

ing the grass and without leaving any harmful residue that will prevent the normal development of the surviving grass. There are many of these weed killers already known to agricultural science and many of them have been used in turf in commercial killers or in so-called "lawn sand" in the past years. Unfortunately these materials are rather expensive and have been rather uncertain materials to use because of the danger of excessive burning.

One of the most common of these selective weed killers used on turf is iron sulphate. This chemical came into rather general use on turf over 20 years ago. It has, however, failed to come up to original expectations in many respects, particularly on many types of soil. There were, however, many instances where iron sulphate and other weed killers had given com-

In general, fertilizers containing relatively large proportions of nitrogen as compared with other common fertilizing elements are most effective in checking weeds.

pletely satisfactory results at a moderate cost. Since it was possible to obtain favorable results even occasionally with these chemicals it was quite apparent that they had some practical possibilities for turf purposes. It was clearly apparent, however, from the many failures to obtain satisfactory results, that much more information was needed before they could be considered dependable for general usage.

With that in mind the Green Section five years ago undertook to systematically compare the effectiveness of the various chemicals that offered any possibilities for the control of the most troublesome turf weeds. These tests have included various arsenicals, sodium and potassium chlorate, sodium chloride, calcium chloride, iron sulphate, ammonium thiocyanate, calcium cyanamid and many others. Of these the most promising results were obtained from sodium chlorate, arsenic acid and sodium arsenite. The recent tests have concentrated on the use of these three materials.

These materials, like others, under certain circumstances can kill weeds effectively without injuring grass. However, in any work of this nature the problem is complicated by the fact that variations in soil, climate and the condition of the plants determine to a large degree the amount of injury that is accomplished by any one treatment. Take for example the

case of arsenic acid. This can be applied under certain favorable conditions at the rate of one pound to the thousand square feet without any appreciable injury to bluegrass but with a complete killing of weeds. Under entirely different climatic conditions, particularly during extremely hot dry weather, a half-pound rate of the same material may destroy practically all of the bluegrass. The problem therefore is not the simple one of determining what chemicals will serve this purpose well and the rates of application, but also the various soil and climatic factors that govern the effectiveness of any of these treatments.

Progress in these problems has been necessarily slow because of inadequate funds for carrying on the large number of tests that must be conducted under a wide assortment of conditions. These remedies as far as golf course turf is concerned are still in their infancy, but from the many favorable results that have been obtained from them to date it is reasonably safe to predict that within a few years much of this material will be used on golf course turf. Space will not permit a discussion of these treatments in the present article but the progress to date will be discussed in a later issue of GOLFDOM.

Movies of Spalding Field Staff in Action Available Soon

A VAILABLE before long will be an exceedingly interesting series of golf motion pictures of members of the Spalding advisory field staff. Pictures were begun right after the Augusta national tournament this spring under the direction of Bob Jones and were completed late in the summer.

Details of the showing of the pictures by pros at their clubs and to the general golfing public will be released soon by A. G. Spalding & Bros.

Younger Caddies Reappear—A good sign of general business improvement and of a healthier situation for golf's future is observed by Jimmy Meehan, veteran pro at Riverside CC (Chicago district). Jimmy says at courses in western area of Chicago there are 50% more small kids caddying than were in service last year. His conclusion is that older fellows have gone back to industrial jobs and youngsters, who are probable golf enthusiasts of the future, again find openings in caddie jobs.