A Whole Lot Of Info About...Grubs

URBANA, ILL.

Area producers can testify to quite an increase in grub problems over the last year or two. A decade ago, U of I Extension recommended white grub management only if observed grubs were those termed "true white grubs" (those that remain grubs for several years). At that time, entomologists and agronomists pointed at past trends in which the bulk of corn was planted in late April. By that time, they argued, only true white grubs would still be present, where as annual white grubs (those that remain grubs for only several months) would have pupated. Early April planting is now the rule and that "opened the field" for various grub species.

Four "grub groupings" are commonly recognized as possible corn pests. They include the previously mentioned "True" White Grubs, the Annual White Grubs, Japanese Beetle Grubs, and Green June Beetle grubs.

True White Grubs belong to the genus Pyhllophaga and the adults of these species are commonly known as May/June beetles. U of I Extension no longer believes that these native grubs generate the most damage to corn in the state. However, that does not mean that they never cause damage to corn in the state. Grubs belonging to this group have two rows of hairs located on the underside of the tail end, which can be observed with a hand lens. The grubs spend a few winters as larvae in the state and pupate about mid-summer following their last overwintering period, emerging as adults in the latter part of the summer. Eggs are deposited by adults in the soil.

The larvae of the southern masked chafer, Cyclocephala lurida, are commonly termed "annual white grubs." These grubs pass through their grub-like stage in one year. Also native, the adults emerge in June, mate, and lay eggs. The resulting larvae spend one winter in the soil, feed on available organic material and/or roots during the following spring and early summer, and pupate in mid to late May. The underside of their tail end has hairs arranged in a random fashion.

Popillia japonica, or the Japanese beetle, has gained a lot of attention over the last few growing seasons as adult beetles have clipped corn silks and defoliated plants in the landscape. Many producers may not realize that the larva of this beetle is also a grub. Japanese beetle grubs feed on organic matter and/or roots, pupate, and emerge as adults in July. Those adults, of course, lay eggs. Emerging grubs feed and overwinter after migrating downward in the soil profile. Spring temperatures "draw" the grubs back up into the root zone where they feed once again.

The final, possible grub find in field crops is exceptionally rare. Termed the Green June Beetle Grub, this insect also is an annual grub. However, this native insect tends to be more of a pasture and lawn problem than a problem in field crops. The tail end of this grub also is marked by two rows of hairs, somewhat like the True Grub. This may cause some confusion when identifying it, but there are a few key differences between the two species. Green June Beetle (GJB) grubs have a head that is somewhat "inset" on the body. They tend to not hold a "C-shaped" posture as the other three "grub types" do unless they are at rest, and most importantly, their legs are small so these grubs actually crawl upside down on their backs. A picture of a Green June Beetle grub crawling on its back is accessible at the Mason County Extension website at http://mason.extension.uiuc.edu. Click on the program tab and select Ag and Natural Resources. Then click on "Ag Photos" in the upper right of the screen. Then type "green june beetle grub" in the search box to view the photo. GJB grubs feed until late June when they pupate. They emerge as velvet green adults that "fly like mad" around the yard.

Corn seedlings injured by white grub.

Close-up of corn seedling injured by white grubs.

Photos Courtesy of U of I

Detection and management before grubs damage a stand of corn is critical. Purdue University recommends that producers examine a cubic yard of soil using two grubs per cubic foot as the threshold for a soil insecticide. U of I Extension recommends that producers watch fields during tillage for "excessive" grub numbers or "excessive" bird numbers behind the cultivator, etc (indicating feeding on grubs). Δ