



White Grub Control: Preventative Versus Curative Treatments?

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White grubs are the most widespread and considered by many to be the most destructive insect pests of turfgrasses in the continental U.S. Most species of white grubs damage turfgrass by chewing off the roots near the soil surface. Unfortunately, white grub damage typically occurs during periods of hot and dry weather periods (late summer through early fall), subsequently turf loss can be relatively abrupt and severe. To compound this problem, vertebrate predators such as badgers, birds, moles, raccoons, skunks, and various other animals frequently forage and dig-up grub infested areas. In many cases these animals can cause more damage than the grubs themselves.

Because white grubs feed and destroy turfgrass roots below ground, they often go undetected until measurable loss to the root system has occurred. In addition, white grubs can be difficult to control because soil insecticides must penetrate the turf canopy and thatch layer (when present) in

order to effectively make contact with the grubs located in the upper soil. As a result, turfgrass managers, through the use of appropriate application equipment, adjuvants or surfactants, gravity, and irrigation or natural rainfall, must effectively place respective insecticides into the target zone where the grubs are located to achieve maximum control.

White Grub Control Strategies

Golf course superintendents and turfgrass managers have two fundamental options for control of white grubs, they include: 1) preventative and 2) curative control. Well maintained turf is especially susceptible to white grub infestations for several reasons. Intensively managed turf is typically mowed at relatively low cutting heights and is fertilized and irrigated regularly. These cultural practices present a conducive environment for white grub development and survival. During periods when rainfall is often limited (i.e., late-July through September), quality turf is typically irrigated

which helps ensure survival of grubs. Unfortunately, necessary management practices implemented to maintain quality turf are ideal for white grubs as well. Thus, respective white grub control measures must be undertaken in order to minimize potential damage as a result of grubs feeding on the roots of turf.

Preventative Control

Preventative control of grubs is simply the application of a control product (i.e., an insecticide) before eggs have been laid or hatch. Some preventative products must be applied at or before egg hatch to attain maximum control. Currently there are seven preventative white grub control products that are commercially available (i.e., labeled). They include: 1) Acelepryn (chlorantraniliprole); 2) Allectus (imidacloprid + bifenthrin); 3) Aloft (clothianidin + bifenthrin); 4) Arena (clothianidin); 5) Mach 2 (halofenozide); 6) Meridian (thiamethoxam); and 7) Merit (imidacloprid). Most of these products are available in liquid,

Trade Name	Common Name	Manufacturer	Rate (lbs active ingredient/A)
Acelepryn	Chlorantraniliprole	DuPont	0.104 – 0.208
Allectus	Imidacloprid + bifenthrin	Bayer Environmental Science	0.2 + 0.08 – 0.25 + 0.10
Aloft	Clothianidin + bifenthrin	Arysta Life Sciences	0.2 + 0.10 – 0.33 + 0.16
Arena	Clothianidin	Valent USA	0.2 – 0.4
Mach 2	Halofenozide	Dow AgroScience	2.0
Meridian	Thiamethoxam	Syngenta	0.198 – 0.265
Merit	Imidacloprid	Bayer Environmental Science	0.4 – 0.53

Trade Name	Common Name	Manufacturer	Rate (lbs active ingredient/A)
Arena	Clothianidin	Valent USA	0.2 – 0.4
Dylox	Trichlorfon	Bayer Environmental Science	8.15
Sevin	Carbaryl	Bayer Environmental Science	8.0

granular, and fertilizer combination formulations. Regardless of the product or formulation, **ALL grub control products MUST be watered-in** with a minimum of 0.20 inch of water to maximize efficacy by distributing the compound where the target pest is located. On page 42 is a table containing trade names, common names, manufacturer, and rates for preventative grub control products.

Curative Control

Curative, corrective or rescue control of white grubs is merely treating grubs once they are present and/or causing turf damage. This approach to white grub control may initially appear to be more economical since only problematic areas (i.e., fewer square feet) of turf are treated, thus less product is used. However, there are fewer commercially available products for curative

control and their performance (i.e., efficacy) is often lower compared to preventative treatments. Results from numerous research studies suggest that corrective or rescue treatments have a much larger degree of variability and even under the best conditions only provide about 75% control while preventative white grub treatments consistently provide above 90% control. Above is a table containing trade names, common names, manufacturer and rates of suggested curative grub control products.

Like the preventative control products, regardless of the product or formulation, **ALL curative grub control products MUST be watered-in** with a minimum of 0.20 inch of water to maximize efficacy by distributing the compound where the target pest is located. 🌱



Inset photo: Often turfgrass can be easily peeled when grubs are present.



White Grub Larvae