

TIMELY TURF TOPICS

Issued By The

UNITED STATES GOLF ASSOCIATION GREEN SECTION

ROOM 307, SOUTH BUILDING
PLANT INDUSTRY STATION
BELTSVILLE, MD.

THE STAFF: Fred V. Grau, Director.

F. H. Williams, Executive Secretary, in continuous service to the Green Section since 1922.

Ian Forbes, Jr. Returned to Green Section November 1, 1945. B. S. in Botany, Maryland, 1941; Green Section until enlistment in U. S. Army in March, 1942. Commissioned in Field Artillery, 9th Infantry Division. Action in African Invasion, Tunisian and Sicilian campaigns. Volunteered for para-military in O.S.S., parachuted behind enemy lines near Belforte Gap, was liaison officer and guerrilla leader with French Maquis. Married Doris May Ivermee, London. Returned to United States as instructor. Daughter Ann Kathleen born just before V-J Day. Discharged as Captain, October 30, 1945. In charge of greenhouse, stockroom, and field work.

TIMELY TURF TOPICS IN 1946: Organizational readjustments have prevented regular issuance of publications. Plans for 1946 include five issues of TTT:

January	-	current number
March-April	-	Conference "
May-June	-	spring "
July-August	-	summer "
September-October	-	fall "

More permanent types of publications are planned as soon as practicable in the light of more research data and easing of printing and personnel problems. Suggestions are invited.

EDUCATION IN TURF: There exists an acute shortage of qualified men for positions in the turf field. The Green Section encourages, and will actively support, college curricula designed to train men in this specialized field. Penn State offers a 2-year course in turf management, starting with the second semester (March, 1946). First priority is given to Pennsylvania veterans; others by date of application. Courses at other institutions are planned.

Conferences and Educational Programs

National	-	Jan. 29 - Feb. 1.	G.S.A., Cleveland.	A. L. Brandon, St. Charles, Ill.
New Jersey	-	Feb. 11 - 15.	G. H. Ahlgren, Rutgers University,	New Brunswick, N. J.
Penn State	-	Feb. 18 - 21.	H. B. Musser, State College,	Pa.
Maryland	-	Mar. 7.	E. N. Cory, College Park,	Md.
Iowa	-	Mar. 11, 12.	H. L. Lantz, Ames,	Ia.
Minnesota	-	Mar. 13 - 15.	A. W. Anderson, 3540 - 24th Ave. S.,	Minneapolis, Minn.
Purdue	-	Mar. 18 - 20.	G. O. Mott, West Lafayette,	Ind.

GREEN SECTION SUBSCRIPTIONS: Green Section Service may be subscribed to at \$30 a year by such agencies as park commissions, cemeteries, airfields, individuals with private golf facilities, nurseries, seedsmen, golf supply and equipment manufacturers and dealers, fertilizer manufacturers, etc. Subscribers receive full Green Section Service, which includes two copies of all publications. Subscriptions will be used to build an "Education Fund" and to supplement cooperative state and regional research. Address communications to F. H. Williams, Executive Secretary, Green Section Office.

January, 1946

U. S. DEPARTMENT OF AGRICULTURE - UNITED STATES GOLF ASSOCIATION RELATIONSHIPS: Cooperation is based on mutual interest in grass and in fundamental research having regional application. Many identical basic biological and physiological principles are involved, recognizing differences in management, use, and in measurement of results. A memorandum of agreement guides the actions of both parties. The objectives include: cultural and fertilizer practices, disease and pest control, strain adaptation, selection and breeding of turf grass strains, and other problems bearing on the culture of satisfactory turf for golf courses and other turf areas in the United States. There is a mutual sharing of facilities, responsibilities and materials. Each group works by rules and regulations of the parent organization. The relationship is advantageous for all concerned.

SURPLUS MILITARY EQUIPMENT: Golf clubs will be served only through dealers after three higher-priority groups are served: (1) government agencies; (2) states, cities, municipalities; (3) veterans; (4) dealers. No mowers were listed with the Department of Commerce. Little relief for machinery-hungry golf courses is indicated.

2,4-D: For latest, detailed information on the use of 2,4-D for weeds in turf, clubs are invited to send their superintendents to at least one of the educational conferences listed on page 1. The "personal factor" in the use of any new material is so great that first-hand information is essential.

2,4-D is included in a large list of chemicals known 25 years ago in Germany.

Credit for data and observations supporting the following statements is shared by many, including Mitchell, Marth, Kephart, Davis, Farnham, Feser, Noer, Teesdale, Lafkin, Lantz, Hill, Harvey, and others.

Caution is urged in the use of 2,4-D in connection with renovation and seedings because of the apparent effect of retardation of germination.

2,4-D in dry mixtures with fertilizers shows considerable promise. Experiments are in progress.

Urea added to 2,4-D sprays did not decrease the effectiveness, and recovery of grass growth was more rapid.

Chicory (Chichorium intybus) may be added to the list of weeds controlled by 2,4-D, according to several reports.

Cost per acre, availability, and ease of handling materials are deciding factors in selecting formulations for use on turf. At equivalent quantities of 2,4-D (actual) to the acre, no real differences among formulations have been detected.

Bluegrass turf, (lawns, fairways, etc.) can be treated safely with 1 3/4 pounds of actual 2,4-D to the acre at any time. Caution is urged with mixed bent turf and bent putting green turf until more data is available.

Maximum leaf surface on weeds favors complete kill.

Clover control has not been consistent.

Rates of application expressed in pounds of actual 2,4-D to the acre is gaining acceptance. So long as uniform application can be obtained, the quantity of solution becomes less important.

More work is needed on equipment which will apply uniformly minimum quantities of solutions.

Sodium arsenite - 2,4-D combinations have shown promise and should be investigated further.

Effects of 2,4-D on crabgrass have been variable but show some promise. Further experiments are in progress

Under some conditions 2,4-D is an effective soil sterilant. Rates, duration and plant susceptibility are being investigated.

Correlating the use of a new material with existing management practices is an important function of practical or applied research.

Spring applications of 2,4-D in the crabgrass belt on bluegrass turf have increased the population of crabgrass. On Bermuda turf, spring treatments are recommended.

Cool-weather applications have indicated greater promise in California than warm-weather treatments.

Ornamental plants may be severely injured or killed by drifting spray. Partial

lists of susceptible plants have been prepared.

In addition to the list of manufacturers in the July issue of TTT, these names may be added. Listings are made for convenience to members and subscribers and in no way imply recommendation of the products.

Plant Products Co., Blue Point, N. Y. (Dandy - Kill)
Allied Pacific Co., Oakland, California. (Phenocide)
Sherwin-Williams Co., Cleveland, Ohio. (1, 2, and 3)
Burbank Weed Killer, Los Angeles, California.

Note: Listings are obviously incomplete. The Green Section invites literature and samples from manufacturers.

Reports from cooperators in 2,4-D tests are incomplete. It is requested that all who have participated in cooperative tests with the Green Section send in reports soon so that results may be correlated and condensed for publication.

DDT: DDT is a very promising turf insecticide but before general recommendations can be made much work remains to be done. It has controlled Jap beetle (adult and grub), leaf-hopper, chinch bug, sod webworm, mole cricket, cutworm, and several species of ants. For the clubhouse, it has given control of flies, mosquitoes, cockroaches, and bedbugs. On the golf course it will also give protection against various insects for ornamental trees and plants. Experiment Station specialists should be consulted for detailed information on DDT. Cautions on its use are: (1) It is poisonous to cold-blooded animals, such as fish; (2) it should be classed with arsenicals as to its toxic qualities to the user. Contact with, and inhalation of considerable amounts of this material is dangerous; (3) it should not be applied to food crops if the edible part is exposed to DDT spray or dust; (4) avoid buying sprays or dust which are not labeled as to ingredients. The percentage of actual DDT determines the toxicity of the insecticide; (5) duration of effectiveness of DDT may be reduced when mixed with certain other spray materials; (6) use DDT only as recommended.

DDT may be used either as a dust or as a spray. It is insoluble in water, so it must be emulsified or have a wetting agent added before being used as a spray. DDT is a slow-acting but persistent insecticide, giving protection over a greater period of time than the quicker acting types. DDT has had growth-retarding effects on some crops, but no effect has been noted on grass. At the rate of 25 pounds to the acre (actual DDT), DDT has been found more effective on the third-instar larvae of the Jap beetle than the 1,000 pound rate of lead arsenate. (This is a report, not a recommendation.) This chemical does not seem to have any effect on earthworms. Solutions of DDT in oil have been destructive to bentgrass. Dusts and water-emulsion sprays have caused no apparent injury.

Dr. R. S. Filmer, New Jersey Experiment Station, states: "10 percent dust at 100 pounds to the acre (10 pounds actual DDT) has given excellent control of chinch bugs. Residual toxic effects last 10 to 14 days. Excellent control as a dust, as a spray, or mixed with topdressing. Because of limited opportunity to study effects, no recommendations are made for the coming season but further testing is warranted."

Dr. Dave Kelsheimer, Branch Experiment Station, Bradenton, Florida controlled mole cricket in vegetable seed beds by watering DDT solutions into the soil just prior to sowing seeds. Calculated rate approximated 10 pounds actual DDT to the acre.

PURATURF: Available in 1946, Puraturf has given a high degree of control of usual turf diseases at a concentration of 1 to 17,000 (10 cc. in 10 gal. water) with no apparent effect on growth or appearance of bentgrass. Developed at the Rhode Island Station (U.S.G.A. Green Section cooperating), this promising chemical is due for wide-spread practical demonstrations.

SABADILLA: Sabadilla, developed from the seeds of Schoenocaulon spp. (a type of lily from Central America), is being currently recommended by the New Jersey Station as superior to rotenone and nicotine treatments for chinch bug control in turf. One hundred pounds of 10% dust to the acre (dusted or mixed with sand and applied with fertilizer distributor) has been a satisfactory rate. Results are rapid and can be judged in 48 hours. High temperatures and dry, previously-cut grass are beneficial.

THIOSAN RENAMED: Du Pont announces that the name Thiosan has been changed to Tersan.

LABOR-SAVING DEVICES: Labor shortages have stimulated the development of many ingenious devices and methods for saving labor in turf management. You are invited to send in your ideas and developments to the Green Section for publication. Full credit will be given to the originator.

ROOTS IN AIRFIELD AND ROADSIDE SOD: Weights of roots (reinforcing material) in 3-year old U-3 Bermuda sod at Beltsville in March, 1945, taken to 6-inch depth, showed these relationships to height of cut, expressed in tons of live roots to the acre:

$\frac{1}{2}$ inch	-	4 tons	4 inch	-	15 tons
2 "	-	11 "	8 " (mature)	-	20 "

Frequency of clipping (greenhouse experiments) on 4 grasses (Dallis grass, Bermuda grass, Bluegrass, and Carpetgrass) at Raleigh, North Carolina showed these relations, expressed in relative quantities of dry matter in roots:

Cut every 10 days	-	x	Cut every 30 days	-	3x
" " 20 "	-	2x	" " 60 "	-	10x

These data indicate that higher clipping (4" to 8") and less frequent clipping (every 30 - 60 days) produce the greatest quantity of roots which serve as "reinforcing material" in the soil to provide better all-weather conditions and greater load-bearing capacity. Closer and more frequent mowing may be necessary under some conditions to reduce the fire hazard, or for other reasons.

LEAFHOPPERS: Seldom ranked as a turf pest, this insect is suspected of wide-spread damage. Records show 68% increase in weight of dry clippings from Bermuda and bluegrass sods when leafhoppers were partially controlled by "hopper-dozing." DDT and Sabadilla promise relief but data is lacking on turf.

LIBRARY ADDITIONS: T.T.T. for December, 1941 listed material for the Turf library. These additional references are believed to be valuable.

Meadow and Pasture Insects. Osborn, Herbert. 1939. 288 pp. Columbus, Ohio. The Spahr & Glenn Co., Columbus, Ohio.
Entoma. An annual directory of insect and plant diseases. Direct correspondence to: George S. Langford, Department of Entomology, University of Maryland, College Park, Maryland. Price, \$1.00.
Turf Management in Rhode Island. Bell, R. S., Jennings, C., Keil, H. L., Miscellaneous Publication No. 26. Rhode Island Agricultural Experiment Station, Kingston, Rhode Island. May, 1945.
Spray Chemicals and Application Equipment. McClintock, J. A., Fisher, W. B. 1945. Chicago, Illinois. The Greenlee Co. Inc.

THE MAN ON THE JOB: The Green Section wishes to give recognition to the greenkeeping superintendents of the nation who, through their diligence and personal sacrifice, kept such a large percentage of golf courses in playing condition throughout the war, in the face of shortages of manpower, equipment, and materials. More than ever, the importance of the "Man on the Job" is exemplified.

"HONEYCOMB" SEEDING: Nature usually prepares an excellent seedbed in early spring in those areas where the soil freezes at night and thaws during the day. The "honeycombed" soil provides a good medium for quick repair of thin spots with a mixture of seed and good soil high in organic matter. A pound of seed to a bushel of soil makes a good mixture. Dead crabgrass plants may remain in place to act as a mulch for the seed.

INVITATION TO EDUCATION: Before we go to press, the last thought we wish to leave with our members and subscribers is to reiterate the importance of attendance at educational conferences. The programs listed on page 1 represent the best lineup of "refresher courses" since before the war. The Green Section will be represented at all conferences.