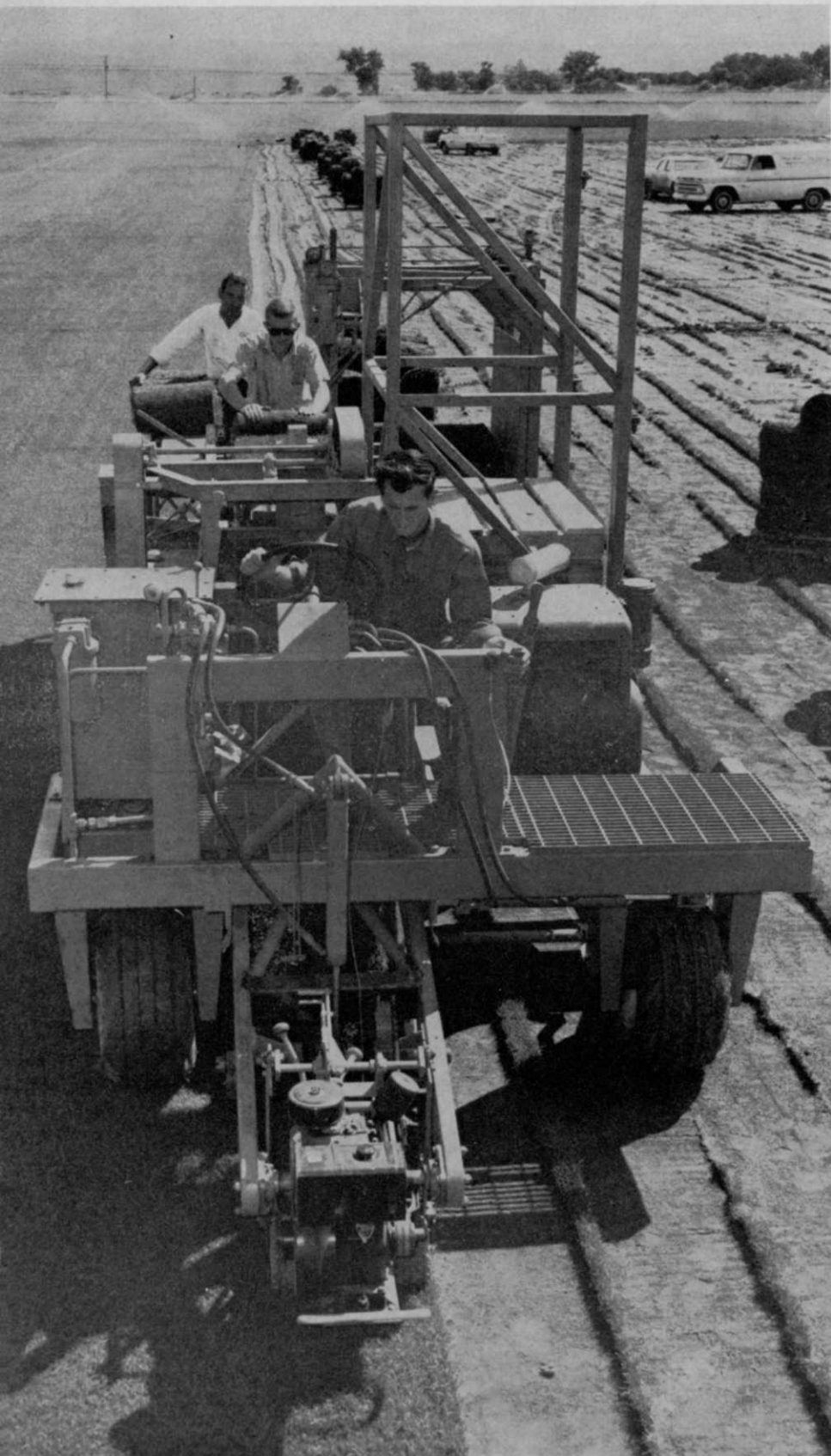


Richlawn's "Turfmaster" Eases Sod Harvesting



With 720 acres of mature sod and a contemplated 250 more acres in 1968, Mel Rich, president of Richlawn Turf Farms, Denver, Colo., grew impatient with the conventional harvesting method requiring a small army of men to roll and load the cut sod. After spending some time designing a new cutter, he engaged Bullock Engineering, Inc., 70 West 6th Avenue, Denver, to polish his ideas and fabricate one of the first true "sod harvesters," the Richlawn "Turfmaster."

Turfmaster has now been in operation at Richlawn for six months. Operating with three men, it does a job that used to require 11 men, with the advantage of round-the-clock operation under floodlight when necessary. Operating the machine are the driver and two handlers. With power steering for easy maneuverability, the harvester cuts sod into a continuous strip, 18 in. wide and a uniform 1 in. thick. Turfmaster has a cutting capacity of 8,000 sq. ft. of sod per hour.

During harvesting, the continuous sod strip is picked up and lifted by chain conveyor to the level of the second operator. A Ryan automatic cutoff knives sod into 6-ft. lengths, which are conveyed to the handler, who lets the sod roll itself. He then places the roll on a transverse belt conveyor, which deflects the roll to another conveyor carrying it to the back of the machine, where the second handler stacks the sod on pallets.

Pallets of 35 rolls each are lowered to the ground every three minutes by a rack and gear arrangement. Another worker picks up pallets with a forklift and loads them on waiting trucks. Powered by a 35-hp. Wisconsin air-cooled engine, the self-propelled harvester is capable of continuous cutting at 5 m.p.h., with an operating speed

range of 40 to 100 feet per minute. A power takeoff drives the various harvester components. Transmission provides high and low forward speeds and reverse. Other features include hydraulic braking and low-pressure tires that will support a load of 10,000 lbs.

More Harvesters Planned

Only one Turfmaster has been built to date, and this is employed on Richlawn's main farm, conventional cutters being used on the other two farms. All three locations are southeast of Denver in a lowland area offering an average depth of 12 ft. of loamy subsoil.

As its acreage expands, Richlawn plans to build additional machines for use in its own operation. Turfmaster is being manufactured for sale by Bullock Engineering, and is reported to cost in the neighborhood of \$23,000. Further refinements of the cutter now in the planning stage include automatic stacking and a new guidance system.

With Turfmaster in operation, Richlawn Turf Farms has an average-day capacity of 100,000 sq. ft. of cut, loaded, and delivered sod, 70% of which is installed by Richlawn personnel. Rich, who moved from landscape contracting into sod production, now confines his contract work to sod installations. The remaining 30% of Richlawn's production is installed by landscapers and homeowners.

Three grass varieties are grown by this Colorado producer: Kentucky bluegrass, Merion, and Scott's Windsor, 200 acres of which were recently established. When sod is stripped, at an average age of one year, fields are immediately reseeded.

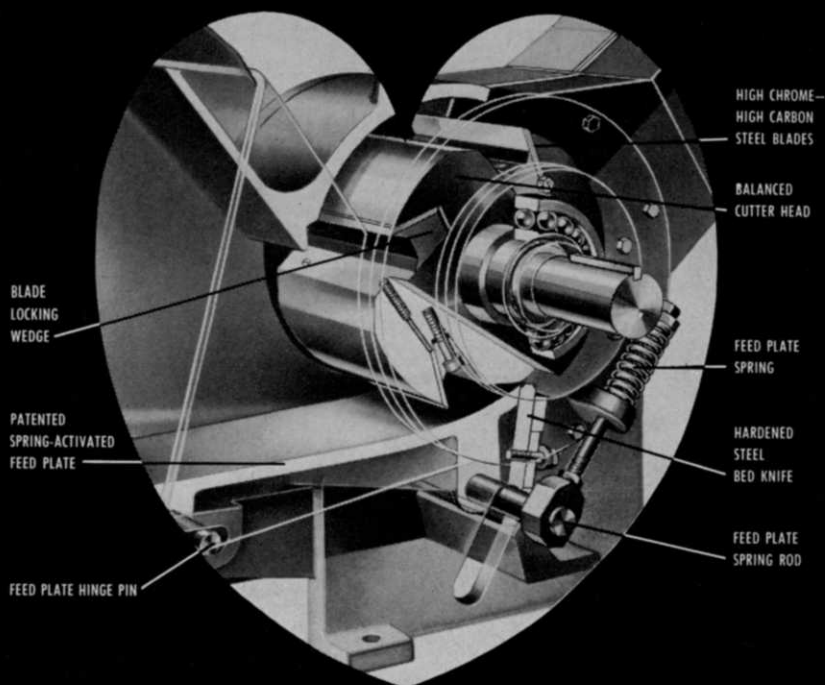
Preparation for initial seeding or for reseeded begins with a five-bottom 14-in. John Deere plow. Ground is then rototilled to a depth of 5 in. with a Howard Rotavator. Pulverized to a fine consistency, fields are leveled with a John Deere 40-20 tractor pulling a 40-ft.-12-ft. blade leveler. Finish grading is done with a 10-ft. Speedco leveler pulled



Above: View of Windsor sod field. Richlawn recently established 200 acres of the new turfgrass. **Right:** Mel Rich (left), Richlawn head, and Jim Jones, farm manager, examine Windsor's root structure. **Below:** Forklift truck picks up pallets of sod lowered by Richlawn's Turfmaster. **Opposite page:** Bird's-eye view of the Rich-developed sod harvester.



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by a tractor with tandem tires.

Water Lines Apply Turf Food

High-quality grass seed is planted with a 10-ft. Brillion seeder, and from here management techniques take over. Turf is fed to maturity, with most fertilizers applied through Richlawn's 90 miles of irrigation pipe.

In early spring, and preferably on top of the last snow, an application of dry fertilizer is applied at 200 lbs. per acre. This feeding is a blend of sulphate, nitrate, phosphate, and potash. All other feedings are liquid 10-10-5 or Uran, with ¼ lb. actual N applied per 1,000 sq. ft. at regular intervals of three to four weeks.

According to Mel Rich, applying fertilizers through the sprinkler system gives the best results with less equipment, better coverage, and—most important—less tracking. Richlawn's main irrigation lines are permanent.

Only lateral lines are movable; these are connected and laid out at time of seeding and are spaced at 80-ft. intervals. Laterals stay in place, applying needed water and fertilizers, until harvest. Automatic timers are used throughout. Richlawn's new self-draining Wade Rain system uses 2½- and 3-in. Febco valves, which are buried beneath frost level. Watering has ceased to be a problem, even when freezing temperatures prevail at night, according to the sod producer.

The farm's irrigation water is drawn from 60- to 80-ft.-deep wells, which offer an abundant supply. Asked about their weed problems, Mel Rich said "we have very few weed problems due to preventive maintenance such as mowing, fertilizing, and thatching. A thick, healthy turf will discourage most weeds." First item on his list, regular mowing, is done every four days with a Jacobsen 7-gang F10 diesel tractor mower.

Among prime locations in Colorado and neighboring states that have installed Richlawn-grown sod is the Air Force Academy, where 126,000 sq. ft. of Kentucky bluegrass were placed over heat grids in this country's premier installation of warmed turf.