

with a specially built blower of his own design. Sod is extensively irrigated during this 60-day period, being lifted after final mowing at a 3½-inch height.

Irrigation Water Needed On Lease Land

One of the prime requisites of lease land is that wells be available to provide irrigation water. Anderson owns a 2-mile Rainbird overhead irrigation system which he purchased from Anchor Brass and Irrigation at Wooster, Ohio. In some cases he has leased a good stand of sod when irrigation water was not available. Such grass stands have been prepared during the rainy season and sod moved into retail channels at that time. His usual practice is to handle sod from low areas during the dry winter period. Sod on higher land is moved during the summer or wet weather period.

For lifting sod, Anderson uses a Ryan sod cutter, cutting sod into 1'x2'x1" strips. These are stacked on pallets and lifted onto trucks by use of a forklift. With \$15,000 tied up in a trailer truck, he finds it poor economy to keep the truck in the field or at the unloading site more than the 30 minutes needed to load or unload. A twin model of the John Deere forklift is maintained at the unloading site which keeps the operation mechanized on both ends.

During the first 4 years in



Telephone in panel truck permits Anderson to keep in touch with operation at all times. Downtime is kept to a minimum and delivery schedules coordinated.

business, Anderson wholesaled his sod to landscapers. Because of various problems, he has since gone into the retail business and not only sells each job, but has his own crew lay the sod. He still supplies some sod to major landscapers on a contract basis.

Major problems of wholesaling was with financing. Too many landscapers were not turf specialists. Landscapers who operate without adequate financing were often unable to pay for the sod after it was delivered and laid. Others underbid jobs and failed to order enough sod to complete the job. In these instances, Anderson found it necessary to make good their shortages.

Normally his wholesale sod is sold at 2½ cents per square foot. Retail prices which include fertilizing, leveling, and laying of sod average about 7 cents per square foot.

Anderson notes that his operation is unlike that of many sod producers in Florida. A number of varieties of sod are used for various purposes and to fit several areas. While his Bahiagrass is grown on a sand base, this contrasts to several other types. The primary St. augustine grasses, Bitter Blue and Floratine, are grown on muck soils and are seeded much the same as Merion bluegrass in the northern US areas. Like Merion, these sods can be lifted the same season in which they are seeded.

Bahiagrass which has become popular in the southern Gulf coastal region is a low-maintenance turf. It is deep rooted and stands dry weather well. It is also resistant to a number of insects and diseases and thus of value to the homeowner, though it does need periodic spraying and fertilizing.

Like many sod producers, because sod production as it exists today is a new industry, Anderson is still experimenting with cultural practices, methods of handling, and sales procedures. In 6 years, he has proved to be a sound businessman who has developed a local market based on leasing sod acreage and using local, readily available grass.

Reprints Available

Survey on Turfgrass Management Training Series

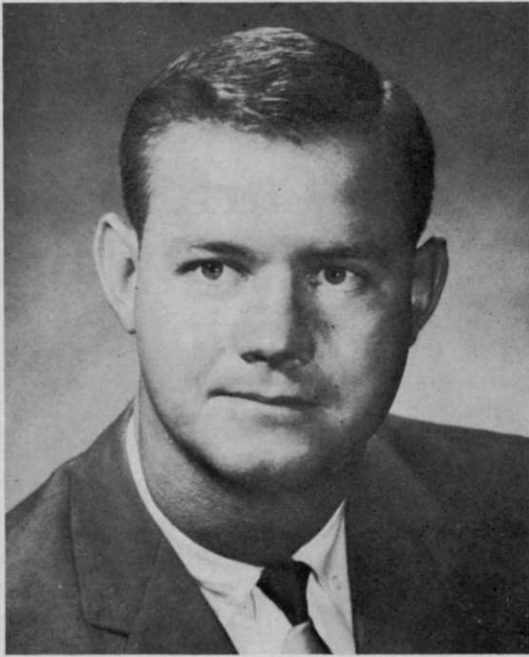
WEEDS TREES AND TURF magazine is making available its series on Turfgrass Management Training which ran earlier this year. This series listed college level training available at 26 colleges and universities across the nation.

A number of universities have requested reprints for use with their own student counseling programs and for use by high school counselors.

If these can be used in your state, contact WTT. Because such information on training can help in informing prospective students about the industry, WTT is making these available at the reprint cost. Cost per thousand for the 10-page reprint will be \$30, plus shipping. Lesser amounts can be ordered at \$5 per hundred, plus postage.

For reprints, write:

**WEEDS TREES AND TURF
1900 Euclid Ave.
Cleveland, Ohio 44115**



Clarke W. Davis

National Secretary Sees Dynamic Growth For Arboriculture

Clarke W. Davis, executive secretary,
National Arborist Assn., outlines
association objectives for WTT

History:

Davis: At the 13th annual meeting of the National Shade Tree Conference in Baltimore, August 1937, commercial arborists formally organized. After some discussion, a committee was appointed by the acting chairman, Charles F. Irish, to formulate plans and prepare a constitution to be presented at the 14th annual meeting of the National Shade Tree Conference to be held at St. Louis, 1938. I understand that after much correspondence by the committee, a tentative constitution was written and was taken to the St. Louis meeting. There were about thirty commercial men at this meeting in 1938, and they discussed in length the organization of this group. At that meeting the organization of commercial tree men was established. Several names for the association were suggested, and it seemed to all present the name the National Arborist Association was the best.

Progress:

Davis: At the August 1941 meeting in Washington, D. C., it was decided to employ a paid secretary from outside the association. Dr. Paul Tilford of Wooster,

Ohio, accepted the job as secretary-treasurer. Five years later at the Boston meeting in 1946, it was decided that the association needed and should employ a full-time executive secretary; and Dr. Tilford accepted as of January 1, 1947.

Status In 1967:

Davis: Since its founding more than a quarter of a century ago, the National Arborist Association has remained the only national organization devoted solely to the furtherance of the arborist business. This, in itself attests to the job which has been done by the association for its members. Over the years, and particularly since the appointment of a full-time, paid executive secretary in 1941, the objectives established at the outset have been more than met. As the association has grown to over 200 firms in membership, all have become better informed, better arborists and businessmen, as a result of the information and findings of mutual interests developed through research and the work of special committees and disseminated to the members through the newsletters and an exchange of views

and information at the association's meetings.

About The Future:

Davis: For the well-trained arborist, tree care will continue to be a promising occupation—an occupation that automation should not affect adversely. There is a growing demand for these workers as America becomes more tree-conservation conscious. It takes many years to grow a mature tree and the public is becoming more and more aware of the value of trees and the need for preserving them. With a continuation of our booming economy, more people will be interested in the protection of their trees. There is still a lot of work to be done, as a walk down an average street in almost any residential neighborhood will show. Because of the White House interest in natural beautification, city governments have sponsored an increasing number of community programs of tree care and preservation.

Automation:

Davis: While we realize automation will never entirely engulf our industry the arborist profession cannot afford to neglect any of the major new technological

developments because, as it has been said, not to go forward is to go backward. The maintenance of our standard of living depends on our ability to remain in the forefront of technological progress.

Perhaps there is a lack of information which exists among arborists generally of what mechanical devices are already available to them for adaptation in arboricultural use. Perhaps the reason more machines are not used is because their uses and adaptations are not recognized by many, even though their existence is known. In view of the apparent lack of successful communication between manufacturers and local arborists, it has been suggested that the National Arborist Association, Inc., give consideration to the sponsorship of a symposium for arborists and the manufacturers of mechanized equipment enabling both to present their ideas and possible product solutions.

In some ways machinery and equipment that is already available in industrial and agricultural use, which has been or could be adapted to arboricultural use, must be called to the attention of the arborist and its adaptive uses explained and understood. A further extension of communication between manufacturer and supplier of equipment and arborists could be seriously considered also.

The arborist association plans to profit both the member and the manufacturer-dealer by assembling from the manufacturers descriptive material of their product, assembling the information and making it available to the members as a member service. As new or modified equipment becomes available, new inserts will be provided by the manufacturer and distributed to the association members by the arborist association.

Arboriculture As An Industry:

Davis: All service industries will experience phenomenal growth (coming on top of the already astonishing growth they have known in the past 10 years), and America's cities will be transformed. For the arboricultural profession, complete and up-to-

date statistical information is not complete. By almost all yardsticks, however, the industry can be characterized as one of fast dynamic growth and one with prospects of continued future growth.

Well-publicized trends favoring even increased per capita use are: the gardening hobby; more leisure; outdoor living; suburban and other similar housing developments; highway, commercial, and industrial beautification; many outdoor recreational pursuits; and the emphasis on the aesthetic and the arts. Other apparent trends are more merchandising by mass outlets, greater need for knowledge by clients as they become more interested in quality tree care, greater government encouragement in the use of quality arborist firms, and the more businesslike members in the industry who will influence more maturity in production, sales and service. In the next ten years, there will be problems within the arborist industry which we will all have to face. These problems are those associated with fast growth, small competitive businesses, and business maturity.

Fast growth has produced "growing pains" attracting additional competition. Problems associated with the smaller firms will be: capitalization needs; need for cost control; need for inventory control; need for trained personnel; and many price and quality aspects.

Regarding Management:

Davis: I believe the owner of any tree firm must be smart enough to know his objectives and strong enough not to be distracted from them. The owner must be a bold innovator not only sensitive to changes in the marketplace but also capable of anticipating the unstated needs of his clients and the consumer. He must have the courage to make decisions in the face of uncertainty and defend his decisions against criticism and second-guessing from others. This includes competition.

I do not believe the owner of a tree firm in the next ten years will be able to oversee all of his operations. Therefore, I do not believe the owner wants to be

a philosopher, a statesman running his own operation. I think instead he will want to be a professional soldier, a man who can take responsibility, a man with courage to get rid of deadheads, with the stubbornness to demand results from crews and people, with the leadership to share their problems and give them credit for the successes and the blame for mistakes. The foreman should also have a stingy streak. His purpose in life, as it should be, is to increase sales and profits. He ought to begrudge every dollar that is not working to bring in another dollar. Finally, I think the tree owner must be impatient, for no company can achieve greatness without leaders who are motivated by their own desire for success. When any man cuts short his vacation because he can't wait to get back into the thick of things, he is showing the kind of impatience which we all look for.

I believe that in today's community and society and in following years, each one of us must cost our operations and in this way become very conscious of marketing. And today's marketing executive, be he a title holder or the owner, faces a baffling dilemma. Change gets costlier every day. Yet not to change can be costlier still. A top position in any market is neither automatic nor permanent; and marketing must continually anticipate change in trends present and potential, expressed and unexpressed, known and unknown. Since one cannot or should not resort to crystal balls, this means learning the business well.

The law of markets is like Darwin's Law of Evolution. Change or perish. With the persistence of scientists we must all probe for new concepts, new insights into consumer behavior, and new marketing techniques; and with the courage of the explorer, we must be willing to turn from the old that is tarnishing to the new that sparkles with promise whether it be marketing procedures, cost analysis, new products, or product improvement. There is a great difference in playing not to lose and playing to win.



Original clubhouse at Cascade Hills Country Club, Grand Rapids, Mich., has been expanded with new addition. Much of construction work for new parking lot, which was part of expansion program, was handled by regular course maintenance crew.

Man-Hour Costing

a system based on job hour records

BY J. DAVID HEISS

Golf Course Superintendent, Cascade Hills Country Club, Grand Rapids, Mich.

OPERATING costs are skyrocketing today. Even the most carefully planned budget can be wrecked by so-called non-recurring emergency maintenance problems, or by one big

impulse purchase of equipment. Or the board may meet and decide to rebuild a part of the course. This can happen at times without benefit of careful cost projections. When it does, few

golf course superintendents have maintenance budgets which can absorb the blow. Few can assume many extra costs unless they slight some other phase of their regular program.

Working models of new ground grids are shown here by J. David Heiss, course management supervisor at Cascade Hills. Heiss builds grids for board approval prior to any design changes. Costs are carefully projected in advance.

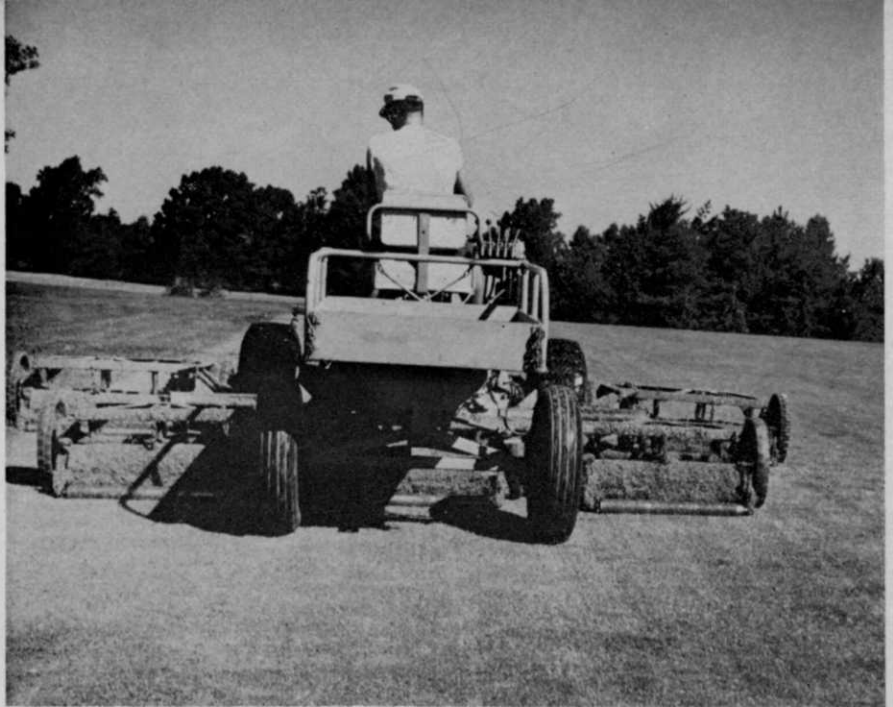


In order to pin down costs, by using current wage rates coupled with past experience, we have set up a system we call Man-Hour Costing. We record the number of hours it takes a man to do a certain job. We keep track of the hours for each job as it occurs. Then we use our records to project future costs or to budget for new maintenance problems as they arise. Our system is used in operation of Cascade Hills Country Club at Grand Rapids, Mich. But it could be used by anyone in the turf business. For example, the same system could apply for industrial park grounds, city or state parks, and other similar type areas.

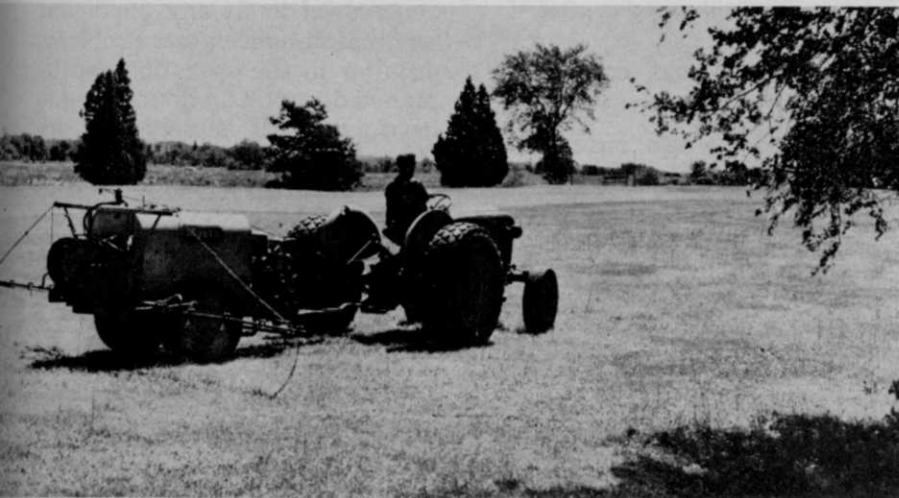
We have tried several methods of recording labor costs. We

settled on the man-hour system because the hours needed for a given job will vary but little. At the same time, the price you pay per hour may range from year to year. Fringe benefits, too, are unstable factors. A record of actual dollar costs in doing a job may be of little value in coming years. At the same time, the hours needed to do a job change only if you change the size of the area, or if you obtain more efficiency in the men and equipment doing the job.

A time distribution card is the key to our system. This card is issued to each employe once monthly. It has major headings for mowing, spraying, fertilizing and other jobs. We have additional breakdowns under each of these main headings to cover the



Hydraulic fairway mower is standard piece of equipment, maintained and operated by Kim Green, regular crew member.



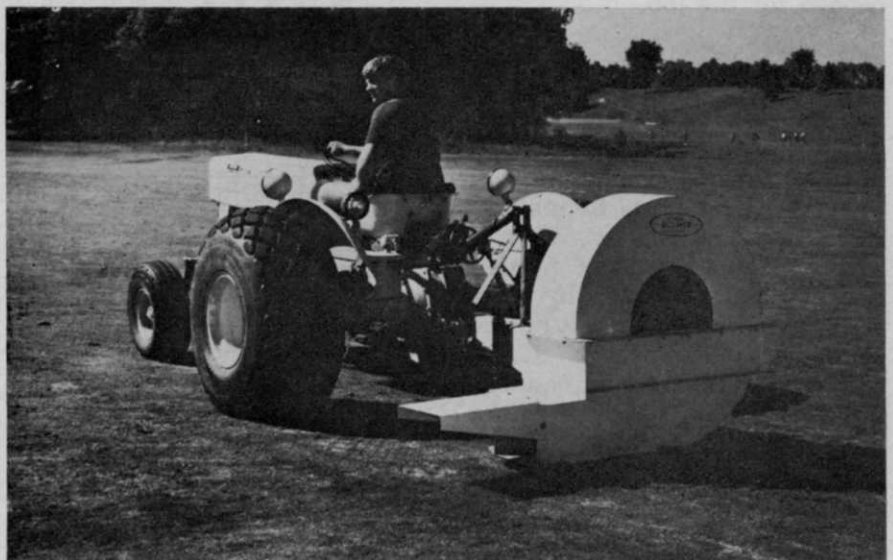
Spray operator who handles practically all of this technical phase of maintenance is Cecil Stanford, longtime member of the Cascade Hills crew.

mowed greens, racked sandtraps, or handled watering. Though the time spent on each job is recorded, employes are not paid on the basis of these cards. They are for cost analysis only. A time clock is used to record hours for employe wages.

With an accurate account of time spent for each job, it becomes a simple matter to transpose total hours worked to a master sheet. As hourly figures are recorded, noticeable trends develop for particular areas. It is easy to review time records on any problem areas. Those which consume large amounts of labor will stand out. We have found

exact job being done. For example, when a man is mowing, he can record whether he is mowing greens, tees and collars, fairways, or whatever. Besides these regular maintenance tasks, we have provided blanks on the card for special nonrecurring types of work. These are maintenance jobs which come up only at certain times of the year. Or they may be special or unusual jobs which last only one or two months. These are written in.

Time distribution cards have spaces for 31 days, thereby accommodating all months. At the end of the day, each employe enters his time worked on each job during the day. He may have



Rogers blower is used to free fairways of refuse following thatching or aerating. On blower is Bob Hislop, summer employe.



New maintenance building does much for employe morale. Building has locker room, lunch area, and storage for equipment and maintenance tools. It also houses the office of Heiss.

that a change in design is sometimes needed simply because the present design is requiring too much hand labor. Many times, the design change is needed to also improve the course. We have made changes in both types of cases. A slight change in design may permit more efficient equipment and less hand labor. If the job is taking too much time, and the design cannot be changed, there may be other possible approaches to the problem within the framework of your men and equipment. A change in maintenance procedure may reduce the hours needed for the job.

System Helps Project Costs On Area Basis

We find that a big advantage of the system is that we can easily figure costs of maintenance on an area basis. We project by figuring hours needed per 1000 square feet or by acreage, depending, of course, on the particular job and area. When faced with maintaining an expanded area, as we have in the past and as we are facing at the moment, we can easily project unit costs for the new area. When you know the hours required in each phase of maintenance on a square foot or

acreage basis, you can easily project future costs. By applying current wage rates and fringe benefits you can get a very accurate wage cost estimate. Naturally, downtime and equipment costs must be figured

on a similar basis to give the complete picture.

We believe the Man-Hour Costing System is a step toward standardization of information for the turf industry. Too often, wages are used to compare one operation with another. This is impractical. Labor costs for a golf course with an automatic water system cannot be accurately compared with those for a golf course with manual system. But a breakdown on man hours needed to operate each system gives an accurate basis for comparison. This can be the justification for purchase of the automatic system. When the savings are possible, they can easily be projected to show that the new system will pay dividends.

Man-hour costing can easily be tailored to fit any particular turf maintenance area. Problems peculiar to the operation can be pinned down on an hours-per-job basis. Records supply the information at the end of one year or of 5 years on which to prepare and justify a budget. Lost time is easily spotted. Expansion pro-

(Continued on page 24)

Cutaway of time distribution chart used to record hours spent daily on each specific maintenance job. Each employe fills out individual card at end of each day. Heiss transfers monthly totals to master sheet for analysis.

GROUNDS		TIME DISTRIBUTION										CASCADE HILLS COUNTRY CLUB												
Name _____		Mowing					Spraying		Fert.	Sand Traps		Miscellaneous					Month _____							
Date	Greens	Tees & Collars	Fairways	Roughs	Trees & Traps	Hand & Banks	Greens	Fairways	Green & Tees	Fairways	Rake	Edge	Club House	Tree Trimming & Removal	Change Cups & Towels	Leaf Removal	Top Dressing	Watering	Aerifying	Construction	Equip. Repair	Miscellaneous		
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Fence Line Vegetation Control

*a Problem
researched
by Minnesota
highway engineers*

By L. E. Foote and B. F. Himmelman
Minnesota Department of Highways

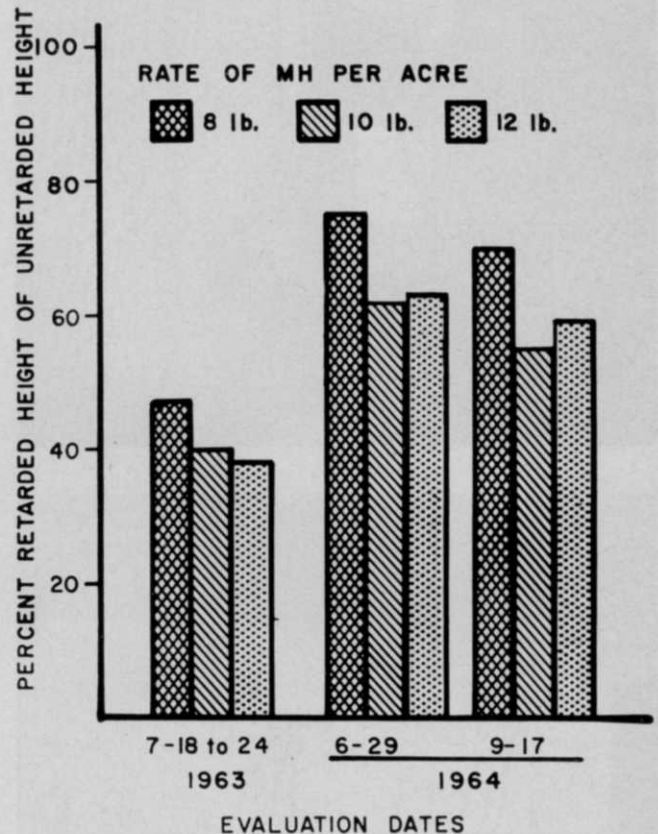


Figure 1. The effect of various rates of MH on height of turf along fence lines over a growing season.

THE amount of roadside area maintenance for which highway departments are responsible has been rapidly increasing. One roadside maintenance problem is fence line growth. Tall, uneven plant growth in fence lines is unsightly and in both urban and suburban areas often leads to complaints by citizens. The problem is also common on industrial sites and other areas where chain link fences are used.

Since mowers can safely operate only within about one foot of fences, other methods of vegetation control must be used. These include hand clipping, soil sterilization, or plant growth retardation. The first is costly and the second often leads to erosion, unsightly appearance and loosening of posts. A study conducted by the Minnesota Highway Department evaluated the effectiveness of a growth retardant, 1,2-dihydropyridazine-3, 6-dione (Maleic Hydrazide, known as

MH), in controlling plant growth along fence lines to reduce maintenance work and improve appearance.

Maleic Hydrazide or MH prevents cell division, but has no effect on cell elongation. Thus it must be applied before seed-head formation has been initiated. Failure to do so will result in no inhibition of growth. Application timing is important. In Minnesota, applications should be made during the 2 weeks in the spring when the grass is 2 to 4 inches in height for best results. Fall applications, both in Minnesota and elsewhere, also have been tried with limited success.

Experiments were established in 1963 and 1964 along fence lines beside interstate highways in the area of St. Paul and Minneapolis, Minnesota. Treatments both years were MH at 0, 8, 10, and 12 pounds per acre. Plots were 2

feet wide, being one foot on either side of the fence.

The MH was applied using a 3-gal. hand sprayer May 15 and 16, 1963, and May 20, 1964. The spray in both years was applied from one side of the fence, but an attempt was made to spray through the fence to the other side. Data were collected from the side on which the spray operator walked. Data were collected from the 1963 experiment July 18, 19 and 24 regarding number of seed stalks, discolored leaves, total leaves, and vegetation height. In 1964, the vegetation height, number of leaves and seed stalks were obtained June 29; height measurements and seed stalk counts again were obtained Sept. 17. All data from both years were subjected to an analysis of variance and the differences discussed are significant at the 5% level of probability.

The two roadside fence line turfs treated in 1963 and 1964

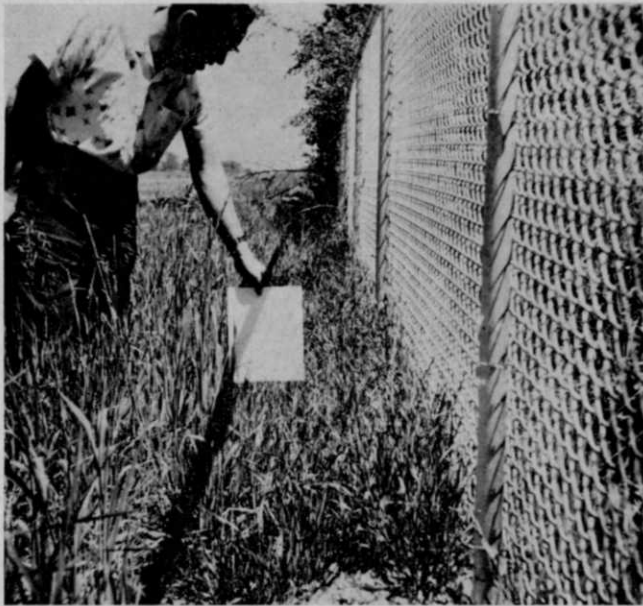


Photo 1.
Fence line treated in 1963.

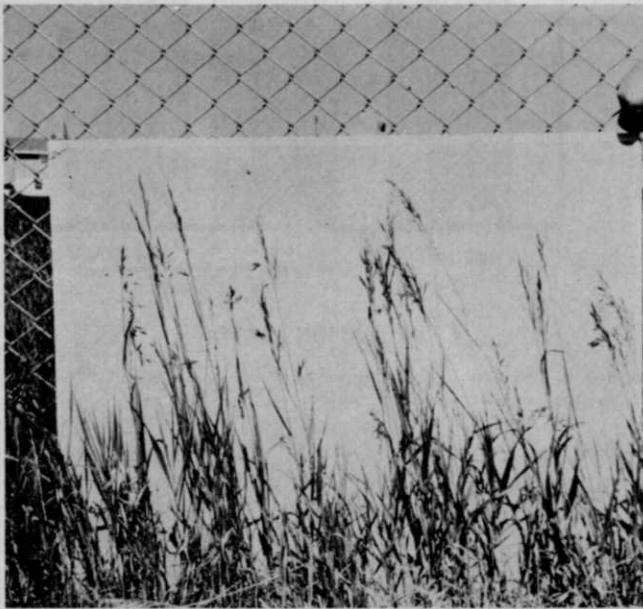


Photo 2.
An untreated fence line, or check, 1964.

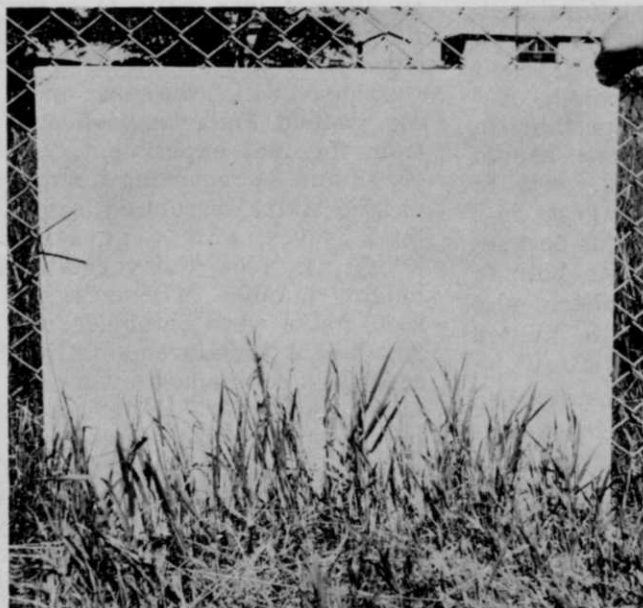


Photo 3.
Fence line treated with MH at the 10 lb/A rate, 1964.

varied considerably. The turf treated in 1963 had been established about 18 months previously and was very heterogeneous. It contained a large number of grass and legume species, both planted and volunteer, weeds, and rye which had reseeded from the companion crop. Smooth brome grass was the most commonly occurring grass. The numerous species present afforded an opportunity to study the effects of MH on different plants. The turf treated in 1964 had been established about 30 months previously and was composed almost entirely of smooth brome and Kentucky bluegrass. In both years, the weather at time of application was warm and sunny and vegetation was in a vigorous growing condition.

Retarded Growth Easily Spotted

Visual observations of the 1963 and 1964 treated and untreated areas showed a definite retardation of plant height (Photo No. 1). The percent height of the treated plants as compared to the untreated plants is shown in Figure 1. The reduction in plant height due to MH was greater in 1963 than 1964. The mean treated height equalled 67% of the untreated height in 1964, and 42% in 1963. Some of the difference between 1963 and 1964 was due to the lower effectiveness of the 8 lb/A rate in 1964 and to the presence of a greater amount of Kentucky bluegrass in the 1964 turf. The findings indicated that MH reached its maximum effectiveness in height retardation between 10 and 12 lb/A, that MH at 12 lb/A had achieved its maximum height retardation effect and the variance in the retarded height at the 12 lb/A rate was largely controlled by the natural potential height of the turf.

The variance of the height of each plant from the average plant height could be considered a measurement of plant height unevenness, and unevenness is objectionable because it results in a ragged appearance. The treated turf was determined by measurements to be more uniform in height than the untreated turf.

An important factor in the use

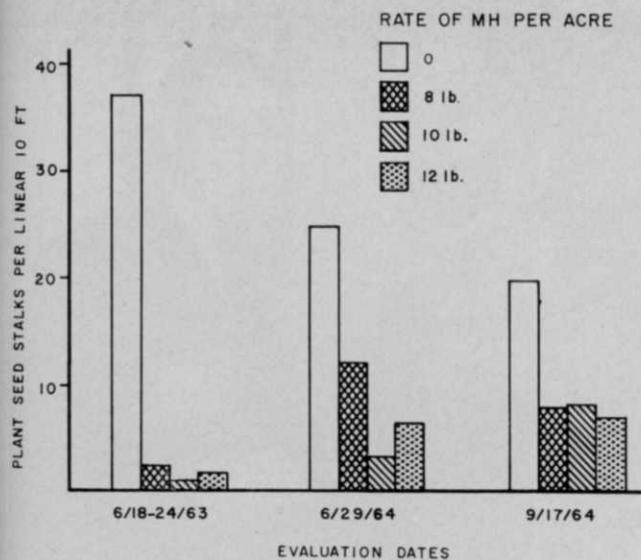


Figure 2. The number of plant seed stalks in turf treated with MH as related to time of growing season.

of an acceptable retardant is the amount of cover or number of leaves per unit area retained after the use of the materials. The number of leaves in the treated turf was not decreased. Living vegetative ground cover is retained with the use of MH. Therefore, MH is probably more desirable than soil sterilants which destroy vegetation and result in bare ground which can erode. Also, lateral movements of MH is no problem as it often is with soil sterilants.

Application of MH greatly reduced the number of plant seed stalks (Figure 2). The reduction was greater in 1963 than in 1964. This reduction in plant seed stalk formation lasted throughout the season. The only grass species which generally produced a near normal number of seed stalks was Kentucky bluegrass.

It would be desirable for MH-treated turf to remain in its natural green state. This was not the case with the fence line application in 1963. The discolored number of leaves appeared to increase linearly as the rate of MH application increased. Redtop and white clover were especially discolored by MH.

Qualitative observations regarding the effects of MH on various plant species were noted. The grasses most severely affected by MH were redtop, Reed canarygrass, rye, smooth brome grass, and timothy in decreasing order of apparent susceptibility. Kentucky bluegrass seemed to be much less susceptible. MH

tended to increase the infestation and size of rust postules, especially on Reed canarygrass and smooth brome grass. Redtop was especially susceptible to MH and often died after treatment. All black medic seedlings in treated areas were killed and white clover was severely affected. Some plant species apparently were not affected or slightly affected (Table 1). Under practical field application

Table 1. Plant species apparently not affected or only slightly affected by MH applications (8 to 12 lb/A).

(Species Not Affected)
Common Burdock (<i>Arctium minus</i>)
Field horsetail (<i>Equisetum arvense</i>)
Horseweed (<i>Erigeron canadensis</i>)
Indian hemp (<i>Apocynum cannabinum</i>)
Milkweed (<i>Asclepias</i> spp.)
Motherwort (<i>Leonurus cardiaca</i>)
Trailing wild bean (<i>Strophostyles helvola</i>)
(Species Slightly Affected)
Canada thistle (<i>Cirsium arvense</i>)
Dandelion (<i>Taraxacum officinale</i>)
Elm (<i>Ulmus</i> spp.)
Poplar (<i>Populus tremuloides</i>)
Sumac (<i>Rhus</i> spp.)
Wild raspberry (<i>Rubus strigosus</i>)
Willow (<i>Salix</i> spp.)
Plantain (<i>Plantago</i> spp.)
Sedge (<i>Carex</i> spp.)

conditions, MH does not seem to be remarkably uniform in plant response from species to species. Some loss of sensitivity seemed to develop with age and there was a wide range of specificity in

action with regard to both grasses and broadleafed plants.

High Rate of MH Reduces Mowing

When used at a high rate (10 lb/A), MH may be quite effective in reducing or eliminating mowing or hand clipping in hard-to-mow areas, such as fence lines or under guard rail (Photo Nos. 2 and 3). MH has the advantages of not removing all the vegetation, of not washing into areas where its effects are undesirable, and of not making the areas subject to erosion. MH can be easily, safely and rapidly applied at a reasonable cost.

MH has the disadvantages of having only a short period of time in the growing season when it can be effectively applied, of not being equally effective on all plant species which may be encountered along a fence line, and of requiring an application each growing season.

Other research work by the Minnesota Highway Department has shown that when MH is used over broad areas as opposed to other narrow bands along fences, etc., the effect is less satisfactory due to "release" of undesirable annual grass types.

Mr. Foote is agricultural engineer (agronomist) and Mr. Himmelman who was formerly assistant research engineer is now maintenance pre-operations engineer, both of the Office of Materials, Minnesota Department of Highways. Their work which is reported here was part of the research program of the Minnesota Local Road Research Board, financed jointly with Federal Aid funds, U. S. Department of Commerce, Bureau of Public Roads together with State funds and County and Municipal State Aid funds. The opinions, findings, and conclusions are those of the authors and not necessarily those of the Bureau of Public Roads.



John E. (Ted) Korves, left, newly elected president of the American Association of Nurserymen, receives the president's gavel from outgoing President Thomas B. Kyle at the recent annual convention of nurserymen at Bal Harbour, Fla. President Korves is general manager and vice-president of Plumfield Nurseries, Inc., Fremont, Nebr.



Charles E. Hess, right, professor of Horticulture at Purdue University, receives the Norman Jay Coleman award from AAN President Thomas B. Kyle.

American Association of Nurserymen

Stage 92nd Annual Convention

MEMBERSHIP in the American Association of Nurserymen continues to grow. Official report at the 92nd annual session recently at Bal Harbour, Fla., showed 255 new applications for membership during the

year, bringing the total to 1555 member firms for the group.

Reporting for the board of governors, Steve Driftmier, president of the Horticultural Re-

search Institute which is the group's own industry-oriented program, said that analysis of the organization's operating cost

(Continued on page 26)



Governor Lloyd C. Stark, Stark Bros. Nurseries & Orchards Co., Louisiana, Mo., is shown with Hall of Fame parchment award from AAN.

Newly elected board of directors of the American Association of Nurserymen are (standing from left: Joseph H. Klupenger, Director of Region VI, Klupengers Nursery & Greenhouses, Inc., Portland, Ore.; John H. Powell, Allied Associate, Economy Label Sales Co., Daytona Beach, Fla.; William Flemer, III, Director of Region I, Princeton Nurseries, Princeton, N. J.; Harold Crawford, Director of Region IV, Willis Nursery Co., Ottawa, Kans.; Kenneth Altorfer, Director of Region III, McKay Nursery Co., Waterloo, Wis.; (seated) Harold R. Nickel, Treasurer and Director of Region V, Greenleaf Nursery Co., Muskogee, Okla.; Hoskins A. Shadow, Vice President and Director of Region II, Tennessee Valley Nursery, Winchester, Tenn.; J. E. (Ted) Korves, President, Plumfield Nurseries, Inc., Fremont, Nebr.; and Thomas B. Kyle, Sr., director at large, Spring Hill Nurseries Co., Tipp City, Ohio.

