

# It's that time of year: Japanese beetle time

■ Warm weather brings with it the arrival of Japanese beetles. These voracious insects begin their summer feeding frenzy in late June or early July in most cool-season areas, a practice they keep up through August. Some may even linger until late September.

Although adult Japanese beetles seem especially attracted to roses, annuals, vegetables and grapes, they can—and do—feed on more than 250 kinds of plants, according to Dr. Lee Hellman, an extension entomologist with the University of Maryland. Just one or two of the insects can virtually destroy a flower in a matter of hours.

When it comes to control, there's good news and bad news. The good news is that

control methods are available; the bad news is that none of them is completely effective, Hellman says.

Although insecticides will kill Japanese beetles that eat or walk on treated leaves, they remain effective for only a few days—a week at the most. You may need to spray some ornamental plants several times during the summer to prevent serious damage caused by the beetles as they migrate from one yard to another.

The most common insecticides for use against Japanese beetles are

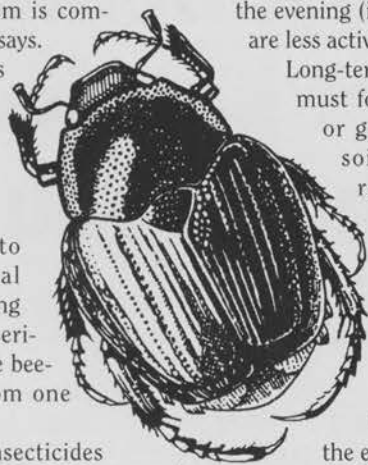
malathion and carbaryl (Sevin). Both are effective, if applied according to label directions. They may be used on fruit trees, but may involve a pre-harvest waiting period.

"One thing to keep in mind," says Hellman, "is that carbaryl is highly toxic to honey bees. If you use it, apply it late in the evening (if possible) when the bees are less active."

Long-term control of the beetles must focus on the larval stage, or grub, which lives in the soil and feeds on grass roots, causing approximately 95 percent of all grub-related turf damage.

"Early August is the best time to inspect lawns for larvae," says Hellman.

"By this time, most of the eggs have hatched and the larvae are 1/4 to 1/2 inch long."



# Iron, nitrogen aid in moss control

## Chemical control and cultural practices will slow moss on golf greens.

■ Golf course superintendents are mowing greens shorter and keeping the nitrogen fertility lower than ever before to obtain faster speeds. A consequence has been a reduction in turfgrass vigor to a point where the greens are much more prone to weed encroachment. One of the more troublesome weeds to have become a problem is moss.

**Chemical control**—In early spring, moss begins earlier than bentgrass. Hydrated lime applied in late March at three to five pounds per 1000 square feet will burn back the moss during this period. Mix with a dry sand topdressing.

Scotts Goosegrass Control—a Betasan/Ronstar combination labelled for use on bentgrass greens—provided 83 per-

cent control from only a single application. This product causes some discoloration, but it appears to be one of the more promising moss control products.

Siduron (Tupersan) and bentazon (Basagran) provided 53 to 74 percent control of moss. While they were not quite as effective as the Scotts product, both siduron and bentazon were safer since no injury occurred for either product.



**Cultural control**—While silvery thread moss will tolerate dry conditions, it is favored by an abundance of free water.

Core cultivation, immediately followed by sand topdressing, would create a system of "vertical drains" that would facilitate a rapid removal of surface water. Moss removal was hastened where this practice was followed compared to core cultivation alone. Deep spiking was also beneficial compared to core cultivation alone.

Nitrogen and iron are the most important tools for moss control. Moss was eliminated over two growing seasons from plots that were 40 percent moss by increasing nitrogen rates to about 0.8 lbs. per 1000 square feet per growing month (6 lbs. N/year). Iron applications at a rate of 6 ounces per 1000 square feet per month were beneficial during the first year, especially at the higher rates of nitrogen. Minimize nitrogen's effect on green speed by careful control of water, double cutting or higher potassium levels.

—Dr. Norman Hummel, Cornell University, writing in the *Northeastern GCSA's "Our Collaborator,"* Sept. 1990.