

# Wound Dressings for Trees

BY PROF. DONALD S. WELCH

Department of Plant Pathology, N. Y. State University

Whenever breaks or cuts occur in the bark of woody plants, either by accident or design, it is desirable to protect the resulting wounds. Such protection has two objectives, to exclude wood-destroying fungi and insects, and to facilitate healing. Cuts made in late winter or early spring heal most rapidly, but there is evidence that wounds involving sapwood only, may react more favorably against entrance of fungi if made during the growing season. In any case some protection of freshly-made wounds is probably worth while.

For temporary treatment Orange Shellac is one of the most satisfactory materials. If applied soon after the injury or cut has taken place, it has an antiseptic effect and also protects the living tissues from drying. It can be applied freely to the cambium, bark and sapwood without fear of injurious effects. The durability of shellac is poor, however, and except on very small wounds it should be followed soon by some more permanent cover.

The following materials containing asphalt are generally recommended:

**ASPHALT VARNISH** (Gilsonite) is a preparation of natural asphalt, which if made up to standard specifications, makes a durable dressing and favors healing of the wound. It is a heavy black varnish, applied easily with a brush. It may blister if the woody surface is wet.

**FIBRATED ASPHALT ROOFING PAINTS.** Some of these may be substituted if the above asphalt preparation is not available. These paints are very heavy and are better handled in warm weather. Since roofing paints are by nature waterproof, they will not adhere well on a wet surface.

**WATER-ASPHALT EMULSION.** This preparation is sometimes sold under various trade names such as Tree Seal, Tree Heal, Flint-Kote, etc. It is usually possible to obtain it in some form from dealers in gardener's or tree surgeon's supplies. Water-asphalt emulsion is a thin paste which may be applied with a

## COMING EVENTS

September 28-29-30

Northwest Turf Association Conference  
University of Washington  
Seattle, Washington

September 26-27

Utah-Idaho Turf Conference  
Salt Lake City, Utah

October 3-4

New Mexico Turfgrass Conference  
New Mexico State University  
University Park, N. M.

October 6-7

Colorado Turf Conference  
Colorado State University  
Fort Collins, Colorado

October 19-20-21

Central Plains Turfgrass Conference  
Kansas State University  
Manhattan, Kansas

November 17-18

Arizona Turf Conference  
University of Arizona  
Tucson, Arizona

November 30-December 1-2

15th Annual Oklahoma Turfgrass Conference  
Oklahoma State University  
Stillwater, Okla.

December 5-9

Fifty-Third Annual Meeting of  
American Society of Agronomy  
Morrison Hotel  
Chicago, Ill.

December 12-13-14

15th Annual Texas Turfgrass Conference  
Texas A. & M. College  
College Station, Texas

brush or a paddle. It may be used to treat freshly-made wounds, even before the surfaces are dry. This is an advantage over most materials. The emulsion hardens quickly and should not be left in a container exposed to the air. Since it contains water, it cannot be worked at temperatures below freezing.

In selecting any asphalt preparation, caution should be exercised against the use of those which, by their odor or by the label, are suspected of containing carbolineum, creosote, gasoline, or similar materials. Such products are injurious to living trees.

Where asphalt paints are not obtainable, other materials may be substituted.

**HOUSE PAINTS** of the type containing linseed oil, designed for outside use, are fairly satisfactory if properly used. The oil is known to injure the live bark on some trees, particularly maple and

walnut, but this trouble may be avoided by first applying orange shellac as described above. Another disadvantage of linseed oil paints is the difficulty of using them on surfaces where there is free moisture. They are not as satisfactory as the asphaltum preparations.

**BORDEAUX PAINT** is a homemade preparation made by mixing powdered Bordeaux mixture and raw linseed oil to the consistency of a thick paint. This material is assumed to possess disinfect-

ing or fungicidal properties. Otherwise it appears to be like house paint.

For best results, wound dressings should be inspected at least once a year and repaired when necessary. Whatever the treatment used, no dressing can be considered to be permanent. Attention to maintenance will increase the effectiveness of all such efforts to protect and preserve valuable trees.

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## **Laboratory Methods**

### **For Evaluation of Putting Green Soil Mixtures**

BY MARVIN H. FERGUSON, LEON HOWARD, AND MORRIS E. BLOODWORTH

Mid-Continent Director, USGA Green Section; Former Graduate Assistant and Associate Professor, respectively, at Texas A. & M. College

**T**he suitability of soil mixtures for putting green use may be evaluated by the determination of certain physical characteristics. These characteristics may be determined by laboratory procedures.

Inasmuch as some of the physical measurements will be affected by the degree of compaction to which the mixtures are subjected, it becomes necessary to outline standard methods of procedure in order that laboratory data may be interpreted properly.

The most useful information in evaluation of putting green soil mixtures comes from determinations of permeability (hydraulic conductivity) and pore space relationships. Information with respect to mechanical analysis, mineral derivation, aggregation, bulk density, and moisture retention characteristics is helpful but is most useful in its relation to the permeability and pore space considerations.

Methods of procedure have been worked out by Kunze (4) and Howard (3) in connection with investigations they carried out while pursuing graduate studies at Texas A. & M. College. For the most part these procedures are modifications of methods in standard use and which are fully described in the literature.

#### **Permeability (Hydraulic conductivity)**

The hydraulic conductivity of a soil is determined by the amount of non-capillary porosity of that soil and it is further affected by the size and continuity of the macropores. Because hydraulic conductivity is dependent upon the pore space relations within the soil, and because the

noncapillary pore space is reduced by compaction, it becomes one of the most important measurements in the evaluation of a soil.

In preparing the sample, a copper cylinder three inches in length and two inches in diameter, open at both ends, is used. To the top of this cylinder is fixed a retaining ring of the same diameter and one inch in width. This ring is held on top of the cylinder by a broad rubber band such as may be cut from a bicycle inner tube. The other end of the cylinder is covered by a double thickness of cheese cloth and this is also held in place by a rubber band.

An air dry sample of a soil mixture is placed in the cylinder and settled by gentle tapping. Samples so prepared are placed in water and soaked for two hours to assure saturation. They are then transferred to a tension table. A tension of 40 cm. of water is imposed and samples remain on this table until they reach equilibrium.

## **TURF MANAGEMENT**

The book "Turf Management," sponsored by the United States Golf Association and edited by Prof. H. B. Musser, is a complete and authoritative guide in the practical development of golf-course turfs.

This 354-page volume is available through the USGA, 40 East 38th Street, New York 16, N. Y., the USGA Green Section Regional Offices, the McGraw-Hill Book Co., 350 West 42nd Street, New York 36, N. Y., or local bookstores. The cost is \$7.