist. Beneficial biological pathogens and agents will eventually slow these expanding populations, resulting in annual population fluctuations at levels below peak populations experienced in earlier years.

Japanese beetle adults are approximately ½-inch in length, metallic green in color with bronze or copper colored wing covers. A diagnostic characteristic is the presence of twelve white tufts of hair or bristles located around the edge of the shell (five running down each side and two located at the very back end). Without magnification, these structures are seen as white dots. Adult beetles typically begin emerging from the soil in late May or early June, reach peak numbers in June into early July and then diminish during late July into August. Each beetle female typically lays 40 to 60 eggs in groups of 1 to 8 into the soil. Larvae emerge in about 2 weeks and feed on plant roots and decaying material before overwintering in the soil as third instars (worm or grub stage). The following spring they finish development, pupate and emerge as adults and the cycle begins again.

Feeding damage is often observed as a lace-like pattern of host plant foliage. Beetles often gather in high numbers on host plants. Tassels and developing silks of corn can be severely damaged and disrupt pollination and result in substantial yield loss. In field corn, an

insecticidal treatment is justified if during the silking period an average of 3 or more beetles are present per ear tip, silks have been clipped to ½ inch or less, and pollination is less than 50% complete. In soybeans, foliage feeding is less damaging but can be significant. For soybeans, insecticide treatment is justified if foliage feeding exceeds 20% - 30% prior to bloom and 10% - 20% from bloom through pod fill. Use the lower threshold numbers if soybean plants are under drought stress.

Soybean Insect Management

JAPANESE BEETLE ADULTS - *Popillia japonica* Newman

Comments: Treat when defoliation reaches or exceeds 30% before bloom and 20% between bloom and pod fill. Thresholds may be lower if plants under drought conditions. Adults often aggregate on host plant to feed.

Common name	Trade name	Rate of Formulated Material/Acre	Placement/Comments	REI Hours	Preharvest Intervals Days
esfenvalerate	*Asana XL	5.8 to 9.6 fl oz	foliage	12	21 (grain) Do not graze or feed livestock
cyfluthrin	*Baythroid XL	1.6 to 2.8 fl oz	foliage	12	45 (grain, feeding dry vines) 15 (green forage)
bifenthrin	*Brigade 2EC	2.1 to 6.4 fl oz	foliage	12	18 (grain)
chlorpyrifos + gamma-cyhalothrin	*Cobalt	19 to 38 fl oz	foliage	24	30 (grain) Do not graze or feed livestock
lambda-cyhalothrin + thiamethoxam	*Endigo ZC	3.5 to 4.5 fl oz	foliage	24	30 (grain) Do not graze or feed livestock
zeta-cypermethrin + bifenthrin	*Hero	4.0 to 10.3 fl oz	foliage	12	21 (grain) Do not graze or feed livestock

Imidacloprid + cyfluthrin	*Leverage 2.7	3.8 fl oz	foliage	12	45 (grain, feeding dry vines) 15 (green forage)
zeta-cypermethrin	*Mustang Max	2.8 to 4.0 fl oz	foliage	12	21 (grain) Do not graze or feed livestock
microencapsulated methyl parathion	*Penncap-M	2 to 3 pt	foliage	96	20 (grain)
carbaryl	Sevin 4F	1 to 2 pt	foliage	12	21 (dry grain or hay) 14 (graze or forage)
zeta-cypermethrin + chlorpyrifos	*Stallion	5.0 TO 11.75 fl oz	foliage	24	28 (harvest)
cyfluthrin	*Tombstone Helios	0.8 to 1.6 fl oz	foliage	12	45 (grain, feeding dry vines) 15 (green forage)
lambda-cyhalothrin	*Warrior II with Zeon	1.60 to 1.92 fl oz	foliage	24	30 (grain) Do not graze or feed livestock

*Designates a restricted-use pesticide. Use is restricted to certified applicators only. Read the label to determine appropriated insecticide rates. Be sure to follow all label directions, precautions, and restrictions.

Corn Insect Management

JAPANESE BEETLE ADULTS - *Popillia japonica* Newman

Comments: Treatment of Japanese beetle is justified if 3 or more beetles are present on green silk, silks are eaten to 1/2 inch or less in length, and pollination is less than 50% complete.

Common name	Trade name	Rate of Formulated Material/Acre	Placement/Comments	REI Hours	Preharvest Intervals Days
esfenvalerate	*Asana XL	5.8 to 9.6 fl oz	foliage	12	21 (grain)
cyfluthrin	*Baythroid XL	1.6 to 2.8 fl oz	foliage	12	21 (grain or fodder) 0 (green forage)
bifenthrin	*Brigade 2EC	2.1 to 6.4 fl oz	foliage	12	30 (grain, fodder, graze)
chlorpyrifos + gamma-cyhalothrin	*Cobalt	38 to 42 fl oz	foliage	24	21 (grain or ears) 14 (graze or silage harvest)
deltamethrin	*Delta Gold 1.5EC	1.5 to 1.9 fl oz	foliage	12	21 (grain, fodder) 12 (cut forage or graze)
zeta-cypermethrin + bifenthrin	*Hero	4.0 to 10.3 fl oz	foliage	12	30 (grain, stover, graze) 60 (forage)
zeta-cypermethrin	*Mustang Max	2.72 to 4.0 fl oz	foliage	12	30 (grain, stover) 60 (forage)
microencapsulated methyl parathion	*PennCap-M	2 to 3 pt	foliage	48	12 (grain, forage, graze)
carbaryl	Sevin 4F	2 to 4 pt	foliage	12	48 (grain or fodder) 14 (harvest or graze forage)

cyfluthrin	*Tombstone Helios	1.6 to 2.8 fl oz	foliage	12	21 (grain or fodder), 0 (forage)
lambda-cyhalothrin	*Warrior II with Zeon	1.28 to 1.92 fl oz	foliage	24	21 (grain), 1 (graze, forage) 21 (treated feed or fodder)

*Designates a restricted-use pesticide. Use is restricted to certified applicators only. Read the label to determine appropriated insecticide rates. Be sure to follow all label directions, precautions, and restrictions.

Read more about Japanese beetles and find production agriculture pesticide recommendations at <http://ipm.missouri.edu/IPCM/2012/6/Japanese-Beetle-Adults-Emerge-Across-Missouri>.

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