

gus disease, although dollar spot and brown patch occasionally attack bent fairways.

White grubs: The grubs of the Japanese, the Asiatic, and the May or June beetle frequently cause serious and extensive damage to turf. The life cycle of the Japanese and the Asiatic beetle is completed within a year, so turf damage is apt to be an annual occurrence. The May and June beetles have life cycles covering a span of three years. Severe injury may occur every third year, but in some places, such as western Michigan, two broods are extensive, so turf devastation may be had two years out of every three.

Grub-proofing of turfed areas is justified wherever there is any possibility of severe damage. May, June, Japanese, or Asiatic beetles in great numbers are the forerunning of a plentiful crop of grubs that fall and the next year. The grub-proof treatments are expensive, but the task of fairway renovation is even more costly. Any club in the path of the advancing Japanese beetle should meet the problem of grub control before the beetles arrive. It is a case where an ounce of prevention is better than a pound of cure.

Lead arsenate was the first effective insecticide used to control white grubs. It lasted five years or more when applied at 200 to 400 pounds per acre, and controlled every known species. Slowness of action was its chief drawback. An application made at the first sign of turf damage did not stop further injury that year. By the next season the treated area was protected. Lead arsenate has become so costly since the war that it is not being used.

DDT and Chlordane are the materials now being applied for grubs of the Asiatic, Japanese and the annual June beetle grubs.

Control is excellent, and the action is fast, particularly with Chlordane. The recommended dosages are 25 pounds actual DDT and 10 pounds actual Chlordane per acre. The effect from DDT lasts four to five years or more, and Chlordane plots treated three years ago are still grub-free, but the untreated ones are not.

A disease called "Milky White Disease" kills the grub of the Japanese beetle. Entomologists say the action is a specific one, and that the disease does not affect other species of white grubs. Spores of the disease are mixed with talc and used to inoculate the soil. A commercial preparation is marketed under the trade name "Japademic". The mixture is too costly to be applied broadcast. Spots are treated instead, according to a definite pattern. The disease spreads gradually in the soil and does not become fully effective for three to five years. Hence treatment to stop an infestation, followed by inoculation with the disease is advisable.

The white or phyllophaga grub of the 3-year life cycle June beetle is harder to kill, especially during the second year of its residence in the soil, than the annual types. DDT has not been effective on these grubs. Chlordane at more than the 10-pound rate is said to be effective against the grub during the first year of its growth. The use of lead arsenate is still advocated by some for this grub.

Sodium arsenite and arsenic acid used for weeds helps control white grubs of all kinds. Concentrations of 1½ to 2 pounds per 1,000 square feet (60 to 80 pounds per acre) equal 5 to 10 pounds (200 to 400 pounds per acre) of lead arsenate.

Chinch bugs: The chinch bug has been a turf pest in Florida for a long time, but caused little damage in the North until

ILLINOIS SECTION, PGA, HOLDS ANNUAL SPRING MEET



Illinois Section, PGA, made plans for its biggest year of activity at the annual spring meeting held in the Morrison Hotel, April 4. In the background seated at the head table are: (L to R) Fred Slyder, CDGA sec'y.; Frank Whiston, CDGA pres.; Geo. S. May, Tam O'Shanter CC; Joe Graffis, GOLFDOM magazine; Bill Gordon, Ill. Section pres.; John Kennan, ex. sec'y., WGA; John D. Ames, Chmn., USGA Implements and Ball Committee, and Lou Strong, Ill. Section sec'y.