

**FIELD EFFICACY OF SPRING OR SUMMER APPLICATIONS  
OF ACELEPRYN™ AND MERIT™ AGAINST ORIENTAL BEETLE LARVAE ON A  
GOLF COURSE ROUGH**

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Two turf insecticides were applied to golf course rough turf (maintained at 2 to 3 inches) on 29 May or 3 August 2009 and sampled 22 September to determine the efficacy of the compounds against oriental beetle (OB) larvae. Compounds tested were: Acelepryn™ (chlorantraniliprole, a relatively new insecticide registered for use on turfgrass) and Merit™ (imidacloprid, a neonicotinoid long regarded as the “industry standard” for white grub control). The test included two formulations of chlorantraniliprole and one formulation of imidacloprid, and was conducted at Hickory Ridge Country Club, Amherst, MA. Treatment plots were 8 ft by 8 ft, replicated 4 times, and arranged in a CRB design. All sprayable formulations were applied with a watering can (3 qt water per plot). Granular products were applied by hand using jars with perforated lids. Plots were irrigated with 0.2 inch within one hour after application. Product efficacy was evaluated on 22 September by inspecting (on site) five 4.25-in diam cores from near the center of each plot. Each core was recorded separately and all grubs were identified to species and stage of development on site. All counts were included in statistical analyses (Fisher’s Protected LSD, 0.05).

There were about 26 grubs per square foot in the untreated plots, which is well above the commonly accepted threshold population (10 to 15 larvae per square foot). All treatments reduced insect populations significantly relative to the untreated check. While there was no significant difference between dates of application, grub populations were lower in the plots treated in May than those treated in August. Both of these active ingredients have demonstrated good control of white grubs when used preventively in previous trials, and this trial appears to provide further support of excellent preventive activity.

Treatment	lb AI/A	Date	Mean larvae per plug	s.e.	Mean larvae per sq. ft.	PERCENT CONTROL
Check	---	---	2.60 a	2.113	26.5	--
Acelepryn 1.67SC	0.104	May	0.10 c	0.308	1.0	96
Acelepryn 1.67SC	0.157	May	0.10 c	0.308	1.0	96
Merit 75WP	0.3	May	0.35 c	0.933	3.6	87
Acelepryn 0.2G	0.1	May	0.70 bc	0.864	7.1	73
Acelepryn 0.2G	0.12	May	0.05 c	0.224	0.5	98
Merit 0.5G	0.3	May	0.55 bc	0.999	5.6	79
Acelepryn 1.67SC	0.104	Aug	0.70 bc	0.801	7.1	73
Acelepryn 1.67SC	0.157	Aug	1.10 bc	1.889	11.2	58
Merit 75WP	0.3	Aug	0.85 bc	1.500	8.7	67

Numbers followed by the same letter are not significantly different from each other, Fisher's Protected LSD,  $F = 6.62$ ;  $P < 0.0001$ , significance level = 0.05.