

Learning from last year

Despite the slings and arrows dished out by Mother Nature in 1966, superintendents can congratulate themselves on a fine year.

By MARVIN H. FERGUSON
GOLFDOM Agronomy Consultant

During World War II, Army flyers sang a song which ended in the words "Nothing can stop the Army Air Corps." Typical of the rivalry among the various branches of the Armed Forces, wags among the foot soldiers quickly appended the words "except the weather."

In 1966, skillful superintendents did a fine job of maintaining the nation's golf courses and they solved most of their problems "except the weather." Despite meteorological advances weather remains unpredictable, variable and uncontrollable. Mother Nature, being the capricious type that she is, again caused sleepless nights and anxious days for many plant growers in 1966.

At the outset, much of the South experienced no freezes during the fall and early winter of 1965. For example, the first freeze in Houston occurred on January 15, 1966. This unusual tardiness in the onset of cold weather was not anticipated by those who overseeded bermudagrass greens with cool season grasses.

Bermudagrass failed to go dormant and it furnished competition for the cool season grasses, hindering their establishment. Thus when the freeze did occur, the cool season grasses on a great many greens were not dense enough to provide a good turf. At that date it was somewhat difficult to establish more seedlings.

While the late winter of 1966 was not especially severe, the cold weather persisted until well into the spring months and recurring "cold snaps" continued to retard spring growth. Plant scientists appear to agree that much of the loss of turf that is called winterkill is in fact "spring kill" and that repeated freezes and thaws in the spring when grasses are beginning to break dormancy are responsible for the death of the plants.

The fact that turf has been damaged by winterkill on several occasions during the last ten years has produced some significant changes in the thinking of those who build and manage golf courses. These occurrences are encouraging the

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Green at left is a "permanent temporary" at Memphis CC. Regular green is at right.



Hardscrabble CC, Ft. Smith, Arkansas, has used bermudagrass greens for many years. Recently, they have gone over to bent. This is view from back tee of the 17th hole.

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movement of bentgrass to ever more southerly locations.

New golf courses in Atlanta, Nashville, and numerous places in the Piedmont area have been planted to bent despite the traditional use of bermudagrass. Bentgrass in these regions of high summer temperatures will likely not be free of troubles, but it appears that more progress has been made in combatting summer problems than winter problems.

When grass dies during hot weather, a careful observer can see what is happening. No good superintendent will allow his grass to remain wilted nor will he allow an attack of fungus or insects to go unchecked. In the wintertime, injury to turf plants is very difficult to detect and when spring arrives and the grass fails

to grow, one can only speculate about when death may have occurred.

In the Memphis area, several clubs have installed alternate greens to be used during winter. Regular greens are covered with a protective layer of straw or similar material. The alternate green, facetiously called a "permanent temporary," is seeded with cool season grasses in fall and play is directed to these greens during the winter months.

The system has worked quite well. Admittedly, it creates more work for the maintenance crew, but it provides good greens at all seasons.

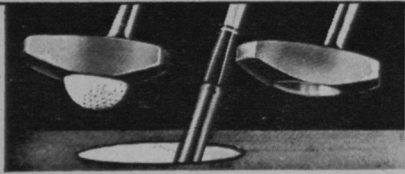
During the last few years the problem of winterkill has been accorded a place of greater prominence among the troubles that beset turf growers. In the North, winterkill is most serious on those greens which are infested with *Poa annua* and on those greens where compaction is serious and drainage is poor. A considerable research effort is being brought to bear upon this problem.

In December, the Wisconsin Golf Course Superintendents Association, in cooperation with the Milwaukee Sewerage

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Canna bed on sixth tee at Texarkana CC makes beautiful hole even more pleasing. T.E. McAdams is the golf course superintendent.



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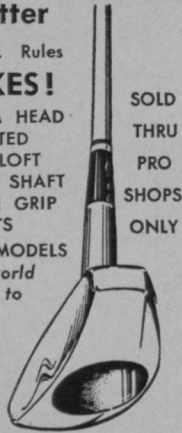
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LEARNING

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Commission, sponsored a symposium on the subject of "Winter Injury." Topics on the agenda ranged from basic discussions of the physiological causes of injury to such pragmatic subjects as methods of protection and the latest information on soil warming.

Protective measures such as covering of greens with polyethylene film were more widely used in 1966. Other materials were studied to determine whether they offered advantages over polyethylene covers. Excelsior mats show promise for such a use. These coverings serve to minimize temperature fluctuations and they reduce moisture loss. It seems likely that these and similar materials will come to be used more in the future, especially is this indicated in the northern sections of the nation.

Soil warming was also given more attention in 1966. Investigations at several experiment stations have yielded some in-

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Book Review

Golf: Its History, People and Events, by Will Grimsley, with a special section on famous courses by Robert Trent Jones, Prentice-Hall Inc. Englewood Cliffs, N. J., \$19.95. This is a championship job. Will Grimsley, talented Associated Press sports writer, has spent many years on the golf scene, covering heavy action, absorbing atmosphere, writing about and for celebrated players. He has patiently dug for fact among the early legends and he has written his findings in compact but colorful style. Herbert Warren Wind, Charles Price, and the late H. E. Martin, among other competent golf historians, have covered the subject well, but Grimsley's book is the classic contribution of the lot. Also, Prentice-Hall has dressed it up with fine illustrations—HERB GRAFFIS

LEARNING *continued from page 90*

formation indicating that soil warming may be beneficial and practical. With present technology the cost is high but is not prohibitive for use on the more valuable turf areas.

The effects of winter weather were felt on bermudagrass greens in the South and on some bentgrass and many *Poa annua* greens in the North. Did the middle section of the country escape injury? Indeed it did not! The great middle belt of the nation, often characterized as the "crabgrass belt" depends primarily upon bentgrass for greens and bermudagrass for fairways. In 1966, greens came through the winter in fine shape, but the long, cool, moist spring kept soil temperatures too low for bermudagrass growth.

Because crabgrass begins growth about the time bermudagrass breaks dormancy and goosegrass appears shortly afterward, superintendents prepare early to control

these pests. But in 1966 the bermudagrass developed so slowly and because these weedy grasses were controlled, many fairways in the vicinity of Kansas City and St. Louis displayed a rather sparse cover until midsummer when bermudagrass finally began to grow. Quite a few superintendents began to take another look at the possibility of using a Zoysia-bermudagrass mixture.

Golf courses in mid-America suffered another blow from the weather in July. The long, wet, cold spring had provided conditions conducive to thin leaves, thin cutin layers, succulent growth and shallow root systems. Then the weather suddenly turned very hot. Some of our readers will recall the announcement from Busch Stadium in St. Louis during the All-Star baseball game. The temperature reached a high of 106°.

Under such extreme conditions and such rapid changes turf must suffer. It is a credit to the skill of golf course superintendents that so little turf was lost.

continued on next page

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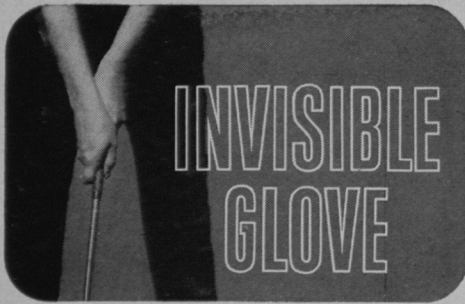
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LEARNING *continued from preceding page*

If the average superintendent could be faulted on any point during this period of stress, it would be that of trying to do too much. In their zeal to control diseases and organisms such as brownpatch, helminthosporium, curvularia, and pythium, turf managers resorted to numerous fungicides. Some of these produce a slight burn or discoloration on leaves of grass. Thus while they kill the active fungus, they also weaken the grass.

Therefore, it is my opinion that those who used the milder fungicides from the standpoint of phytotoxicity and those who treated their greens a little less frequently fared better during this tough period.

The summer of 1966 was not all bad if it taught us that the zeal to control *everything* can cause sparse turf.

If weather was the chief source of difficulty on golf courses in 1966, the problems of labor were not far behind. Labor costs continued to increase and as the nation reached maximum employment

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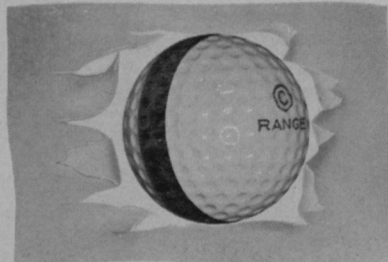
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rates, the quality of laborer available to golf clubs deteriorated. This was especially true of seasonal labor. A few clubs have gone to unusual lengths to try to solve the problem. College students are available in some areas; distributive education students of high school age have been used; in rural areas 4-H and FFA members have been employed; and in a few cases handicapped workmen have supplemented the labor force.

One of the products of the labor shortage is the accelerated trend toward mechanization. More superintendents are providing "wheels" for their workmen in order that they can move around the course more efficiently.

The trend toward greater use of automatic irrigation can be attributed in part to the development of more reliable and more versatile equipment and in part to the need to emancipate the night water man (who *must* be intelligent and cap-

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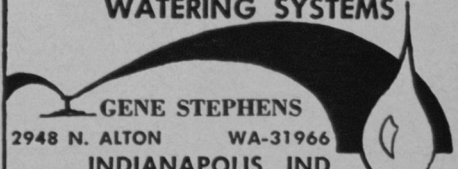
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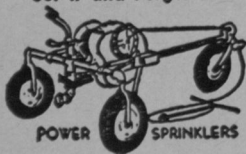
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LEARNING

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able) for other important course work.

While we have no accurate figures it may be assumed that another 1200 to 1500 chemical products for potential use on the golf course reached the market during the last year. These products are the result of continuous institutional and industrial research.

A great many of the new chemicals have been designed for some aspect of weed control. This year, as in every year of the last two decades, we have moved ever closer to the goal of complete selectivity of control among plant species. In 1966, there were many case histories of clubs who undertook weed control programs with phenomenal success.

Pre-emergence herbicides have provided outstanding control of species such as crabgrass and *Poa annua* in some cases, but erratic results continue to dictate caution in the use of these potentially excellent tools.

Turfgrass research in 1966 covered a

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Turfgrass Short Course

A new 18-month short course in turfgrass management was initiated this fall at the Michigan State University Dept. of Crop Science, East Lansing, Mich. The purpose is to give men classroom training in the fundamentals of turfgrass technology and on-the-job training which will equip them to assume responsible positions in the turfgrass industry.

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broad range of subjects. Of twenty three papers related to turfgrass management presented at the American Society of Agronomy meetings, twelve dealt with some aspect of nutrition. As more information with respect to the economic value of turf has become available, experiment station administrators have devoted a greater effort in this direction. Thus more workers were involved in turfgrass research in 1966 than ever before. Emphasis on such broad subjects as the phenomena affecting winter survival, principles involved in selective pre-emergence control of weeds, *Poa annua* control, and physiological mechanisms influencing shade tolerance provide a promise of better turf conditions in the future.

These paragraphs reflect a preoccupation with the troubles of 1966. Along with our other difficulties, the profession of turfgrass management lost some of its finest men during the last year. Among

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Coming Events

CMAA National Conference, Century Plaza Hotel, Los Angeles, Feb. 7-11.

Cornell Turfgrass Conference, Statler Hall, Cornell Univ., Ithaca, New York, February 20-23.

Maryland Sod Conference, Center of Adult Education, details later, March 2.

Midwest Regional Turf Conference Purdue University, Indiana, March 6-8.

PGA Business School, Park University Motel, College Park, Maryland, March 6-10.

PGA Business School, Chase Park Plaza Hotel, St. Louis, Missouri, March 13-17.

Annual Michigan Turfgrass Conference, Kellogg Center, Michigan State University, March 15-16.

3rd Annual Northern California Turfgrass Exposition, Golden Gate Park, San Francisco, March 22-23.

3rd Annual Nebraska program on "Selection and Handling of Pesticides", Nebraska Center for Continuing Education, U. of Nebraska, April 3-4.

Annual Florida Turfgrass Trade Show, Plantation Field Research Laboratory, Ft. Lauderdale, April 27-29.

them were Howard Denny, Ward Cornwell, R. E. "Dutch" Harman, Warren Lafkin, O. J. Noer, Joe Valentine and Alford Veale. These men have left their mark on our field of work and all of us who knew them well are richer for that privilege.

But despite our losses, our difficulties, and our disappointments, 1966 was a good year for turf. We "took our lumps", but we learned from them, and the next time we encounter such difficulties, we'll be a little wiser and, I think, a little better prepared. •

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