

JUNE BEETLES (WHITE GRUBS)

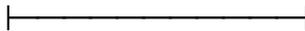
While you may be familiar with the adult version of this insect, the larva may be a surprise. True white grubs are the larvae of June beetles (also called May Beetles), of which there are over 100 different species. All larvae of this family, the Scarabs, are referred to as "white grubs". This includes the larva of Japanese beetles, annual white grubs, and green June beetles.

The common life cycle of the more destructive and abundant of these beetles extends over three years. The adults mate and females return to the ground to deposit eggs 1 to 8 inches deep in the soil. Since adults are attracted to trees, they tend to lay most eggs in grass near wooded areas. Eggs hatch into young larvae that feed upon roots and decaying vegetation throughout the summer, and in the autumn they migrate downward. There, the grubs remain inactive until the following spring. The greatest amount of damage occurs as the larvae return near the soil surface to feed on the roots of the plants.



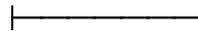
LARVA

SIZE Up to 1¼ inches



ADULT

SIZE Up to 1 inch



Although white grubs can be a problem every year, the most serious damage occurs in regular three year cycles after the appearance of the adults. Late spring or early autumn plowing destroys many larvae, pupae, and adults in the soil and exposes the insects to predators such as birds and skunks. For this cultural practice to be effective, plowing must occur before the grubs migrate deep down in the soil. Natural enemies that control white grubs include parasitic wasps and flies. A fungus also infects the grubs. Inoculating the soil with the bacteria *Bacillus popilliae* and *B. lentimorbus* spores aids in reducing populations. Both bacteria are available commercially.

For more information check:

<http://www.entnemdept.ufl.edu/creatures/>

<http://ipm.ifas.ufl.edu/resources/links/index.shtml#entomology>