dies. Over a thousand of these larvae have been found in the stomach and gullet of a single robin; and from 100 to 200 of them in a stomach have been found in numerous instances. Leather-jackets or the larvae of crane-flies, insects with similar habits to the March flies, also are freely eaten by the robin.

Caterpillars, almost exclusive feeders upon green vegetation, are an important source of food for the robin, and cutworms and army-worms, special grass pests, are included in this part of the dietary. Grasshoppers, and leaf-hoppers, well-known consumers of grass are eaten, and even the minute but notorious chinch-bug is not overlooked. The robin feeds upon most, if not all, kinds of the dung-beetles which make considerable holes and throw up correspondingly objectionable heaps of earth on putting greens. It is an invertebrate foe of the destructive white grubs, and of the persistently annoying ants. It feeds upon clover root- and clover leaf-weevils, upon the Japanese beetle, and upon crayfishes, all pests of the golf course.

Except when obtaining the wild fruits of which it is very fond, the robin feeds almost exclusively upon the ground, and thus, with its taste for insects and worms destructive to turf, is naturally adapted to be of great service on golf courses, where its cheery presence should be encouraged as much as possible.

Removal of all tree stumps inadvisable.—Mr. A. C. M. Croome, well known to both British and American golfers, suggests that in many cases the removal of all tree stumps in course construction is inadvisable, for the reason that they form an excellent foundation for mounds diversifying the surface of the course through the green. This has been done at Addington with charming results, producing an almost dune-like effect.

Fertilizer Experiments on Turf Grasses at Purdue University

Some interesting results from the use of different fertilizers on lawns are reported by Prof. S. D. Conner, of Purdue University Agricultural Experiment Station, La Fayette, Ind., in The Indiana Academy of Science, vol. 34 (1924), page 169. A summary of important features brought out by Professor Conner's work is presented in the following paragraphs:

The first experiment, started in 1918, included the following six fertilizer treatments: (1) Untreated; (2) limestone, 3,000 pounds per acre; (3) commercial fertilizer, 600 pounds per acre; (4) limestone and commercial fertilizer; (5) chicken manure, 1 ton per acre; (6) chicken manure, limestone, and commercial fertilizer. The commercial fertilizer employed in the experiment contained 6 percent nitrogen, 8 percent phosphoric acid, and 2 percent potash.

The second experiment, started in 1922, included the following 10 treatments: (1) Untreated; (2) nitrate of soda, 150 pounds per acre (equivalent to 3½ pounds per 1,000 square feet); (3) ammonium sulfate, 100 pounds per acre (equivalent to 2 1/3 pounds per 1,000 square feet); (4) dried muck, 3,000 pounds per acre; (5) limestone, 3 tons per acre; (6) phosphate and potash; (7) phosphate, potash,