Turf Conference Ideas Pay Dividends This Year

GOLFDOM asked men in charge of courses that have been in fine condition this year to select some ideas from the 1953 Golf Course Superintendents' Assn. convention addresses that have been profitably applied in their work this year.

None of the men questioned was inclined to estimate the dollar-and-cents value of the ideas. Nevertheless they were positive that in each case the savings to the club and the value of improved condition in increasing play far more than justified expenses in money and time of conference attendance.

Among the conference ideas (and their sources) were:

WEED CONTROL

By B. H. GRIGSBY

On recently established turf the major weed problem often is that of controlling annual weeds which germinate more rapidly than most perennial grasses. In this problem, time is the determining factor and the customary clipping of the turf is usually the best control measure. Ragweed, pigweed, lamb's quarters and similar species seldom recover from clipping done when the weeds are 4 to 6 inches in height.

The use of 2, 4-D on such a weed problem is not necessary and, as a matter of fact, may do more harm than good. Young grass seedlings are not immune to the action of 2, 4-D and the temporary retarding of growth which can follow application of 2, 4-D may permit resistant weed species to become established, thus causing a problem to develop which possibly may not have occurred if resort to chemical treatment had been delayed.

Control of crabgrass is a difficult task on any turf area and once the grass has become widespread the problem tends to increase rather than decline. Here, perhaps more than in any other weed problem, the condition is an indicator of errors in previous management practices. For instance, destruction of broad-leaved weeds without attention to reseeding the treated areas is an open invitation to crabgrass invasion.

Within the past three or four seasons abundant data have been gathered which show that chemical control of crabgrass is possible without undue risk to turf or animal life. Various formulations of phenyl mercuric acetate, potassium cyanate and special refined oils, when used according to manufacturer's directions will control crabgrass. Timing of the application of these herbicides is of critical importance and generally treatments must be applied to young crabgrass. Some discoloration in the treated areas may occur, but is of a temporary nature and soon disappears.

Two years of experiments in Michigan have shown that a mixture of chlordane and deodorized highly refined kerosene-type oils is effective on crabgrass at any stage of growth. A dosage of 6 ounces of a 74 percent concentrate of chlordane in 1 gallon of suitable oil per 1,000 square feet will destroy crabgrass within 3-5 days' time. Blue grass is not affected by the treatment, bentgrasses may show slight yellowing, but are not killed and fescues may be severely burned.

RESEARCH

By GILBERT H. AHLGREN

At the turn of the century fairways and greens were much smaller than those of today. Sheep and rabbits were used for mowing instead of efficient machines. Thin grass received no fattening diet of well chosen plant nutrients. Fungicides and insecticides for disease and insect control had barely been conceived. Selective herbicides were considered impossible. Picture with me the kind of turf you would have today without the advances that science has made. It has been a long step from the thin, rabbit and sheep mowed grass to the trim, well-groomed fairways and greens of today.

Chemicals for selective weed control were generally in disrepute until 10 years ago. Strong caustic action without enough selectivity characterized these early herbicides.

The discovery of the selective weed-killing properties of 2, 4-D and related compounds opened up a whole new era in man's ageless battle against weeds. The finding of this amazing broad-leaved weed killer was shortly followed by the discovery in 1946 by the Rhode Island

Experiment Station that phenyl mercury compounds would remove crabgrass from bentgrass turf.

Another milestone was the finding by the New Jersey Agricultural Experiment Station in 1948 that potassium cyanate could successfully eliminate crabgrass in bluegrass turf.

Research is often a slow, painful process. For every success there are a thousand failures. Scientific research is not a series of miracles or brilliant discoveries. It is a gradual development, often the result of years of preliminary investigation. It takes time to test and to prove new ideas.

Unsolved turf problems regarding seedling establishment, *Poa annua* control, subsurface fertilizer application, grass adapted to close cutting treatment, irrigation practices, and disease resistant grasses abound.

Research is of little value unless the fruits of its discoveries are harvested. The technical developments that I have mentioned above have already found practical use on golf courses. On some courses all are in general use; on others only a few. Financial resources, education, and individual aptitude for progress makes the difference.

THATCH CONTROL

By RALPH E. ENGEL

On many occasions, I have noted that serious thatch problems occur on soils having a low pH. Certainly, management can provide the proper pH through liming. Also, management can alter the nutrient and moisture conditions to some extent.

In earlier years when labor costs were lower, topdressings of soil were used heavily and frequently on the greens. Two years ago, I encountered a course that was still following this practice. These greens had an excellent tight turf that was free of thatch in spite of the fact that the greens had never been raked or cultivated. The absence of thatch on these greens can be explained by the thorough topdressing program that encouraged the organic residues to decompose readily. Apparently, the topdressing material had reduced the frequency of surface drying and enabled the bacteria to decompose organic matter without interruption. Possibly this type of situation illustrates the value of mixing soil and thatch as was suggested by Dr. Starkey. Let us remember this principle, since some of our methods tend to mix thatch and soil.

Topdressing with soil for thatch control has very limited application because of cost. Also, application of topdressing material on established thatch is undesirable because contact cannot be made with the soil. Certainly, we must utilize other methods for controlling thatch on most turf grass areas.

RYE-BERMUDA TRANSITION

By J. R. WATSON, JR.

Where Bermuda and ryegrass is used to maintain gren turf throughout the year the two periods of transition are perhaps as critical as any facing the superintendent. The conversion from Bermuda to ryegrass as a rule causes little difficulty. However, a successful transition from rye to Bermuda the following spring will depend to a large extent on the manner in which the fall transition was handled.

The recommended procedure for the fall transition involves certain basic practices. These are:

1. About 4 to 6 weeks prior to seeding ryegrass, aerate the green as deeply as possible.

2. Immediately following aeration apply a complete fertilizer (one that contains nitrogen, phosphorus, and potash). This fertilizer should have a ratio of approximately 2-1-1 with at least one-half of the nitrogen in an organic form and be applied at a rate to supply approximately two lbs. of nitrogen per 1000 sq. ft. It is important that nitrogen be applied early enough in advance of seeding the rye so that the Bermuda will utilize most or all of it. No additional nitrogen should be applied at the time of seeding rye.

3. Following aeration and fertilization, mow at the usual height of cut until shortly before seeding rye.

4. A few days before seeding date, the Bermuda should be cut somewhat closer than normal.

5. Remove any thatch present.

6. Thoroughly scarify the green. This may be accomplished by aerating with the spoons or tines adjusted so that they penetrate only one to one and a half inches followed by spike disking. The object here is to insure contact between the seed and soil. Such will reduce the amount of rye grass otherwise needed to insure a good stand.

7. Seed 10 to 20 lbs. of ryegrass per 1000 sq. ft. The exact amount to use will depend on the personal preference of the superintendent, climatic conditions obtaining, condition of seed bed and whether or not the seed have been treated with a