

TIMELY TURF TOPICS

Issued By The

UNITED STATES GOLF ASSOCIATION GREEN SECTION

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

KNOWLEDGE IS POWER - ATTEND CONFERENCES

EDUCATION IN TURF: The following Winter Turf Conferences are planned for 1947:

TENNESSEE	Jan.	6-7	University of Tennessee J. K. Underwood, Knoxville, Tenn.
TEXAS	"	20-22	Texas A & M College E. B. Reynolds, College Station, Tex.
OKLAHOMA	"	27-29	Oklahoma A & M College, Stillwater, Okla. Bob Dunning, 310 E. 6th St., Tulsa, Okla.
NATIONAL	Feb.	10-14	G.S.A. - Hotel New Yorker, New York City A. L. Brandon, P. O. Box 106, St. Charles, Ill.
PHILADELPHIA	"	19	Philadelphia Turf Conference, Llanerch Country Club, Westchester Pike. 7:30 p.m. Charles K. Hallowell, 303 Drexel Bldg., 5th & Chestnut Sts., Philadelphia, Pa.
MARYLAND	"	20	University of Maryland E. N. Cory, College Park, Md.
NEW JERSEY	"	23-28	Rutgers University T. C. Longnecker, New Brunswick, N. J.
PENN STATE	Mar.	3-6	Pennsylvania State College H. B. Musser, State College, Pa.
IOWA	"	10-11	Iowa State College H. L. Lantz, Ames, Iowa
MINNESOTA	"	12-14	University of Minnesota A. W. Anderson, 3540 - 24th Ave. S., Minneapolis, Minn.
PURDUE	"	17-19	Purdue University G. O. Mott, West Lafayette, Ind.
MICHIGAN	"	20-21	Michigan State College James Tyson, East Lansing, Mich.

Dates for conferences in Georgia and Florida will be announced in a later issue. Plans are being discussed for a series of Turf Management meetings in the western states, to be held probably during May.

INSECTICIDE-FUNGICIDE OUTLOOK FOR 1947: The following information relative to the availability of insecticides and fungicides in 1947 has been abstracted from an article in the January issue of "Domestic Commerce" entitled, "Outlook for Chemicals in 1947," which was written by Mr. C. C. Concannon, Chief of the Chemical and Drug Division, U. S. Department of Commerce:

Lead is critically short in supply and is needed for civilian requirements other than insecticides. These factors may restrict the manufacture of lead arsenate.

The supply of arsenicals may increase with the removal of price controls, thus bringing into the country more imports of this material.

Production of DDT is contracted for well into 1947, but the supplies should be adequate to meet the demands.

Pyrethrum stocks are ample, unless transportation problems interfere.

Rotenone supplies depend on the availability of shipping space from Peru (its only source); also on the renewal of the present agreement with Peru, which expires May 7, 1947.

Supplies of Sabadilla are critical, according to information contained in

"A. I. F. News," November, 1946.

From all indications, supplies of Tersan and mercurial fungicides appear to be adequate.

REMOVAL OF 2,4-D FROM SPRAY EQUIPMENT: Many cases of injury have been reported to our office resulting from the use of spray equipment which previously had been used in applying 2,4-D. Until recently this problem had been a serious one due to the lack of information on removing 2,4-D residue from tanks and equipment. Experimental work recently has been accomplished by Dr. James W. Brown, Bureau of Plant Industry, U. S. Department of Agriculture, on a method of removing this herbicide from equipment with household ammonia. The steps involved in Dr. Brown's procedure are as follows:

After using the equipment with 2,4-D, fill the tank with hot or cold water (the use of cold water requires more time in completing the job), rinse, and drain.

Fill the tank with water almost to capacity and add household ammonia (at the rate of 1 part of household ammonia to 100 parts of water). Fill the tank completely with water and agitate. A small portion of this solution should be circulated through the entire system to wash out the lines.

Let the equipment stand for 18 hours (when hot water is used) or from 36 to 48 hours when cold water is used.

Drain the equipment, and rinse twice with clear water, circulating the water through the entire system.

This method has been tested only on metal tanks, and its results on wooden tanks has not been determined. In all probability equally good results can be obtained on wooden tanks, if a longer soaking period is allowed.

Dr. Brown reports that, of the various 2,4-D formulations used in this experiment, the mixtures of 2,4-D acid and Carbowax proved to be the most difficult to remove.

FERTILIZER STORAGE: This important information for all users of fertilizers has been condensed from material prepared especially for **TIMELY TURF TOPICS** by Dr. William H. Ross, formerly Principal Chemist, Division of Soils and Fertilizer Investigations, U. S. Department of Agriculture.

Some fertilizer materials, during prolonged storage and under unfavorable conditions, may cake to a hard mass or may become moist and undrillable in a short time unless measures are taken to prevent it. Caking is caused by many factors, all dependent upon the presence of moisture. Fertilizers that have been dried thoroughly and kept dry will not cake. When the climate is dry or cool no serious problem is involved, but when the temperature increases (particularly in the humid regions) the tendency to cake is increased greatly.

Materials most likely to absorb moisture and to cake are: urea, sodium nitrate, calnitro and ammonium nitrate. Materials of this kind intended for storage should be packaged in bags with one or more asphalt-laminated layers. A broken bag should be removed and repackaged or spread at once. Loose material may absorb enough moisture to liquefy and flow onto other bags, which will become weakened and broken in turn. All bags which have contained either sodium nitrate or ammonium nitrate either should be washed, or burned without washing, to avoid the danger of fire.

Bagged fertilizer piled on concrete floors or on damp soil will rot more quickly, and the contents will cake to a greater extent, than such bags stored on wooden floors. Bags in storage should be piled in rows close together, one above the other.

Bags at the end of rows should be arranged in pairs, alternating at right angles to each other. This (1) keeps bags upright, (2) economizes space, (3) minimizes bag breakage. Bags should be lifted, not dragged, to avoid tears and punctures which admit moisture.

Caked fertilizer may be broken by dropping bags on each side in turn from a height of about 3 feet. It may be necessary to screen to remove lumps which may clog drill holes and cause streaks on the turf.

FERTILIZER SUPPLIES FOR 1947: This pertinent information was prepared for **TIMELY TURF TOPICS** by Mr. F. S. Lodge of the National Fertilizer Association:

"Although there will be slightly more fertilizer overall for the growing season of 1947, the increase will be in the form of super-phosphate and potash. There will not be quite so much nitrogen as we had last year. It has been necessary for this country to furnish nitrogen compounds to other nations under the international allocation of fertilizers by the United Nations. This has reduced the apparent domestic supply to about 1% less than we had last year and to about 3% less than was estimated in July. Government nitrogen plants closed at the end of the war, are being reactivated and will produce nitrogen compounds for shipment to occupied and devastated countries. It is believed that the entire situation will be somewhat easier after July 1, 1947, but such materials as sodium nitrate, ammonium sulphate, ammonium nitrate, and high nitrogen mixed fertilizers, will be in very short supply for the next 6 months at least and will be in even greater demand for the production of food crops than last year."

MAJOR TURF PROBLEM OF 1946: The basic causes of poor putting greens in the United States are POOR PHYSICAL SOIL CONDITIONS. These are permanent conditions which tend to become progressively worse in the absence of corrective treatments. Causes include (1) improper construction and the poor choice of materials, (2) faulty topdressing mixtures and other maintenance practices, and (3) lack of proper power equipment to correct conditions. The regrettable tendency is to try everything except the improvement of physical conditions because the operation (1) may be expensive, (2) may be improperly understood or appreciated, and (3) may interrupt play temporarily.

The improved putting green grasses available today, under skilful management, will produce superior putting surfaces. Differences in behavior of a particular strain of bent in different locations may be due to management but, basically, the soil conditions affect management. Clover and Poa annua virtually are unknown in putting greens which have perfect drainage and aeration, other factors being equal.

DRAINAGE and AERATION are essential to the production of satisfactory putting surfaces, regardless of the type of grass used. Putting green soils which are built properly in the first place permit nearly trouble-free maintenance for years. Over-watering, with its well-known troubles, virtually is impossible where adequate DRAINAGE is built into a green. Fertilizers are more effective when the soil is well aerated. Roots strike deeper, plants are healthier and more resistant to enemies of good turf.

Some putting greens can be improved most effectively only by rebuilding them completely. The operation entails high first cost but, properly done, it will give lasting satisfaction. Some may be improved by aerating mechanically with (1) tubular-tine forks (hand and power driven), (2) deep forking (9 to 12 inches) with potato forks, and (3) deep and frequent spiking.

The worst enemies of AERATION are the fine-textured materials which include (1) clay, (2) fine sand (blow-sand), (3) raw sewage sludge, and (4) manure. Desirable materials are those of maximum coarseness (see **TIMELY TURF TOPICS**, Oct.-Nov. 1946, p. 1), consistent with changing cups and mower operation, which give firmness and physical strength but do not become compacted readily. These include coarse sand (to fine gravel), a minimum of clay, and coarse humus of the reed and sedge type. [Note: The Green Section and cooperating experiment stations have renewed intensive studies of low-cost, desirable materials and mixtures for putting green construction and maintenance.]