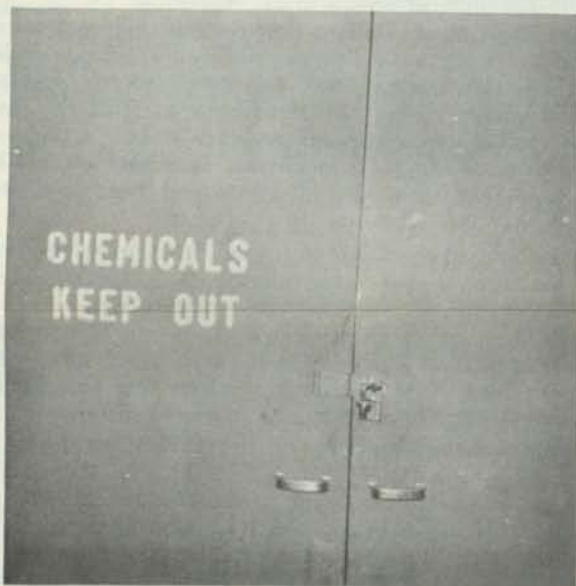


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ARMOUR TURF PROGRAM

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To keep your course in championship condition, look to Armour for a complete line of golf course fertilizers and Turf Protection Products. "For Professional Turf" is the real reason for the rapid success of the Armour Turf Program. Verta-green Tee-Green, Tournament, Vertanite, and Vertagard Turf Protection Products—every product recommended as part of this new program is made ESPECIALLY for professional golf turf. The new Armour Turf Program is the answer to keeping your course in professional shape. And, every product is backed by reliable Armour Research and the services of experienced Armour representatives. One of them will be by to tell you more, but if you are as anxious as the rest of the "pros", just drop a line to:



"SAFETY"

Keep Your Chemicals Locked Up.

ATTENDANCE

March — River Forest Country Club: Class A & B — 61; Class D — 3; Honorary — 3; Class E — 19.
 April — Indian Lakes Golf Club: Class A & B — 69; Class D — 5; Class E — 4.

INSECTS:

WHITE GRUBS:

Description—The **true white grub** has a U-shaped body, brown head, and three pairs of legs. The body of the grub is white with the tip of the abdomen shiny and transparent, the body contents showing through the skin.

Adults of the true white grub, the **June beetle**, are dark brown to black, have long, slender spiny legs and cumbersome bodies about one inch long.

June beetles deposit small, pearl-white, spherical eggs preferably in grass sods. These eggs are laid individually, not in clusters.

Life Cycle—True white grubs may have a life cycle of 2-4 years, but a three-year cycle is most common. Therefore, the adult insect, or June beetle, is most prevalent in approximately one year out of every three. They usually deposit their eggs in grass sods. The tiny grubs that hatch from these eggs feed near the surface until the first cold spell in late September or early October, when they tunnel downward, overwintering about 18 inches below the ground surface. In May they return to the surface and feed voraciously on plant roots until the following October, when they again overwinter deep in the soil. The following May they return to the surface, feed heavily for about three weeks, and in early June pupate in an earthen cell. Within four weeks they change to adults, but remain in the earthen cell until late May and early June of the following year, when they emerge to feed and lay eggs.



Description—The **annual white grub**, also known as the false June beetle or masked chafer, is almost identical in appearance to the true white grub (June beetle). However, there are a few minor differences. The Adult is tan, with fairly long, spiny legs, but the body is only about $\frac{1}{2}$ to $\frac{3}{4}$ inch long. The eggs resemble those of the June beetle.

Life Cycle—The annual white grub, as the name indicates, has a one-year life cycle. The adults, which are abundant in late June and early July, deposit eggs in the soil. The tiny grubs that hatch from these eggs grow rapidly, becoming nearly full grown by late October. They burrow deep into the soil for the winter. In May they return to the surface, feed for about three weeks, and pupate in an earthen cell about six inches below the soil surface. In approximately a month they emerge as beetle.

Damage—The adults of both the annual and the true white grub feed on the foliage of shrubs and trees. If the infestation is severe, the leaves on trees, particularly oak, may show extensive damage.

The grubs feed on the roots of many plants. They often kill large patches of sod in lawns, golf greens, cemeteries, and parks. When the sod is rolled back, dozens of these pests can be seen.

Damage is usually not uniform throughout the turf, but occurs in patches. Small areas may be entirely destroyed, while others are apparently not affected. This variation reflects the egg-laying preference of the beetles, as they appear to prefer certain soil conditions to others for oviposition. Even slight variations in soil texture can apparently affect egg-laying. When damage is severe, patches of turf can easily be rolled back as if being cut by a sod cutter. Examination of the roots will show severe root pruning, and one can easily find many grubs by digging up a little soil.

Chemical Control —

Insecticide	Dosage/10,000 sq. ft.
*Chlordane	1 lb. 4 oz.

Suggestions

For new sod, application of chlordane will provide a five year protection plan. In established sod, apply as granules or spray to small areas and then water in very thoroughly before treating another small area.

*1 gallon of 45% E.C. contains 4 lbs. actual chlordane per/10,000 sq. ft. ($\frac{1}{4}$ acre) is in terms of active ingredient. Do not allow people on turf until spray has dried. Chlordane can be applied at any time.

