

## Japanese Beetle and European Chafer: Management and Biological Control

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Japanese beetle continues to spread northward, causing problems on some golf courses as far north as Muskegon and Saginaw. Research in 2001 confirmed that Japanese beetle does not survive well where turf is dry in July and August. At the same time, European chafer does not survive well where turf is irrigated in July and August. This means that one or the other will do well every year in non-irrigated turf, and Japanese beetle always survives well in irrigated turf. **Merit** can be used to treat fairways, tees and greens in May or June for *Aphodius*, *Ataenius* and Japanese beetle, or it can be used in July for the best control of Japanese beetle. **Mach 2** should be applied in late June or July for the best results. In September, superintendents should spot-treat areas where grubs are active this spring with **Sevin** or **Dylox** to minimize grub and skunk damage. Sevin and Dylox don't work well in soil with a pH above 7.5. Dursban may be used for treating grubs when the pH is above 7.5

We have started introducing 2 protozoan pathogens of Japanese beetle into Michigan. *Ovavesicula* and *Stictospora* are very active in some eastern states, where they may help keep populations of Japanese beetle down to levels where turf injury is unlikely. They only infect Japanese beetle and not other insects. *Ovavesicula* was only found at 2 of 50 locations in Michigan, compared with 50 of 50 in Connecticut. We have now established it at 3 locations, and plan to use these locations in the future as pathogen nurseries to spread *Ovavesicula*-infected grubs around Michigan.

We have been working with Gerry Faubel, Doug Chapman and Jennifer Stoyenoff to introduce *Ovavesicula* and *Stictospora* to 3 locations in the Saginaw Valley region, with the idea being to introduce these pathogens to the leading edge of the Japanese beetle invasion, allowing them to build with Japanese beetle.

Figure 1. Irrigation study at Jackson Country Club, 2001.

