CONTROLLING WHITE GRUBS

White grubs are a common perennial pest of turf in all regions of the country. They are especially destructive in the Northeast and Midwest.

The cream-colored, C-shaped grubs are the larvae of more than 100 species of beetle, among them the Japanese beetle (*Popillia japonica*), the northern masked chafer (*Cyclocephala borealis*) and the southern masked chafer (*C. immaculata*). Although of different species, all white grubs behave alike and can therefore be controlled in similar ways.

Larvae overwinter in the soil at depths of up to 16 inches. In the spring, they migrate upward to feed on turfgrass roots for several weeks before pupating. Adults emerge after pupation and lay eggs in the soil. In three weeks, a new generation of white grubs hatches, feeds on roots until the onset of cold weather, and migrates down into the soil.

Symptoms of white grub infestation include patches of yellow or brown grass that can be pulled easily from the ground. Large sections of infested turf can be rolled back like a carpet. White grubs sometimes attract insect-eating birds, skunks, moles and other animals that cause further damage to grass as they dig through turf looking for a meal. Grub damage is most severe in the fall, when larval feeding, heat, and water stress are at their peak. Turf rarely recovers from high white grub infestations.

**Solutions**

White grub beetles prefer to lay eggs in soil that is constantly moist. Allowing the upper layer of soil to dry out before irrigating may discourage adults from laying eggs. Also, beetles prefer to lay eggs in turf that has been closely mowed, so raising mower heights may discourage oviposition as well.

The biological control milky spore disease (*Bacillus popilliae*) has been shown to control Japanese beetle larvae; however, the effectiveness of the bacteria is largely dependent upon soil temperature. It is less effective in the North where soil temperatures rarely exceed 70 degrees F. In areas where soil temperatures are low, Sevin® can control white grub populations effectively. The best time to apply the product is in late summer or early fall when young grubs are actively feeding on turf roots. In dry conditions, irrigate turf a couple of days before applying carbaryl to bring grubs closer to the soil surface.

**Editor’s Note:** This concludes the three-part “Chemical Log” series on controlling insects. **Technical Credit:** Rhone-Poulenc, manufacturer of Sevin and Chipco products.