

June 28, 2011

## Japanese Beetles are Coming Back

During the past two weeks Japanese beetles adults began their annual emergence in many Missouri Counties. Emergence began first in southern Missouri and is steadily moving north. The first beetles were caught in Saline County on June 23. Their numbers will steadily increase through late June when peak numbers will result in damage to many trees, ornamental plants, and fruit and field crops. Our greatest concern is their feeding on green silks and tassels in corn, foliage feeding on soybeans, as well as the damage they do to foliage and fruit of over 400 flower, shrub and tree species.

The Japanese beetle in Missouri is still in a colonization stage of population growth with continued dispersal in most counties of the state according to Wayne Bailey. At present, most rural areas of Missouri will experience increasing populations of this pest for the next 7 to 10 years and maybe beyond. 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 Beetles are approximately  $\frac{1}{2}$  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. Feeding damage of adult Japanese Beetles is often observed as a lace-like pattern of defoliation of host plant foliage as beetles avoid leaf veins when feeding. Beetles gather high (often in full sunlight) on host plants that exude strong odors. This attracts high numbers of beetles. Tassels and developing silks of corn can be severely damaged by adult feeding and can disrupt corn pollination and result in substantial yield loss. On soybean, leaf feeding is common and is less damaging, although late planted or double-crop soybean may sustain economic damage if beetle numbers are high.

Adults emerge, mate and feed for approximately 60 days. During this time each beetle female typically lays 40 to 60 eggs in groups of 1 to 8 into the soil with larvae emerging in about 2 weeks. Larvae will feed on plant roots of both corn and soybean with most feeding occurring after egg hatch in late June, July and possibly early August. Damage to plant root hairs may result in poor uptake of water and nutrients or be more severe and cause reduced stands through plant mortality.

Economic thresholds for corn and soybean can quickly be reached as these beetles often aggregate on host plants and feed in high numbers. 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 in length, and pollination is less than 50% complete. For soybean, insecticide treatment is justified if foliage feeding exceeds 30% prior to bloom and 20% from bloom through pod fill. Populations tend to larger near grassy areas and may be spotty in the field.

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