

It has been found that plants "harden" quite rapidly when exposed to cold. Chemical and physiological changes in the sap occur which makes the plant more resistant to cold. These changes are often noticed after as little as three or four days of exposure to cold. Therefore, it is the rapid changes of temperature which do the most harm. The sudden dry "northers" which are accompanied by temperature drops of 30 or 40 degrees are extremely injurious to all plants. Sufficient moisture in the soil lessens the injury caused by rapid changes in temperature to some extent. Water temperature does not change as rapidly as air temperature and the plant has

some opportunity, sometimes very slight, to harden itself against the cold.

This discussion is the basis for one single point. It sometimes pays to water in the winter. In the Great Plains region where high knolls are exposed to drying winds, there is likely to be a great deal of drying-out of both the grass and the soil. Occasional watering will help to protect the grass from winter injury. When dry "northers" are forecast and the soil is dry, it's a good idea to do some irrigation before the "norther" arrives. The soil temperature will change more slowly, and the grass will not dehydrate so rapidly. Grass will be saved that otherwise might die from drought.

## FROM THE EASTERN OFFICE

By ALEXANDER M. RADKO

ACTING EASTERN DIRECTOR, USGA GREEN SECTION

The months of August and September are fast becoming known as the turf-field-day months in the Northeast. Four major turf field days were held during these months, with a total attendance of more than a thousand. Following is a summary of some of the developments which attracted particular interest:

### Rutgers

This year for the first time the aerated plots showed to better advantage than the unaerated plots. These plots are four years old. Previous reports indicated little or no difference between treatments. . . . The cadminates and PMA formulations showed to best advantage on putting-green turf in the control of copper-spot. These fungicide trials are six years old. This year copper-spot was the only disease which occurred in sufficient quantity to warrant tests. . . . Meyer (Z-52) zoysia had more clover infestation than at any previous time. The Kentucky 31 fescue looked good under  $\frac{3}{4}$ " and  $1\frac{1}{2}$ " heights of cut. Merion (B-27) bluegrass didn't show to particular advantage over the other bluegrass selections.

Dr. Ralph Engel was the leader.

### Rhode Island

The PMA-treated putting-green turf was outstanding with regard to freedom from crabgrass. . . . Dr. Howard reported that two PMAS treatments applied in April to bluegrass turf controlled Helminthosporium which causes leafspot. . . . The 2,4,5-T trials showed good clover control in late fall and in April, when applied at the rate of one pound to the acre. In June the control of clover was not good when 2,4,5-T was used at the same rate. . . . Renovation trials proved that success with spring renovation was difficult due to the problem of crabgrass encroachment before a good turf cover could be established.

Dr. Jesse A. De France was the leader.

### Penn State

The creeping red fescue plots at Penn State suffered more this year than in previous years. The terrific heat and extended drought hurt the creeping fescues more than ever before. Plots of Kentucky 31 fescue and Merion (B-27) bluegrass looked excellent despite these adverse climatic conditions. They had beautiful color (almost looked as if the plots were

watered in comparison with those adjacent). . . . A beautiful picture of dollar-spot control was seen on the putting-green turf plots. Excellent control was obtained with the cadmium fungicides, which were the only fungicides used on these plots. . . . On the watered creeping red fescue plots the polycross creeping red fescue strain developed by Professor Musser looked far superior to the other creeping red fescue strains under similar conditions. There was noticeable lack of disease and cupping in the polycross creeping red fescue plots as compared with the other red fescues which are being tested. Professor Musser stated that polycross creeping red fescue seed will not be available commercially in any quantity before 1955. . . . The Merion bluegrass progeny test is quite an impressive sight. Thousands of seedling Merion bluegrass plants set row on row. Chances are excellent for a superior bluegrass selection being found, one even better than Merion. Joe Duich, graduate student, is working on this problem. . . . Miles F. Nelson, the third graduate student, to be selected for a USGA Green Section fellowship at Penn State, reactivated the aeration, compaction and run-off tests and is going to study new phases of this problem.

Prof. H. B. Musser was the leader.

#### New York-Connecticut

The Fourth Annual Turf Field Day and Equipment Show sponsored by the New York-Connecticut Turf Improvement Association was most successful. A record number of commercial firms displayed their equipment to good advantage. Each piece of machinery was demonstrated and the features were explained by commercial representatives. . . . A dinner followed, with Marshall Farnham as guest speaker.

Ted Joswich was the chairman.

#### Mid-Atlantic News

Mid-Atlantic superintendents met September 1 at the United States Naval Academy Golf Course, Annapolis, Md., where one of the most improved golf courses in this area was inspected. The outstanding

### NATIONAL TURF CONFERENCE

The annual turf conference and show, sponsored by the Golf Course Superintendents Association of America, will be held in Miami, Fla., January 3-9. The McAllister Hotel and the Municipal Auditorium will be headquarters.

A golf tournament, an educational program, exhibits of golf-course equipment and supplies and numerous business and committee meetings will comprise the week's activities. The tournament will be open to members of the Association. The first eighteen holes will be played at the Plantation Golf Club, Ft. Lauderdale, on the afternoon of Thursday, January 7, and the final eighteen holes at Miami Springs Country Club, Miami, on the afternoon of Friday, January 8.

All sessions of the educational program will be held in the Municipal Auditorium on Thursday, Friday and Saturday, January 7, 8 and 9. The Friday program will be divided into two sections. One section will be concerned with warm-weather grasses and one with cool-season grasses.

The show will be open from 9 A.M. to 5 P.M. on Wednesday and Thursday and will close at 1 P.M. on Friday. All exhibits will be in the Municipal Auditorium.

Features of the social activities will be a Get-Acquainted Hour at the McAllister Hotel on Tuesday evening and a banquet at the Miami Shores Country Club on Friday evening, January 8. Ladies will be treated to a full week of entertainment and sightseeing.

Inquiries should be addressed to Golf Course Superintendents Association, Attn.: Agar M. Brown, Secretary, P. O. Box 106, St. Charles, Ill.

feature of the Annapolis course is its beautiful bermudagrass fairways. Four years ago, when this association last met at Annapolis, the fairways had a high percentage of crabgrass and silver crabgrass. Today the picture has changed; the fairways are approximately 65 per cent bermudagrass, with very little silver crab. Bermudagrass is making daily progress and even without chemical help it is taking over the silver crabgrass. In a few years silver crab will no longer be a nuisance at Annapolis. The bermudagrass fairways afforded beautiful lies. The picture presented in these unwatered fairways in this area, where turf suffered greatly because of the drought, high humidity and high temperatures this sum-

mer as it has not in the past, was a striking contrast to many other golf courses in this area which have predominantly, or have had predominantly, cool-season grasses. Bob Williams, pro-superintendent, is doing a wonderful job of vegeta-

tive planting of the winter-hardy bermuda strains on his fairways. Some golf-course superintendents in this region attribute the fast spread of bermudagrass selections in their fairways to the use of aeration and dragging equipment.

## FROM THE SOUTHWESTERN OFFICE

By MARVIN H. FERGUSON

SOUTHWESTERN DIRECTOR, USGA GREEN SECTION

The USGA Green Section's regional turf service program is meeting with the approval of many golf clubs in Arkansas, Kansas, Louisiana, Missouri, New Mexico, Oklahoma and Texas. The program was introduced at a series of meetings in these states shortly after the Southwestern Office was opened on July 1. At last count there were thirty-six applications for direct service. Many more club representatives have expressed a need and a desire for the service.

### Water in the Southwest

Water continues to be the great need of the Southwest. Drouth has caused a number of cities to restrict the use of water for turf irrigation again this year.

Despite water shortages, a surprising number of superintendents continue to apply more water than is good for their turf. There is need for more widespread application of the proven principles underlying the correct use of water.

In recognition of the fact that economical and correct use of water is of paramount importance in the Southwest, the Texas Turf Association has voted to make the subject of water the central theme for its annual turf conference in January. No other phase of golf-course maintenance is so important nor so poorly understood.

### Experimental Bermudagrass Greens

Joe Smith, who formerly was associated with Texas A. and M. College, has begun a cooperative effort with a number of East Texas golf courses whereby these courses will establish experimental put-

ting greens. The experimental greens will be made up of pie-shaped segments of a number of the selected strains of bermudagrass being grown at Texas A. and M. College. The College will provide planting material and Mr. Smith will assist the clubs in planning their experiments. These putting greens will provide an opportunity for players to evaluate the various strains under a given set of conditions. It is felt that this is one way to determine which of the improved grasses will be best to plant on the putting greens at any particular golf course.

This type of testing work, which might be called "extended research", is almost necessary because conditions vary so much from one golf club to another. Not only are there differences in climate, soil and fertility, but also in management practices. These differences often will determine whether or not a grass will be successful. The cooperators in such a project should be congratulated for their willingness to do some research on their own to determine which of these grasses will do better for them should they decide to plant all their greens to an improved strain.

It is expected that players will be given score cards whereby they may mark their choices. The results can be tabulated and the players' preferences can be determined readily. The superintendent will have an opportunity to score the grasses and to indicate whether or not he has any particular trouble, such as disease or insect attacks on any of these improved strains.