

A Three-Fold Cure

Arsenate of Lead as a Beetle, Worm and Weed Eradicator

By NORMAN L. MATTICE, Manager, Pine Valley Golf Club
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WHEN I entered the employ of the Pine Valley Golf Club last spring permission was obtained to secure the services of Mr. B. R. Leach, of Riverton, N. J., to act in an advisory capacity to supervise the use and application of arsenate of lead on the tees, fairways, approaches and greens. This chemical was used for the purpose of exterminating the grub of the Japanese beetle, which had done considerable damage to the turf in former years. As planned, the arsenate of lead was mixed in the topdressing at the rate of 5 pounds per cubic yard and spread on 1,000 square feet of area. To date the tees, approaches and greens have been topdressed five times and the fairways once. As a result of carrying out this program the main object of killing beetle grubs was accomplished before any appreciable damage to the turf occurred, and in addition three other beneficial but unlooked for results were obtained as follows:

Many of the greens contained chickweed in large quantities. In one instance, on the old 9th, an effort was made to remove some of the chickweed last year by cutting it out, leaving large patches with no turf, so that the green has not been in play all summer. After the first application of the prepared topdressing it was noticed that many of the patches of chickweed on all of the greens (including the old 9th) turned yellow and disappeared and the turf came back in its place. After each subsequent topdressing more chickweed disappeared until all of the greens are almost entirely free from it and strong and vigorous turf has taken its place.

During July the beetles began to fly over this part of the country and light on the greens. They immediately began to burrow down into the soil to deposit their eggs, and in doing so little plies resembling worm casts covered the surface of the greens. On closer observation, a full grown, dead beetle was found in each pile of earth. It seems that the soil had been sufficiently poisoned to kill the mature beetle as well as the grub.

After the second topdressing early in May, worm casts disappeared entirely from the topdressed area, which would indicate that worms do not take kindly to soil so poisoned.

Although some crab grass appeared in the surface of the tees, approaches and greens, it did not start to grow until the first of August, and then it did not grow vigorously as is its custom. Other unpoisoned areas developed strong, thrifty crab grass plants late in June, which have

already seeded at the time of this writing (September). Employees who have worked for many years on this course state that crab grass on the tees, approaches and greens is not one-tenth as bad as it has been in former years. However, the big decrease in the growth of crab grass can not be attributed wholly to the use of arsenate of lead, for sulfate of ammonia has also been used in every application of topdressing. If the marked effect from the use of arsenate of lead is as great next year as it has been so far this season it is reasonable to believe that weeds of all kinds will be eliminated from the poisoned area and a better and more thrifty turf will result.

I Do Not Condemn Poa Annua

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THERE are a great many differences of opinion on the subject of *Poa annua*. I read with interest Mr. McNamara's opinion on the subject. It may be that around Pittsburgh it does not acclimate itself so well as it does in the Chicago district, so I am going to differ with John in saying it makes a wonderful putting green.

It has to be well cared for, being a gross feeder and a lover of water. If it is allowed to suffer through lack of water, it takes on an unhealthy color, and is a discouraging sight. I believe the fact that it appears in a green is evidence of its adaptability to that particular soil, and if properly treated it will cover that green in about four years.

About four years ago it put in an appearance on a few of our greens. I tried to fight it by digging it out, but the next year I found the plants had become so numerous that I decided to give up the fight, and since then have encouraged it. I now have four greens which are practically solid *Poa annua*, and have a beautiful true putting surface.

I have never seen any of the large brown patch on these greens, but have had the small spot several times, and find *Poa annua* recovers very rapidly from it after treatment.

I have seen a great many *Poa annua* greens in the Chicago district of good quality, so will say again, if properly cared for, *Poa annua* makes a wonderful putting green.