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### NU nes Slab Sod Harvester . . .

lifts, cuts, and conveys slabbed sod to loading platform. Handlers can load directly on to pallet as tractor moves.

PATENT APPLIED FOR

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- Loaded pallets can be spotted for later field removal and be clear of the next harvest run. If direct truck loading is desired, a conveyor extension is available.
- The basic power train is a Ford LLG-2110 wheel tractor. The sod harvester can travel at speeds up to 17 MPH for quick transportation between plots.
- The efficiency of this all-mechanical operation has been proven on Cal-Turf Farms in Patterson, California, and it can solve the problem of quick and economical harvesting of sod for all turf farmers.

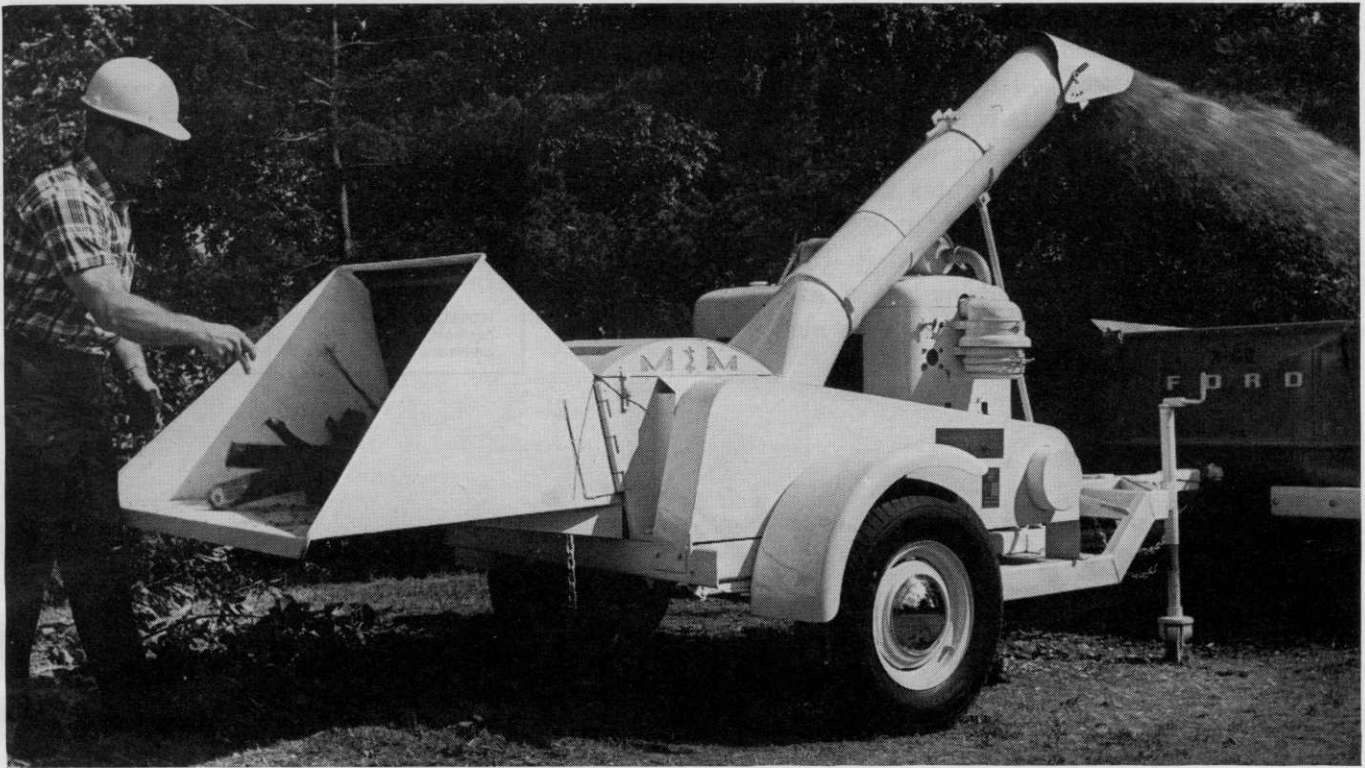
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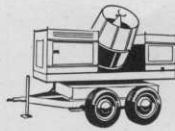
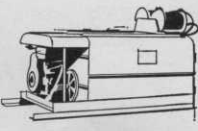


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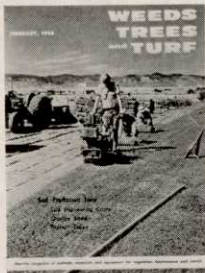
DIVISION

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## The Cover

Green Valley Turf Co., Littleton, Colo., is situated in a beautiful setting with the Rocky Mountains in the background. See their story in WTT's Sod Industry Section.



## WTT Mailbox

### Our Thanks

Congratulations on an excellent 1968 "Suppliers Guide" issue! We especially appreciate your listing *all* the Diamond Shamrock proprietary products under their correct category headings. By listing all the products in your Suppliers Guide section, you do the reader a distinct service by giving him all the information and allowing him to make his own decisions as to which product he wishes to use . . .

Arthur J. Radwin

Account Executive  
Howard Swink Public Relations  
Marion, Ohio

### And More Thanks

I have been receiving WEEDS TREES AND TURF magazine for the past several years. Personally I have found it very helpful and informative. I read every page usually including the commercials and classified ads.

The magazine is used as a teaching aid and frequent assignments are made to articles pertinent to the subject being taught. I even refer to the general advertising, and the ads for positions and employes are useful in my lessons on opportunities for employment. The students enjoy the magazine which is placed on our reference shelves with pertinent articles marked.

I have classes in turfgrass production and management, ornamental trees and units on weed control in nurseries, turf, trees, and wherever applicable.

The format of your magazine is good and the articles and other material interestingly presented. Keep up the good work . . . and keep the magazine coming my way.

Louis LeValley

Plant Science Instructor  
Fresno State College, California

# WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

February 1968  
Volume 7, No. 2

### Features:

Sod Harvesting Costs By James Q. Aylsworth .....	8
Quality Seed For Specified Needs Is Backbone of Turfgrass Industry .....	10
Project Trees, 60,000 for 50,000 Modestans .....	15
Broad Range of New Research Review At 22nd Northeast Weed Control Conference .....	20
Green Valley Turf Company Integrates Both Production and Marketing On 400-Acre Farm .....	33
Sod Production Equipment, To Fit Your Own Operation .....	36

### Departments:

Editorial: After the Meeting, What? .....	6
Meeting Dates .....	38
Know Your Species .....	40
Classifieds .....	41
Advertisers Index .....	41
Trimmings .....	42
Insect Report .....	43

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For additional information and names of authorized distributors, write Jacklin Seed Co., Inc., Dishman, Washington 99213

**After the Meeting, What?**

Now the letdown. The meeting is over and you are home. Problems of the business you relegated to the back of your mind for a few days are more pressing than ever. Now what?

Maybe it's at this point that you have the chance to capitalize on the true worth of the meeting. If it was like many conventions, annual meetings, or workshops of today, it offered much in the way of methods, technology, business principles, and the chance to compare notes with others in the same business as your own. This being the case, it was likely a valuable session for you.

But now that you are back at the ranch, do your plans include getting full value by sorting out any new information in your own mind, deciding what might apply to your own operation, and then sharing this with your employees, or at least with key employees?

We believe this after-meeting session with your people can be the most productive result of a meeting. It offers you the chance to discuss methods, ideas, new ways to increase business, etc., on your home grounds with those who best know your operation and who best know your clientele. You can localize the regional or the national viewpoint.

Doing this takes some planning. You need to look ahead to the after-meeting session during the course of the "big" meeting. Take-home materials are usually abundant. Pick them up for illustrations to use with your own employees. Take a few notes. Anticipate questions your staff will have. Discuss these informally with other delegates at the meeting. Your employees, as you yourself, may be able to benefit from this second-hand information.

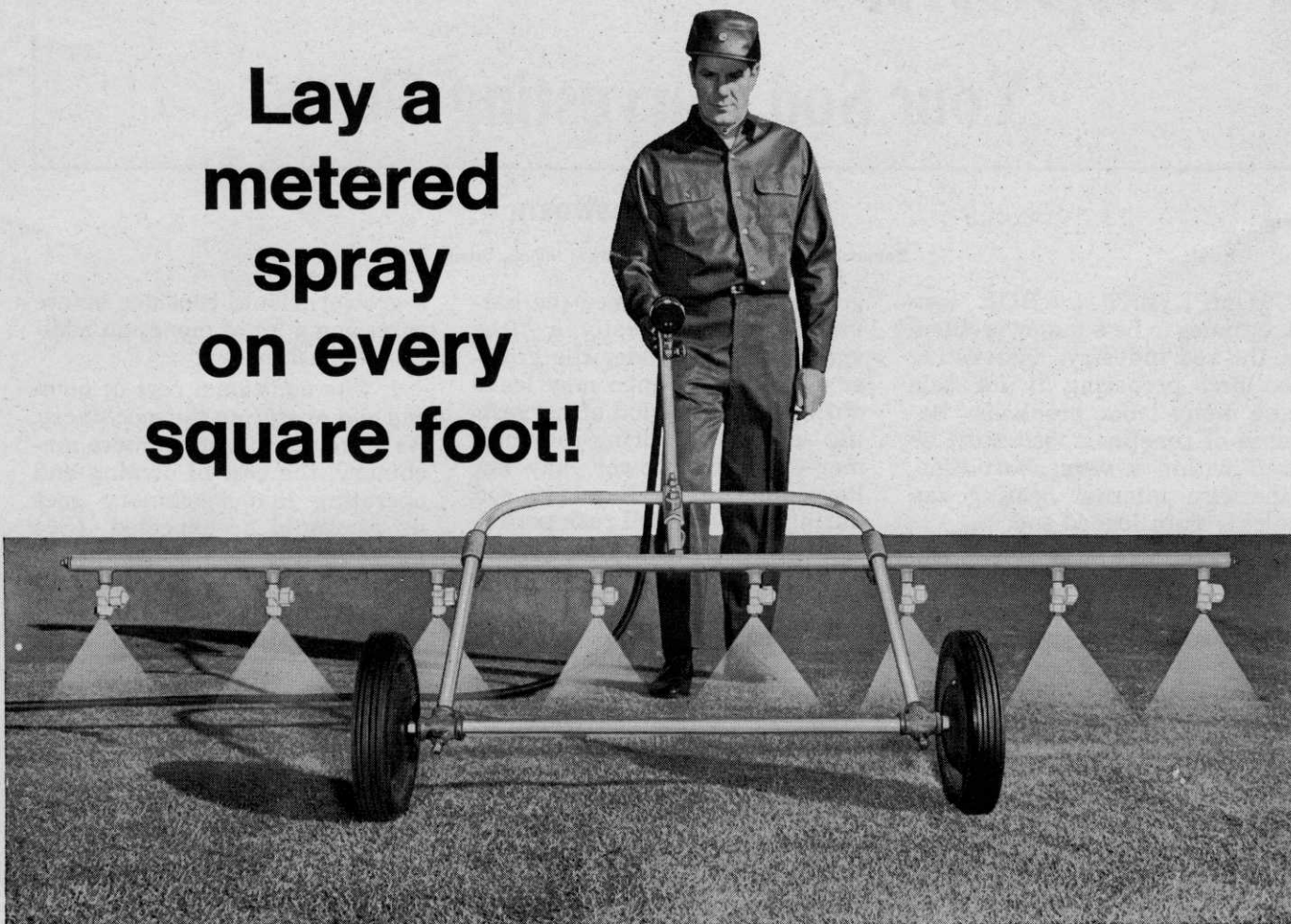
Talk to the equipment and chemical suppliers. They attend meetings expressly for this purpose. Suppliers and company representatives welcome the chance to discuss problems you may have experienced, about new uses of their products, or simply how to get the maximum percentage of use from a product.

Once you are home, you'll find your own crew will be interested in this information. And if and when you buy that new equipment or try that new chemical, because they have been involved, your employees may be just as interested as you in seeing that it works properly.

If you haven't tried an after-the-meeting session with your own employees, you may be passing up the chance to fully capitalize on meeting information.

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, sod growers, and supervisory personnel with highway departments, railways, utilities, golf courses, and similar areas where vegetation must be enhanced or controlled.

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So don't let spotty spraying spoil your turf. Call your Mallinckrodt distributor today and take a walk with "the Hawk."

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When Writing to Advertisers Please Mention WEEDS TREES AND TURF



# Pinpoint

## Your Sod Harvesting Costs

By JAMES Q. AYLSWORTH

Department of Horticulture, University of Illinois, Urbana

**C**OMPETENT LABOR continues to be a major problem in the sod industry. Harvesting sod and preparing it for sale pose many labor problems. Because of timeliness, sod must be used within a very short time, otherwise internal heating can quickly ruin loaded sod.

Maintaining a labor force large enough to harvest sod quickly means that during inactive periods a larger work force has to be paid for doing little or no work. This, of course, increases the cost without increasing the productivity. Some sod growers have tried to solve this by keeping a work force for only harvesting sod and paying them on a piecework basis. The harvesting crew would commonly be paid 3¢ per yard of sod harvested, or \$30 per 1000 yards of sod. Since the harvesting crew would split the \$30, the fewer men needed to do the work, the more each would be paid. This tends to make the harvesting crew more efficient. Thus, constant supervision is unnecessary because the harvesting crew is essentially self-regulating.

Although this method has some advantages, it also poses an even

greater problem. Since the harvesting crew is really a "free agent" and not under the grower's employ, the men may leave during a slow period of harvesting—especially during the summer—and the grower may not have anyone to harvest sod during the early fall rush period. Consequently, the sod grower may lose some very profitable early sales.

To solve the labor problem during harvesting, many growers are considering the use of mechanical harvesters. Due to the new developments by machinery manufacturers, the extent of mechanization is now limited only by the amount of money the grower has available to invest.

### New Machinery And Use of Pallets Considered

Many growers are considering expanding to additional machinery and palletized loading. Some are even considering going to a mechanized sod harvesting operation that lifts, rolls, and elevates the sod to the pallets. All of these changes are designed to reduce the amount of hand labor needed to harvest sod.

There are several factors that

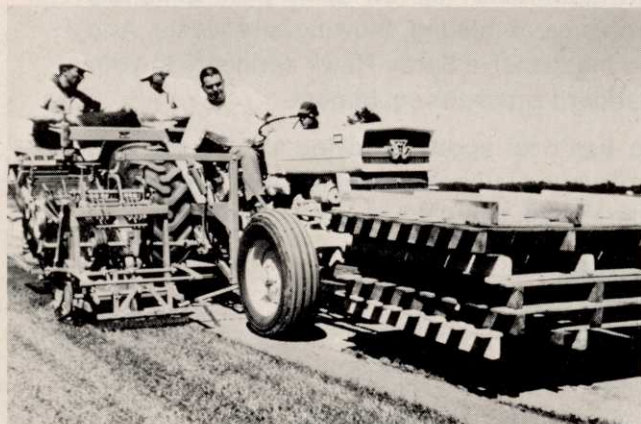
a grower should consider before investing a lot of money in additional machinery:

1. *The additional cost of owning and operating the machinery.* As a grower invests in more machinery, the cost of owning and operating that machinery goes up as would be expected. (See Chart I) But as the amount of machinery is increased, the labor cost goes down. (See Chart I) This is due to the greater labor efficiency by using machinery. (See Chart II)

2. *The weight of sod being handled.* Indeed, the weight of the sod may be the decisive factor in deciding to use additional machinery. For example, we found that on muck or organic type soil, the weight per yard of sod was 31.3 pounds. But for mineral type soils, the weight per yard was 49.0 pounds. This additional weight of sod may materially slow down the workers, especially toward the end of the day. If you are getting good efficiency in the morning but not in the afternoon, this may be a factor.

3. *The availability of good labor in your area of the country.* If adequate labor is available in your area at this time, you may be ahead to expand your business and postpone purchase of more machinery. This is a money management problem. Although machinery may save some expense, you might be ahead even more by obtaining more land, expanding irrigation facilities, purchasing fertilizer, and so on. A partial budget will help answer this problem for you. If labor is short, however, harvesting machinery which uses less workers will be advantageous.

4. *How efficiently are you pres-*



**Self-propelled sod harvester** cuts, rolls, elevates sod to be loaded onto pallets. Extra pallets are carried on front of Ryan harvester.





**Fork lift to load pallets** was one method used in Illinois tests. Unit pictured here is on Rapp Farms, Inc., Farmingdale, N. J.



**Hand rolling of cut sod** is still an expedient method for many producers, particularly if they have the labor supply.



**Hand loading of sod** with sod elevator was part of test. Pictured is similar operation at Halmich Sod Nurseries, Brown City, Mich.

ently using the labor that you do have? Although efficiency, as measured by yards of sod harvested per man hour, may increase with additional machinery, (See Chart II) there may be ways to get more efficiency from your present operation. Analyze your operation for wasted motion. See if some steps can be saved. Sometimes a little pre-planning before the beginning of the working day may speed up the entire day's operation and make it more efficient. Cutting from one field all day instead of moving to several fields the same day may reduce the non-productive time as much as 10%. Non-productive time in agricultural occupations is extremely high compared to industry.

5. How fast do you have to harvest sod to meet demands? The amount of sod that is needed per day varies considerably. Since sod harvesting equipment has a limited output, the initial cash expense of purchasing enough harvesting equipment for the peak periods will tie up a lot of money. For example, a sod harvester may have a sod harvesting capacity of 5000 yards in an 8 hour day. If you need 10,000 yards in this time period, you will need to have two machines of this capacity or have two crews and run the same machine for 16 hours per day. Additional men on a harvesting crew that uses maximum mechanization

may not always increase production and, in fact, may decrease productivity per man-hour—especially when inexperienced men are added to the harvesting crew.

#### Know Your Harvesting Costs

Before a grower decides how much to invest in additional machinery, he should know what his present harvesting costs are. We have found that when there is little mechanization that is, using only a sod cutter—and the rolling and loading is done by hand, the labor cost is 2.6¢ per yard of sod.

If a sod grower decides to use a sod cutter, sod roller, fork-lift truck, and palletized loading, with the only hand work being

to place the sod on the pallets, then the labor cost is reduced to 2.06¢ per yard of sod.

These last two methods of harvesting sod are quite common in Illinois. Some growers are considering the use of still more machinery and less hand labor in harvesting sod. Several machinery companies are manufacturing harvesting equipment that will cut, lift, roll, and palletize the sod in one operation with as few as three or four men. A self-propelled sod harvester of this type was tested and we found the labor cost to be 1.5¢ per yard of sod for one yard rolls of sod.

As the amount of machinery

(Continued on page 41)

**Table I. Harvesting Costs Per Yard of Sod.**

Type of operation	Labor cost	Machine cost	Total
1. Mechanical sod cutter; all other work done by hand labor.	2.6¢	0.15¢	2.75¢
2. Mechanical sod cutter, sod roller, fork-lift, pallets.	2.06¢	0.45¢	2.51¢
3. Self-propelled sod harvester to cut, roll, lift, palletize sod, using a fork-lift truck to move pallets to end of field for loading.	1.50¢	1.0¢	2.50¢

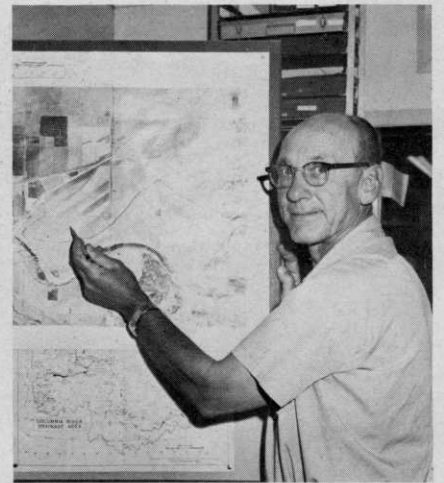
**Table II. Efficiency of Various Harvesting Operations.**

Type of operation	Yards of sod per man hour
1. Sod cutter; all other work done by hand.	70.2
2. Sod cutter, sod roller, fork-lift, palletized sod.	83.6
3. Sod harvester as tested and explained above.	133.3





Beside Arden Jacklin, the management team of the Jacklin Company is, left to right: Doyle, sales representative; Lyle, ranch management; Owen, ranch management; and Don, ranch management and research. Doyle and Don are twin brothers, and Duane, their younger brother, is getting his Masters at Purdue University.



Arden Jacklin, president of Jacklin Seed Co., Inc., points out boundaries of seed producing area in Spokane Valley. The area includes land both in Washington and Idaho with Spokane, Washington and Coeur d'Alene, Idaho being the rough limits of the area.

## Quality Seed for Specified Needs Is Backbone of the Turf Industry

**Jacklin Seed Co., Inc. has developed seed production business by supplying sod producers and turfmen with specific varieties**

**Q**UANTITY seed which produces pure strains of a specific grass is the backbone of the turf industry. Investment in a golf green today is figured by thousands of dollars. Once it was in the hundreds. Foreign seed in the original seeding not only costs in terms of dollar replacement but in premium time.

Pure seed is also important to the sod producer, as it is to every professional turfman who is charged with either new seedings or sod installation. Neither can gamble; new growth must be exactly what specifications demand.

Today, these needs are being met by professional seed producers. Jacklin Seed Co., Inc., Dishman, Washington, a major grower and processor, has developed an across-the-board business whereby Jacklin, through distributors, can guarantee varietal strain purity. A visit to

their Spokane Valley operation reveals the broad range of technology needed today to produce and process seed of the quality needed to satisfy market demands.

Jacklin Seed is a family corporation, operated by 5 Jacklins. Arden, Lyle and Owen Jacklin are brothers. Don and Doyle Jacklin are the twin sons of Arden, who heads the company's

**Specialty designed truck** is used to handle bulk seed from combine to bagging. Truck bed will hydraulically unload seed cartons which are then picked up and moved by forklift.

