

young healthy plants into the mature turf.

Topdressing athletic fields helps to level out turf and improve footing. And topdressing will also aid thatch control, according to Dr. Watson. He suggested a topdressing of organic matter gained by use of peat, cobs, sawdust and possibly other materials in compost form.

Growth Inhibitors May Become Turf Help

Growth inhibitors are relatively new and promise to become a management factor in turf care during the coming years. Dr. John Long, director, Biochemistry Research, O. M. Scott and Sons Company, Marysville, O., discussed his work with a number of experimental chemicals. His evaluation of growth inhibitors for use on turf is that too many limitations exist at the present time.

Performance of turf treated by a growth inhibitor can be predicted fairly accurately, according to Dr. Long. While types and varieties of grasses react differently to the several types of inhibitors he has used, all grasses will show a less intense color level after treatment. Less dense areas of turf fill in more slowly. Any mechanical damage to turf is much slower to recover. There is a greater than normal growth of grass when the inhibitor dissipates.

For the specialist who plans to use a growth inhibitor on turf, Dr. Long specified the optimum conditions of grass for treatment. First, he said that grass should be in an active growth stage. High turf density is needed, along with an adequate fertilizer level. An adequate soil moisture level is mandatory. Pest control is also necessary.

More than 250 turf specialists attended the Conference which was held at Texas A&M University and co-sponsored by the Texas Turfgrass Association and the University. Jim Holub, golf superintendent, River Oaks Country Club, Houston, Tex., was elected president. The group named Phil Huey, superintendent, Parks Department,

Dallas, Tex., as vice-president, and Dr. W. Wayne Allen, agricultural consultant, College Station, Tex., as executive secretary. The 1968 Conference will be held December 2-4.

Roadside Management On New England Chemical Conference Agenda

Turfgrass is a valuable asset for roadside rights-of-way. But maintaining all roadsides in turf is an expensive factor in highway maintenance. R. B. Thorton, manager of the U.S. National Plant Materials Center, Beltsville, Md., says that some use of other covers in selected areas can reduce maintenance costs. Thorton, speaking to 150 delegates at the recent New England Chemical Conference, Concord, N. H., believes that use of crown vetch, low growing lespedezas and similar plants could be increased. He suggested using woody plants for screen effects, beauty spots and for erosion control.

W. J. Garmhausen, chief landscape architect for the Ohio Department of Highways, pointed out that necessity and economics have often dictated development of land transportation systems. Today, he said, highway systems are so complex that specialists in all areas are demanded. But to the usual engineering and other speciality areas must be added aesthetics, pleasure and recreation. Views and vistas, Garm-



Roadside development today is no longer an embellishment, but is planned for the needs of citizens, according to Conference speaker W. L. Hottenstein, above, U.S. Department of Interior.

hausen said, are as important now as grades and curves.

J. A. Dietrich concluded, however, that beautification without maintenance could well lead to ugly dilapidation. Dietrich, Superintendent of Parks and Trees for Greenwich, Connecticut, and also past president of the Natural Shade Tree Association, told the delegates that "one of the most pressing challenges for the individual is the depression and the tension resulting from existence in a world which is increasingly less pleasing to the eye". He went on, however, to show how "beauty can become a reality in any community if properly controlled and organized and our nation will become a more delight-

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W. I. Boyd, E.I. du Pont de Nemours Chemical Co., left, and Dr. H. E. Wave, University of Maine, discuss New England Chemical Conference program. Boyd discussed highway brush control with group. Dr. Wave served as the Conference chairman.



Rotary Riding Mowers Need Standard Controls

Riding power mowers of the rotary type need standard controls, according to W. H. McConnell, Institute of Agricultural Medicine, University of Iowa, Iowa City, Ia. In a discussion of injuries resulting from the use of this type mower, McConnell also called for design changes. He said new designs are needed to protect the operator from his own errors.

On the program at the winter meeting of the American Society of Agricultural Engineers, McConnell related results of 45 injury cases. These, he said, show that in a panic situation the operator may resort to earlier patterns of learned behavior. For example, McConnell said, controls on such mowers are intended to begin motion as they do in an automobile. But on some mowers, control movement is just opposite that of an automobile. Even different models by the same manufacturer may vary, he said.

In some injury cases, McConnell said that the operator appeared to revert to behavior learned on the tricycle. In an emergency, the operator tried to put a foot down to stop the mower in place, or to jump off. This calls for a design to prevent dangling hands or feet, and to prevent either from being placed where they will contact the blade or rotating wheels of the machine. Riding rotary mowers also need to be designed, he said, to force the operator to mount and dismount from the side opposite the discharge chute.

Efforts also need to be made to increase the stability of the machine, McConnell advised, since a riding rotary power lawn mower can vary in weight from 150 to approximately 750 pounds. Further, it carries an operator who may vary in weight from as little as 60 (when children are allowed to operate them) to as much or more than 200 pounds. The addition of a rider results in a rearward and upward displacement of the center of gravity, he explained.

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ful spot in which to live and enjoy."

Mrs. Jean L. Hennesey, Chairman of the New Hampshire Governor's committee on natural beauty, told of the ongoing efforts in the state to protect historic as well as aesthetic factors along this state's roads. However, F. R. Brush, of the American Association of Nurserymen, warned the group that we, as a nation, have not made as much progress as we could or should. He noted, though, that some states had created new sections, new departments, and were now utilizing the assistance of landscape people, agronomists and horticulturists.

The U.S. Department of the Interior, Bureau of Public Roads, was represented by W. L. Hottenstein and Larry Issacson of Washington, D.C. Hottenstein noted that landscaping in the "old days" was thought of as "embellishment" and useful for only erosion control, while today, roadside development considers the needs of the people in relation to their environment, that roadsides must enhance as well as provide for safety and utility.

Norman H. Dill elaborated on the beauty inherent in roadside vegetation management. Dill, of the Right-of-way Resources of America and also on the staff of Delaware State College, Dover, urged the use of selective herbicidal control and added that some botanical knowledge was as important to the spray applicator as manual dexterity. He stressed the need for utilizing ecological principles in the improvement of roadside vegetation and also the usefulness of maintaining shrub or grass cover by careful selection and application of the proper herbicides.

Conference chairman for 1967 was Dr. H. E. Wave, University of Massachusetts Extension Service, now with the University of Maine; the chairman-elect for 1968 is Dr. M. G. Savos, extension Entomologist and Pesticide Safety Coordinator for Connecticut.

Trimnings

A Job For Everyone. At a recent University of Hawaii turf conference, Urban Renewal Coordinator Robert A. Nui pinned down the elements for success of the Beautification Program. "Unless the residents of our neighborhoods are interested and willing to participate . . . the job becomes almost impossible," he said. And further, "It would seem that the role of government is not to ride roughshod over a neighborhood with an improvement program, but to work hand in hand with the people . . ." His point is well taken, along with the reminder that there are more than 250 current projects for which federal funds can be obtained to augment local spending.

D.E.D. Conference Tips. At the recent Delaware, O., session, the question of using helicopters for spraying elms received both pro and con opinions. Dean F. Lovitt, Michigan Department of Agriculture, and Russell W. Whitten, Worthington, O., reported good coverage with chopper spraying. David F. Devoto, city forester at Evanston, Ill., said at helicopter speeds the pilots couldn't pick out the elms and they also had trouble with parked cars in the streets.

Fertilizer Prices Climb. Plant food will cost more by spring, probably another 5%. Marketing V-P Jaral Aston of Olin Mathieson gives four reasons: Sulfur prices are up 40%, sulfur supply is limited, labor, warehousing and transportation costs have climbed steadily, and phosphate costs are on the upswing as a result of labor in handling and processing. Yet, since '59, with farm real estate up 100%, farm wages booming by 70%, and farm machinery by 50%, fertilizer prices in the same 8-year period jumped less than 5%.

Are Home Golf Greens Now the In Thing? Could be you'll be getting calls to install, or more likely advise on, backyard golf greens. Turf man Dr. G. C. Horn at Florida State says minimum space needed for this type lawn project is 1000 sq. ft., more if possible. But he says the backyard green doesn't have to meet the standards for professional greens. Lawn greens are primarily for putting, rather than pitching or chipping. He says minimum costs will run \$1000, if the homeowner hires it done. And it takes lots of water, plant food, and mowing.

Twin Landscape Contracts For Highways. State highway departments usually don't plan for the follow-up care needed on new highway landscaping. F. Raymond Brush, secretary of the American Association of Nurserymen, believes there should be a second contract in addition to that covering planting and the short guarantee period. He feels a second contract should be let to cover a 2 to 5-year establishment period. This latter contract would provide for fertilizing, watering, pruning, insect and disease control, and maintenance. And, he says, it would boost survival and cut the worry of state highway groups.