

Get rid of unwanted green growth before it cuts into your profits.

The weed onslaught is just about universal.

An expensive headache.

For utilities, railroads, highway departments, the petroleum industry and industry in general.

But there is a way to con-

trol that costly green tide—with Tandex® herbicide.

It's a urea-carbamate compound that gives outstanding extended control over a range of weeds and grasses.

But it's more than weed control.

It's brush control, too. If you've got to get rid of really tough brush and woody vines, Tandex gets the job done.

You can spray Tandex or apply it in dry granular form.

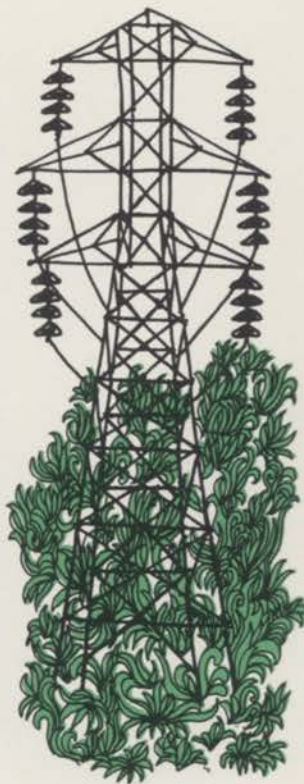
Either way you use it, you'll control that costly green tide.



FOR INDUSTRY



FOR RAILROADS



FOR UTILITIES



FOR ROADS

TANDEX

HERBICIDE

Agricultural Chemical Division
FMC Corporation, Middleport, N.Y. **FMC**

Tandex® is a registered trademark of FMC Corporation

For More Details Circle (123) on Reply Card

Hold everything!



Toro has a utility vehicle on the way that's strictly utility. It's called the Workmaster, and it's got a price tag lower than you'd believe. Comes complete with hydrostatic drive, up-front seating for two, more drawbar pull than competition (that's what horsepower's all about), a longer, lower, heavier-gauge box, automotive steering, and that's not all. It's simple, rugged, reliable and easy to service — and one thing more. It's a Toro.

WORKMASTER

TORO®

WORKMASTER

TORO

Here's why the Workmaster is worth waiting for!

FEATURES AND BENEFITS INCLUDE:

1. **Heavy-duty industrial-quality hydrostatic drive** — for infinite speed control, instant forward/reverse, high torque to rear wheels for drawbar pull that surpasses competition. A closed, self-lubricating durable drive system as in our Sandpro and Groundsmaster 72. No gears to change, no clutch to slip.
2. **Up-front seating for two** — provides comfortable, safe seating for driver and one passenger.
3. **Ease of maintenance is engineered in** — you don't have to empty the box to get at the battery. All frequently serviced parts (like the spark plug) are easy to get at.
4. **Automotive controls and more leg room for operator** — front wheel returns to straight-ahead position when steering wheel is released. The Workmaster requires less learning time, gives greater security and comfort than competitive machines.
5. **Oversize rear tires** — for greater hill climbing ability and sidehill stability.
6. **Lower center of gravity** — long, wide wheelbase; low box bed-height for greater safety and stability, less lifting.
7. **High capacity box** — carries existing engine-driven top dressers and sprayers, and earns the name Workmaster on all kinds of hauling jobs.
8. **A price tag lower than you'd believe** — you don't pay for things you don't need. The Workmaster is plain and simple with heavy-duty design, construction and components.

GENERAL SPECIFICATIONS*

ENGINE: Kohler air-cooled, 4 cycle — 14 H.P. at 3600 R.P.M. — 23.5 foot pounds of torque at 2200 R.P.M. — 31.27 cubic inches of displacement — compression release — Stellite faced valves — positive rotators on valves — heat treated crankshaft — 12 volt electrical system

FUEL CAPACITY: 8 hour fuel supply

WEIGHT: approximately 900 pounds

BRAKES: 7" x 1 $\frac{3}{4}$ " hydraulic drum brakes with parking brake on rear wheels — dynamic braking to the rear wheels through the hydrostatic transmission — optional hydraulic drum brake for the front wheel

GROUND SPEED: 0-10 M.P.H., infinitely variable

GAUGES: ammeter and fuel gauges standard — hour meter optional

LOAD CAPACITY: 1000 pounds plus operator

SUSPENSION: full spring suspension on all three wheels

TIRES: rear tires - 23 x 8.50 - 12 - 4 ply — front tire - 18 x 8.50 - 8 - 4 ply

PROPULSION: infinitely variable hydrostatic transmission coupled to an automotive type differential

SEAT: full side by side seating for two

BOX SIZE: approximately 3' wide x 4' long

OPTIONS: hour meter — front wheel brake — folding ramp-type tailgate — headlights



(Our competition's green with envy!)

*Specifications and design subject to change without notice. Toro is an exclusive trademark of The Toro Company.

"Serving The Green Industry"

Vegetation Maintenance 10

Lane County, Oregon has developed solid cost data on what it costs for vegetation control on roadsides. Steve Puett, weed and brush control supervisor, discusses the county program.

Plant Parasite Of Turfgrass 12

Stripe Smut on bluegrass has been occurring with increased regularity. Dr. Joseph M. Vargas, Jr. of Michigan State University tells how the disease occurs and what superintendents and sod producers can do to help control this disease.

\$400 Million For Pure Water 14

Construction projects which involve the Green Industry are as varied as the industry's many facets. In an effort to show the specifications of one type of contract, the Monroe County Pure Waters Agency has developed a restoration program. This could be used as a guide or checklist in devising your own specifications.

Nine Hole Courses 18

Do 9 hole courses need a fulltime golf superintendent? That's a question being asked throughout the country. In Iowa, the answer is yes. Read why Bob Burns and Bob Friis think that the superintendent is one of the most important people on a small course

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The Cover

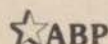
Evaluation and Analysis. That's what it's all about. Turfgrass trials are an important and integral part of the background in becoming a commercial turfgrass superintendent. They also provide much valuable information for the sod producers. Our cover this month shows WEEDS TREES AND TURF readers inspecting turf plots at the Ohio State University turfgrass field day.

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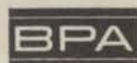
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WEEDS TREES and TURF

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Roger Gilmore

Like a fire in muck ground, the DDT episode has continued to smolder ever since the Environmental Protection Agency banned nearly every use of the insecticide in 1972. But events within the past 60 days have fanned the cinders into a small blaze that has every hope of reversing the EPA decision. The crux of the situation lies in the fact that the pine tussock moth in the upper northwest forests cannot be controlled.

Until a few months ago, EPA's first line of defense against DDT use in forests was a gut belief that a naturally occurring virus would cause tussock moth numbers of decrease. In addition, EPA officials in Washington—a great distance from the problem—have spread the word that substitute chemicals were being used.

Evidently these substitutes and the natural virus have not been too effective. Those who have seen this year's devastation have been appalled. In October, Interior Secretary Rogers C. B. Morton pledged his efforts to obtain DDT to fight tussock moth outbreaks on the Colville Indian Reservation in northeastern Washington. He said he would try to convince EPA Administrator Russell Train to allow the use of DDT on Indian lands.

Secretary of Agriculture Earl L. Butz addressed

the Society of American Foresters in Portland, Ore. in late September. He mentioned the devastation of the infested area. "No one can tell me that either nature or man is better off for this insect epidemic," he said.

"The dying forests there are reminders that we were a little precipitous in banning the only effective control method before we had found effective substitutes," Secretary Butz said. "This is a classic case in which an emergency outraced the development of the substitute, leaving the forest completely unprotected in the interim."

He too extended his full support to seek "approval from the Environmental Protection Agency for making DDT available . . ."

A third big gun to enter the picture is a new book "The DDT Myth" by Rita Gray Beatty, a California housewife with a background in journalism and public relations. She points out that much of the damning "evidence" used against DDT was based on poor science, inept observations or downright deception. Her book is written for the layman, but is presented as a convincing defense plea for continued DDT use.

There is little doubt that this issue will pro-
(continued on page 37)

*Pretty
it
ain't*



MODEL 68

You won't find fancy shrouds, shiny hubcaps or chrome accent strips on a NATIONAL

...Only its performance proves its worth!



MODEL 84

FAST! Mows a 68- or 84-inch swath at speeds up to 4 MPH. That's half an acre in 15 minutes! Trimming time is reduced as reels reach out over curbs and up to obstructions.

EFFICIENT! Three power driven, free-floating reels follow ground contour. Reels shear grass cleanly without "tip burn."

DURABLE! Timken bearings; automotive-type transmission; heavy duty, tubular steel tie rods and bed knife frame; and cutter bar lip...all add to more years of use!

SERVICEABLE! No-nonsense design makes normal maintenance faster than any mower on today's market!

National Mower Company...our reputation is your guarantee of *quality!* Our start in 1919 makes us one of the (if not *the*) oldest power mower manufacturers in the U.S.A.



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Phone: 612/646-4079



Make the off-season your catch-up season.



Right now, with civic and recreation areas less crowded, is a good time to catch up on this year's projects and get a head start on the coming year.

You can plant new trees, remove dead trees, grind stumps below ground level, prune deadwood and large limbs from pedestrian paths, clear around streetlights, remove brush and growth encroaching on fairways.

This is a thrifty time of year to put Davey to work on your grounds. Programs can be set up to meet your budget requirements, and we can give prompt attention to your needs.

Now is the time to preserve the beauty and value of the trees on your property and, at the same time, ensure public safety at an economical cost. If you've got the projects, we've got the trained crews and specialized equipment ready to go to work. For estimates without obligation, find us in the Yellow Pages under Tree Service.



DAVEY TREE

KENT, OHIO 44240
Coast to Coast and Canada



For More Details Circle (126) on Reply Card



Government News / Business

Sod production and sod installation are agricultural enterprises, says the Department of Labor. The ruling was determined following conferences, briefs and personal contact by William Harding, an attorney on retainer with the American Sod Producers Association. According to ASPA president, Jack Kidwell, the ruling has significance in that OSHA obligations will be "much easier for members to meet. It is significant that the opinion from the Department indicates that sod installation is exempt only if it is also tied in with a sod production operation," he said. "Sod installation by itself if not performed jointly in production of sod could possibly be interpreted as being part of a landscaping operation which includes principally construction activities. Thus OSHA regulations would cover construction restrictions."

Thompson-Hayward Chemical Company is now a wholly-owned subsidiary of North American Philips Corporation. It had previously been a subsidiary of PEPI Inc. which in turn had been a majority-owned subsidiary of North American Philips. A company merger has simplified the operation. No change in operations is expected.

What we have done in this country during the past few years to provide for the protection of our environment "will count for nothing if progress and the constant striving for the highest standard of living is valued more than basic environmental balance and simple survival," intoned John R. Quarles, deputy administrator of EPA. He told the Magazine Publishers Association in October that the nation requires a radical transformation of the basic life processes in our society. But we must not abandon all technology and dismantle our factories, he said. "Like it or not, we will still be dependent upon our technology, and it has brought us great blessings. But we must now begin to differentiate between the blessings and the curses of technology."

American Garden Products, Inc. has signed a definitive agreement to acquire Perry's Plants, Inc. of La Puente, Calif. Perry's Plants is believed to be the largest grower of ground covers in the U. S. and a leading producer of flowering annuals. The acquisition will involve a consideration of \$2.7 million in cash, \$300,000 in American Garden common stock and contingent payments based upon future earnings of Perry's Plants.

This year about two percent of our natural gas was used to manufacture nitrogen fertilizer. This percentage will have to increase to three percent if the nation is to produce enough nitrogen for projected food for the nation and for export to help balance our trade deficit in the years ahead, says Malcolm H. McVickar, national manager, agronomy, Chevron Chemical Company. It takes about 33,000 cubic feet of natural gas to produce a ton of the type of nitrogen material used in fertilizer. McVickar estimates that by 1980 our needs will be for 80 percent more nitrogen than currently and 43 percent more phosphorus. "If we're going to have ample food in this country and continue to increase exports of farm commodities, we'll need huge supplies of fertilizer," he says. "There's no way to change that fact."

Hoffco Inc. of Richmond, Inc. has announced the acquisition of 51,000 additional feet of manufacturing and warehouse space for the firm. It will be used to meet the expanding marketing requirements for manufacturing and warehouse space.

Fylking - outstanding as its name!

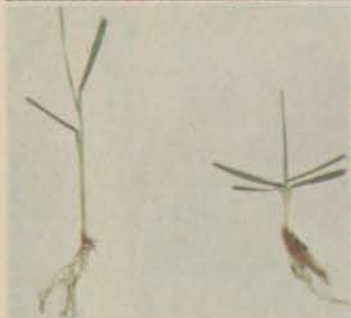
Internationally tested over 12 years, Fylking has proven to be exceptional — exceptional as a mixer in any lawn seed mixture, exceptional in producing a thick turf. The dense rhizomatous root system knits itself together so weeds cannot penetrate. Low-growing, abundant tillering, fine textured Fylking has greater disease resistance and drought resistance. It greens earlier, is greener in summer, stays green longer into fall. Can be cut low as $\frac{3}{4}$ inch (even $\frac{1}{2}$ inch) and thrive with less watering.

Check tests shown below:

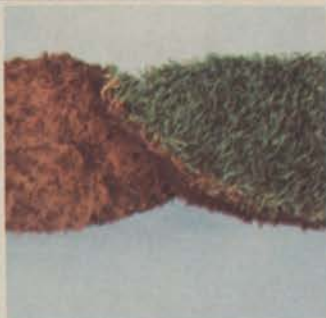


FYLKING KENTUCKY BLUEGRASS

U.S. Plant Patent No. 2887



1. Comparison of Fylking (right) with another elite bluegrass plant.



2. Cross section shows thick, luxuriant turf, fine leaf texture and brilliant green.



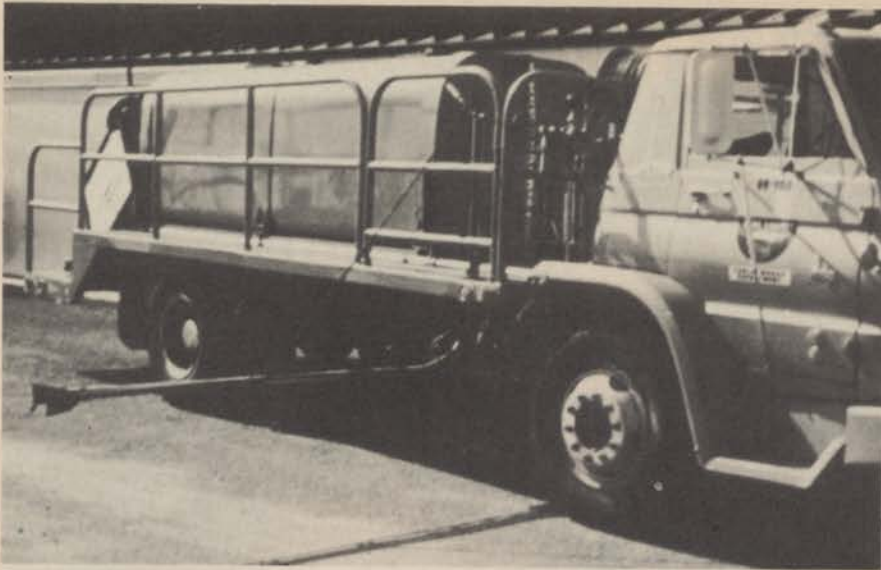
3. 11-day seedling comparison Fylking and another elite Kentucky bluegrass.



4. Leafspot comparison of disease-free Fylking and other elite bluegrass.

Another fine product of Jacklin Seed Company

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The tank on this spray truck holds 1500 gallons. It is equipped with booms and hose for hand spraying. The county also has a 2100 gallon and a 1450 gallon tank trucks.

LANE COUNTY ROADSIDE PROGRAM

Vegetation Maintenance What Does It Cost In Oregon?

By **STEVE PUETT**

Weed And Brush Control Supervisor
Lane County Dept. Of Public Works

THE COUNTY weed and brush control program in Oregon has shown the value of good program planning and persistent followup.

A high growth of brush or weeds along the edge of roads can cause a great many highway maintenance problems and accidents. The re-

moval of brush and weeds makes the area look cleaner; it enables tourists to enjoy scenery that might otherwise be hidden. Wildlife, pedestrians and cars are hidden from motorists' sight by tall roadside brush and weeds.

By keeping drainage ditches clean,

road maintenance costs are greatly reduced. Clean drainage ditches are important to both the Lane County Department of Public Works and to property owners whose fields are next to county roadways. Fire danger is, of course, reduced when weed and brush areas are removed.

There is also the added bonus of good will and co-operation between the Public Works Department and the people it serves.

PROGRAMS AND COSTS

Basically, our programs are divided into five areas: 1. Clear right-of-way of brush by mechanical means; 2. Basal or stump spray; 3. Foliage spray; 4. Correct drainage by mechanical means; and 5. soil residual spraying.

There are six full-time men on the spraying crew plus two temporary men during the summer months. The equipment includes 2100 gallon, 1500 gallon and 1450 gallon truck-mounted tanks with three 200 gallon pull-tanks.

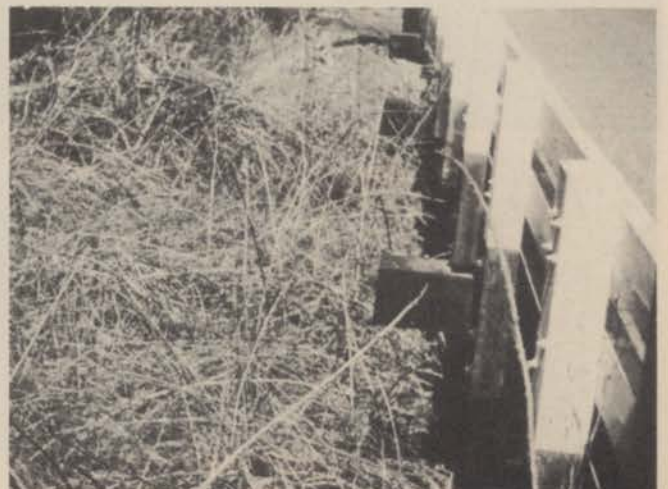
Clear right-of-way of brush by mechanical means The cost of maintenance brushing with an eight-man crew using the air saw and brush chipper for top trimming is \$834.92 per acre. Using the same crew and doing cutting on the ground with chain saws is \$1,180.00 per acre.

Initial brushing for the first time, like new right-of-way clearing with the above crew and mechanical machinery, is \$2,436.00 per acre. The county also has a BC-100 series brush cutter with two rotary blades which is mounted on a gradall. This machine is used on small brush species at a cost of \$237.00 per acre.

Basal or stump spraying Brush cutting reports from zone foremen
(continued on page 16)



Stump spraying with 2,4,5-T and/or Banvel has been effective in holding regrowth in check. This maple stump has been treated with 2,4,5-T.



Foliage spraying around this bridge abutment will keep berries and weeds from hiding the view by the passing motorist. Note dead canes above.