

and prevent seed formation. On golf courses, crabgrass is found in fairways where the grass is kept short but seldom in the rough where the grasses are allowed to grow tall.

3. Close cutting of the lawn will help prevent the plants from going to seed, but many seeds will be formed below the cut. It is advisable to rake up the grass in several directions before mowing it, being sure to lift the leaf blades, runners and seed heads that have the habit of lying on the ground. If allowed to mature, crabgrass scatters thousands of seeds over the lawn when cut with the mower. For this reason it will pay to start a drive on this pest when it first appears. Whenever crabgrass is in seed, the catchers should be attached to the mower.

4. The time of fertilization is a factor in controlling crabgrass. Fertilize in early spring before the crabgrass gets a start. This will stimulate the grass on the lawn and help produce a vigorous growth which will crowd out crabgrass. Fertilize again in the fall after the crabgrass has ceased growth or been killed by early frost. Use a fertilizer high in nitrogen such as 10-6-4, 8-6-4 or 8-6-2, at 10 to 15 lbs. per 1,000 sq. ft.

5. Keep the plants from going to seed, as control is largely a matter of the prevention of seed formation.

#### 20 Years Research on Crabgrass

On the basis of 20 years' search and research for preventive and control measures of crabgrass, the best treatment to eliminate crabgrass in turf appears to

be a water solution of a phenyl mercury acetate organic complex such as PMAS.

During 1946, a cooperative disease-control study with Dr. F. L. Howard and Dr. H. W. Keil was conducted on putting-green turf (two-year-old sod). Charles H. Allen, Jr., turf foreman, observed that PMAS appeared to control crabgrass. Preliminary tests on lawn turf substantiated the effectiveness of PMAS as a crabgrass killer. Additional work was needed to ascertain effective dosages and opportune timing of treatments. The experiments conducted during 1947 definitely proved water solutions of certain phenyl mercury organic complexes were satisfactory.

Several hundred tests with various chemicals, including 2, 4-D preparations and sodium arsenite, were conducted in the greenhouse during the winter of 1946-47 and in the field during 1947-48 to determine, (a) concentrations of the materials that would prevent seed germination, (b) inhibition and control of crabgrass without injury to permanent turf, (c) the most effective time of application and (d) the number of treatments for complete kill of crabgrass.

In general, treatments applied early in the season, on turf composed of Kentucky bluegrass, fescue and Colonial bent, killed germinating seed and all young plants in the two- and three-leaf stages. As the season progressed, however, more crabgrass germinated and necessitated additional treatments. One treatment of any material used did not provide complete control of crabgrass.

*(Continued on page 56)*



*O. J. Noer, photo*

#### GREENBRIER IS BACK IN BUSINESS

Here's first hole (430 yds.) of the Old White course at Greenbrier which was put back in play, after wartime shutdown, by the widely publicized pro-amateur tournament. Business is great at the re-opened course at Greenbrier. That's why contract of Sam Snead, pro now at the place where he learned golf as a caddy, sharply limits his tournament appearances.