nian offices. The new arrangement should enable the Green Section to cope better with emergencies and illness or resignation of an individual. This should assure the subscribing clubs of a strong program of service.

The USGA is continuing to support turfgrass research at Tifton and to co-sponsor the turfgrass conference there in the spring.

Another new member of the staff is T. T. (Tate) Taylor, who will assist Alexander M. Radko in the Northeast. He has had long and broad experience in golf course research and management. He is a graduate of the University of Maryland.

Other members of the staff are Charles K. Hallowell, Mid-Atlantic Director, based at Beltsville, and William Bengeyfield, Western Director, based at Los Angeles.

Through the Regional Turf Service, the USGA Green Section provides information about scientific golf course management, mainly through periodic visits of agronomists to individual courses and in meetings with golf course superintendents. Each individual visit is supplemented by a written report from the scientist to the club.

Regional Turfletters are issued six times a year to the subscribing clubs. This year there will be four Regional Turfletters—Eastern, Southern, Mid-Continent and Western.

The Regional Turf Service is subscribed to by USGA member clubs and courses at annual fees, which cover all work and expenses and are actually below cost. The annual fee for an 18-hole course is $110; for nine holes, $85. There are no extra charges for travel.

Last year the number of subscribers to the Service increased by 126 to a new high total of 539 golf courses. The Green Section agronomists made more than 1,000 visits to courses during the year.

SELECTIVE CONTROL OF DALLISGRASS IN BERMUDAGRASS TURF*

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DALLISGRASS is a major problem in Bermudagrass turf areas throughout the Southeast. Spot treating with oil is the most widely used chemical method of combating Dallisgrass in these turf areas at present. The use of oil, however, results in killing back of the Bermudagrass in the treated areas. Also, several applications may be necessary to kill the Dallisgrass. The following is a report of one year's study of materials for selective control of Dallisgrass.

Materials and Methods

The tests were conducted on fairways of the Texas A. & M. College golf course, on which there were mixed stands of Dallisgrass and Bermudagrass. A preliminary test included the following chemicals: disodium methyl arsonate, borax, cyanamid, ammonium nitrate, Varsol, "Karmex W" (80% "CMU" or 3 -(parachlorophenyl) -1, 1 dimethyl urea), "Crabgrass and Chickweed Preventer" (1 -n -butyl -3 -(3,4 -dichlorophenyl) - 1-methyl urea). All chemicals except cyanamid were applied in spray form. Cyanamid was spread uniformly on a plot and watered until it was dissolved. Observation on the preliminary test indicated that the two species were showing differential responses to disodium methyl arsonate. There was no indication of selective action by any of the other chemicals. Further tests to determine the value of disodium methyl arsonate as a selective herbicide were then conducted.

The test reported in Table 1 was laid out in a randomized block with three replications. Individual plots were 4 feet by 5 feet. An area 3 feet by 4 feet (to exclude border effects) was used in making Dallisgrass coverage readings. A 3 x 4 foot frame with crosshatched wires at 6 inch intervals provided a quick method for dividing the plot into 48 squares of equal size. Readings were based upon the Dallisgrass coverage in each of these individual

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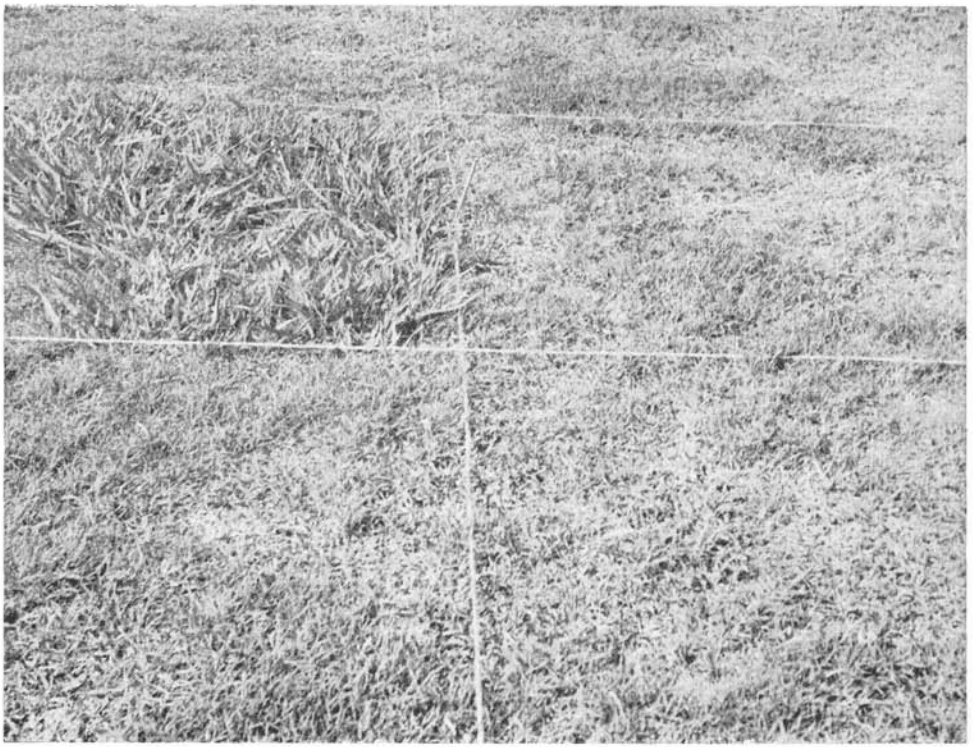

The above plots were sprayed with disodium methyl arsonate on June 27, 1956. The photo was taken on July 19, 1956. The plot at the upper left is untreated check.

six inch squares. This method permitted an accurate and fairly rapid calculation of the percentage of control. Readings prior to treatment and subsequent recovery readings were made two days after regular fairway mowing.

All chemicals were applied as a spray June 27, 1956, with liquid Trend added as a wetting agent. Recovery readings were taken September 6, 1956, at which time all plots had a dense turf of Bermudagrass.

Second Test

The second test (results reported in Table 2), was established in a factorial design to determine the best rate and dilution of disodium methyl arsonate. The test was conducted and the results read in the same manner as the test reported in Table 1. The test was initiated August 8, 1956, and recovery readings were taken September 9, 1956.

Because of the type of sprayer used for Test 1 (Table 1), excessive amounts of water had to be used, resulting in considerable runoff. Test 2 (Table 2) was applied with a smaller type sprayer which permitted more accurately controlled application. This probably accounts for the noticeable difference in percent control received at equivalent amounts of chemical in Tables 1 and 2.

At the higher concentrations of disodium methyl arsonate, some slight discoloration of Bermudagrass occurred, however, this was only a temporary condition. Less than a week after treatment at concentrations high enough to give 100% Dallisgrass control, Bermudagrass was observed to be spreading over the dead Dallisgrass. Plots originally containing 90% Dallisgrass contained 100% Bermudagrass turf in 6 weeks after treatment. No permanent injury to Bermudagrass occurred in any of the plots.

Conclusions

1. Disodium methyl arsonate will give selective control of Dallisgrass in Bermudagrass turf. Apparently under some soil moisture and plant development conditions, a complete kill may not be obtained with a single application.

2. The addition of 2,4-D or ammonium nitrate to disodium methyl arsonate may increase its effectiveness.

3. Disodium methyl arsonate, when used at rates necessary to control Dallisgrass, will severely harm and possibly kill St. Augustine.

4. Present data indicate 10 pounds of disodium methyl arsonate per acre in 87 to 174 gallons of water per acre in one application will give good control of Dallisgrass. Research is needed on the use of lower rates in several applications.

5. A wetting agent will increase the effectiveness of disodium methyl arsonate.

TABLE 1.
Percentage Control of Dallisgrass with Various Treatments

Chemical	*Rate lbs./acre*	*% Dallisgrass Control (Avg. 3 Reps.)*
DSMA	17	84
DSMA	25.5	89
DSMA	34	99
DSMA plus ¼ lb./acre 2,4-D	17	95
DSMA plus ¼ lb./acre 2,4-D	25.5	97
DSMA plus ¼ lb./acre 2,4-D	34	95
DSMA plus 4 lbs./1000 sq. ft. NH_4NO_3	8.5	97
DSMA plus 4 lbs./1000 sq. ft. NH_4NO_3	17	93
DSMA plus 4 lbs./1000 sq. ft. NH_4NO_3	25.5	92
DSMA plus ½ lb./acre 2,4-D	17	89
Varsol 200 gal./acre	--	19

TABLE 2.
Percentage Control of Dallisgrass with Various Rates of Disodium Methyl Arsonate and Volumes of Water

Volume gal./1000 sq. ft.	*Disodium Methyl Arsonate, lbs./acre* 5	10	15	20	25	30	*Avg. % Control*
1	76	85	92	95	99	--	89
2	87	98	97	99	99	98	96
4	88	99	100	96	95	96	96
6	87	91	94	97	93	99	94
8	93	95	100	95	94	98	96
Avg. % Control	86	94	97	96	96	98	