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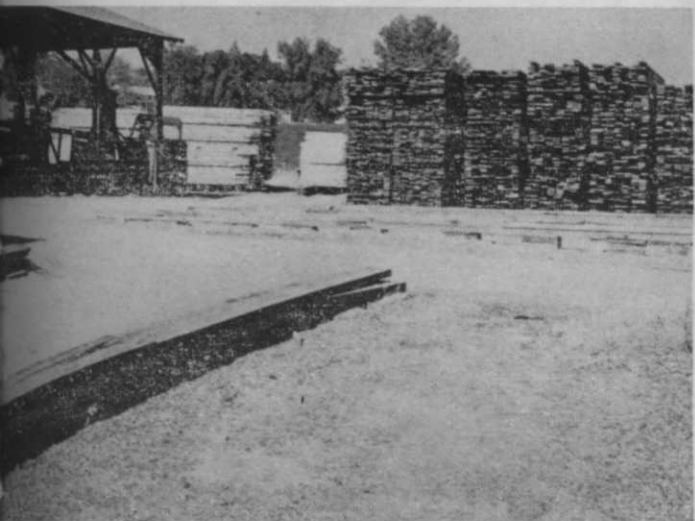
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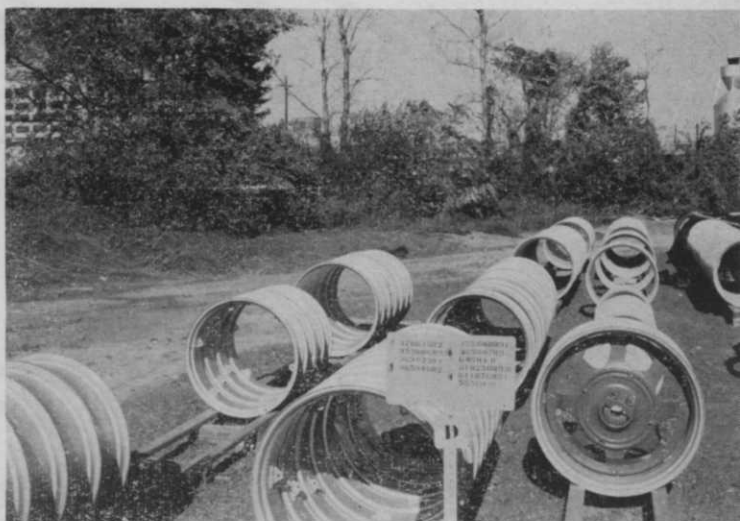
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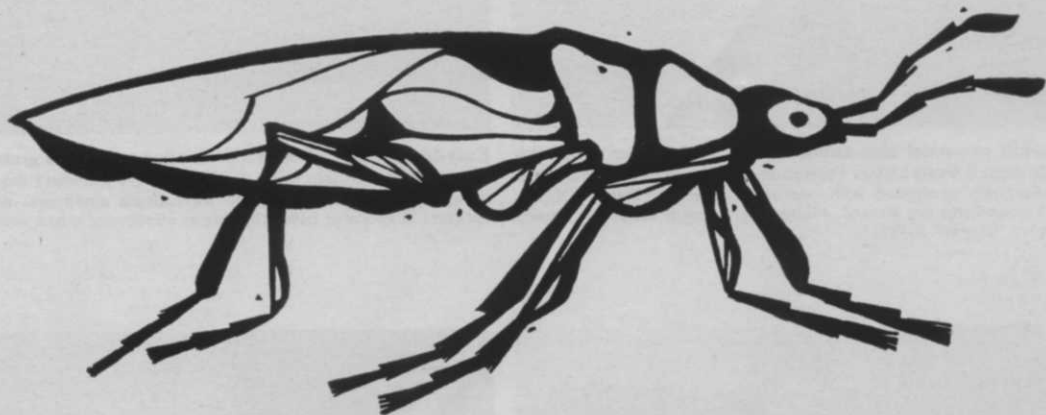
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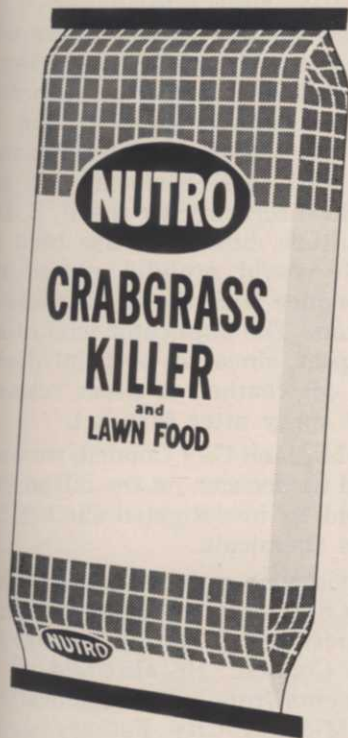
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# WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

February 1965  
Volume 4, No. 2

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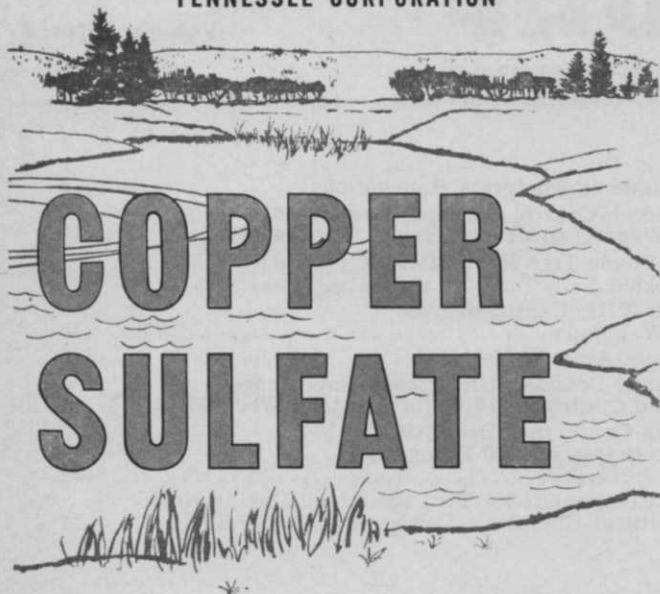
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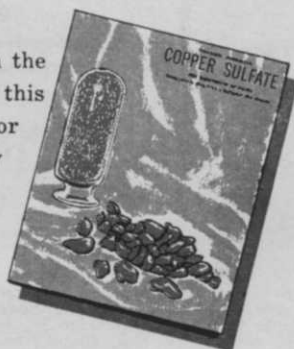
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## Not Fair to Midland

We had a telephone call recently from a contract applicator in Midland, Michigan, who was disturbed about a proposed city ordinance, apparently on the verge of enactment, which would:

(1) permit spraying elm trees for control of Dutch elm disease "with effective pesticides such as DDT and methoxychlor" only during the dormant period, which was in turn defined as "that period in the autumn when the elm tree has shed at least 95% of its leaves until March 1st of the following year;"

(2) permit spraying for any purpose during all other times *provided that* sprays contain no DDT, TDE, methoxychlor, chlordane, dieldrin, toxaphene, aldrin, BHC, endrin, or lindane.

While it is probable that the legislators who were about to pass the law meant well, it seems to us such legislation is not in order until specific proof of harm from summer spraying can be demonstrated. As most vegetation maintenance professionals know well, these chemicals are, and have been, under close scrutiny by the U. S. Department of Agriculture, but there has been no label change which would prohibit use of the chemicals (in accordance with the label itself) in the period in question. The applicator who called us was naturally upset, since, as he pointed out, frequently because of weather or other reasons, the applicator must spray after March 1.

Fortunately, the Midland City Council, we were informed, postponed its decision on the bill so that the proposition could be investigated further before prohibiting the chemicals.

The decision to postpone action was, we understand, partly a result of the efforts of the applicator who phoned us, requesting our opinion by wire for presentation to the Council. He also told us he had obtained statements from other organizations which hoped the Midland City Fathers would hold off their vote until methodical, unimpassioned investigation could be carried out. This action by an industryman is commendable, and we urge our other readers to be sure to speak up should local authorities threaten to ban, without thoroughly understanding the facts, the chemicals which are used frequently for contract spraying.

Any action other than postponement on the part of the Council would have been unfair to Midland, and the residents there who have a right to the most effective safe control of vegetation pests currently available.

WEEDS TREES AND TURF is the national monthly magazine of urban/industrial vegetation maintenance, including turf management, weed and brush control, and tree care. Readers include "contract applicators," arborists, nurserymen, and supervisory personnel with highway departments, railways, utilities, golf courses, and similar areas where vegetation must be enhanced or controlled. While the editors welcome contributions by qualified freelance writers, unsolicited manuscripts, unaccompanied by stamped, self-addressed envelopes, cannot be returned.

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Tom Mascaro

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## Tom Mascaro's

# Guide to Turfgrass Renovation

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**R**ENOVATION is a term used by turfgrass managers to describe a process or program of renewal of a turfgrass area. Generally speaking, renovation can be classified into three categories. These categories simply represent degrees of intensity of renovation.

1. *Complete renovation* is performed when a turfgrass area has deteriorated so badly that the existing vegetation is not worth saving.

2. *Fall renovation* helps turfgrass that needs rejuvenation after a season's intensive use. Such areas still have reasonably good turf but need to be renovated to insure continued growth.

3. The third form of renovation is really *management*. This type of renovation is set up on a continuing basis, keeping up with the problems as they occur.

Before we get into a discussion of these three forms, we should analyze why renovation is necessary at all.

Turfgrass areas are subjected to many forces which are contrary to normal grass growth. Usually, turfgrass plots deteriorate because of the lack of a complete maintenance program. Everything must be in balance. Adverse weather, disease, and overuse are also factors which contribute to turfgrass deterioration. One of the major factors adversely affecting turf is soil compaction. We pound and compact the soil with heavy mowing equipment. We ride over it and we stomp the soil with our feet. We use the areas when the ground is wet, and we puddle the soil. These compacting forces destroy soil structure, reducing it to a solid mass. Roots cannot grow in a soil unless there are spaces for them to move through. Water cannot penetrate a compacted soil. Fertilizer remains on the surface and is washed away.

When soils are compacted under turfgrass areas, the root system becomes shallow, and the plants become weak.

Weeds gradually take over. Many weeds are by nature more aggressive than turfgrasses and

can grow in a compacted soil. However, even weeds cannot grow when soil becomes severely compacted. When weeds are present, they should be looked upon as indication that something is basically wrong. Getting rid of the weeds is not a solution to the problem, unless the cause itself is corrected.

Generally speaking, there are five basic reasons why a turfgrass area deteriorates and is invaded by weeds. They are: 1. *the soil*; 2. *the grass*; 3. *the nutrition*; 4. *the water*; 5. *the management program itself*.

The soil must be open and porous. The grass should be the right one for the climatic area and use. The nutrition should be adequate to support the crop. The water should be adequate to sustain plant requirements, neither too much nor too little. The management program should be properly planned to maintain the turf at all times.

Any one or a combination of these factors that are not right will weaken a stand of turfgrasses. Therefore, before renovation is begun, turf managers must seek out the basic causes of deterioration. Only after this has been done should a program of renovation be initiated.

### Complete Renovation

When a turfgrass stand is in extremely poor condition and what little turf that is there is not worth saving, then a complete renovation program should be considered. Sodium arsenite or an equivalent material is applied about one week prior to aerification. Usual rate of sodium arsenite is about 35 pounds per acre. This material will kill the existing vegetation. A week later, the aerator, equipped with 1-inch open spoons, is set at full depth, and the area is aerified at least 10 times. Each time the plot should be aerified from a different direction. Aerification will loosen the soil 3 to 4 inches deep. After aerification, the required amount of fertilizer (and lime if needed) is applied. This is followed by dragging with a heavy flexible-

tine harrow or a large section of chain-link fence. This operation will crumble the soil cores brought up by the aerator and thoroughly mix the fertilizer with the soil. This is followed by seeding or sprigging. The area is lightly rolled and, where possible, kept moist until the grass is established. Since sodium arsenite is a contact killer and primarily destroys the living vegetation, it might also be desirable to use a preemergence chemical for crabgrass or other local weeds that may be a problem. County agricultural agents may be consulted for specific information and recommendations.

### Fall Renovation

Fall renovation is performed in the early fall. It is practical to renew or rejuvenate turfgrass plantings that have been abused but are still in reasonably good shape.

If weeds are present, specific chemicals should be used to eradicate them. This is then followed with thorough aerification, three to six times over the area. Fertilizer is applied, and the area is dragged to pulverize the soil cores.

Fall renovation is a general practice on many turfgrass tracts. Since roots grow best in the fall and early spring, loosened soil and fertilizer are necessary to encourage plenty of root growth during this period.

### Renovation as a Part Of Management Programs

This is more management than renovation, but falls within the general concept of renovation. One way to describe this type of renovation is to say that we keep up with turfgrass problems as they occur.

Instead of renovating once a year, the turfgrass areas are managed on a continuing basis. Soil compaction is eliminated as it forms. Fertilizer is applied as the plants require it. Weed control materials are applied when weeds first appear. Each of these operations is carried out in a modified way so that turfgrass is never materially disturbed. A management program such as

this is highly desirable. With good planning, these procedures can be worked into a regular routine. True, these operations require more manpower, but when carefully analyzed, we usually find that we have spread this manpower requirement throughout the growing season, rather than requiring a concentrated effort at one time.

Regardless of the type of renovation you choose, always remember to check the five points we discussed earlier in this article. When renovation is necessary, you can be sure that something went wrong. Was the soil compacted or not properly drained? Was it the right grass for your region and use? Was nutrition adequate for the grass? Was the area continually overwatered? Was the turf managed properly, with correct mowing height and frequency of cut?

### Too Much Grass?

If the management program is successful, then you must be prepared for another problem.

This problem is *too much* grass. Well-managed turfgrass can produce an excessive amount of top growth which develops into what is commonly called thatch. This material consists of clippings, dead leaves of grass plants, and stems. As this material accumulates on the surface of the ground and under the living grass blades, it forms a thatch layer. This layer can effectively prevent water from penetrating to the soil; it filters

out fertilizer and harbors disease organisms. When thatch accumulates, it must be removed or decomposed. A regular program of aerification will bring up soil cores, which when crumbled act as a top dressing. When this soil is in intimate contact with accumulated thatch, it helps it to decompose. Vertical mowers are also used to remove thatch physically. These machines, unlike conventional mowers, cut vertically into the turf, rapidly removing the dead material.

On turfgrass plots where renovation is needed, vertical mowing is necessary if excess thatch is present. For complete renovation, the dead turf, after chemical treatment, is completely removed by this process, which in turn is followed with aerification.

For fall renovation, the vertical blades are set two to three inches apart to remove some of the accumulated thatch. Vertical mowing in a management program is effected periodically, while grass is actively growing, to control thatch as it forms.

Modern chemicals and equipment have made renovation a great deal easier than it was in the past. This operation can now be done with reasonable assurance of success. Modern turfgrass management, obviously, is a science. Anyone charged with this responsibility should become familiar with each new technique in order to produce top quality turf.

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Turf renovation through use of aerators, vertical mowers, etc., while once largely limited to golf courses, has now become a common practice in other fine turf areas, including lawns maintained by contract by private service firms. In this article, author Mascaro discusses the general principles of this process. His observations will be invaluable to the novice, and helpful as a review to the expert. Mr. Mascaro is president of West Point Products.

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# New Crabgrass, Brush Control Concepts Bow at 20th North Central Weed Control Conference, Dec. 14-16

Delegates to the 20th North Central Weed Control Conference at Michigan State University were introduced to the first really new crabgrass control compound to be developed since the advent of organic preemergence materials. Michigan State hosted the annual event at its Kellogg Center for Continuing Education on the East Lansing campus Dec. 14-16.

The race is on, too, for a no-drift weed and brush control chemical which can be applied safely from the air, delegates learned. Several companies previewed or reviewed their wares which range from heavy materials applied with special equipment to liquids which solidify on contact with plants.

Techniques for industrial and rights-of-way weed and brush control were freely aired. Conferencees were pelted time and again with the idea that control efforts must be programmed and planned well in advance for best results. There is no cure-all chemical which will control all weeds in all climates, during all seasons, under any conceivable conditions.

Year by year weed conference agendas have included more and more nonagricultural weed control techniques. The volume of commercial pursuits was evident at this 20th NCWCC meeting since the programmers rearranged the schedule so that con-

current meetings could be easily chosen for those not involved in agriculture, and the 329 delegates budgeted their time and managed to make all sessions in their particular disciplines.

## Product Previews

Perhaps the most exciting session of the first day's program was the "New Products from Industry" presentation, if one can count on the reaction of delegates as an indicator.

A product which especially stirred conferees was DuPont's new selective preemergence herbicide, Tupersan. Mark B. Weed of DuPont's Experiment Station described the soon-to-be-marketed product.

"An outstanding feature of Tupersan's active ingredient, 1-(2-methylcyclohexyl)-3-phenylurea, is its selective ability to eliminate certain annual seedling grasses from stands of other grasses," Weed began.

He showed slides which illustrated that Tupersan had selectively removed smooth and hairy crabgrass from Kentucky bluegrass plots. Uniquely, Tupersan is applied at the time of seeding, when a new bluegrass lawn is planted.

"Bluegrass, red fescue, and bentgrass seeds have germinated and grown in soil containing eight times the recommended dose for annual grass control," Weed explained. In addition to



Highly respected for his knowledge and opinions, Dr. F. L. Timmons (right), Aquatic Weed Investigations Leader with USDA, Laramie, Wyo., willingly shares his experiences with cottail with Philip Marvin, agricultural consultant from Manhattan, Kansas.

the crabgrasses, Tupersan is claimed to remove foxtails, downy brome, barnyard grass, witchgrass, and nimblewill from a number of cereal grains and from turf, when applied before weed or grass germination at planting time.

A 50% wettable powder formulation, called Tupersan Weed Killer, will be sold early in '65.

Among other products of interest to *WTT* readers are Maintain and Hibor, just released by U. S. Borax and Chemical Corp., Los Angeles, Calif. J. T. Hallett of U. S. Borax Research introduced the products.

"Maintain is an emulsifiable compound containing Tritac, bromacil, and a low-volatile 2,4-D ester," Hallett began. "It is designed to control grasses, annual broadleaves, deep-rooted perennials, and vine species around industrial sites for extended periods." Maintain is claimed to offer quick knockdown of broadleaf weeds and season-plus control of hard-to-kill species.

Hallett also described Hibor, Borax's new ready-to-spray herbicide designed primarily for railroad use. Hibor consists of a combination of sodium chlorate, sodium metaborate, and bromacil. Again, Hallett indicated the combination would give rapid knockdown and a significant residual. "Hibor is sold in tank-car quantities and is a useful herbi-

(Continued on page 20)



Longtime Conference supporters, C. E. Stower (right) and W. C. Reed (center), both with Slayton Agricultural Chemical in Wisconsin discuss the years' changes with conference secretary, G. Clare Buskirk.