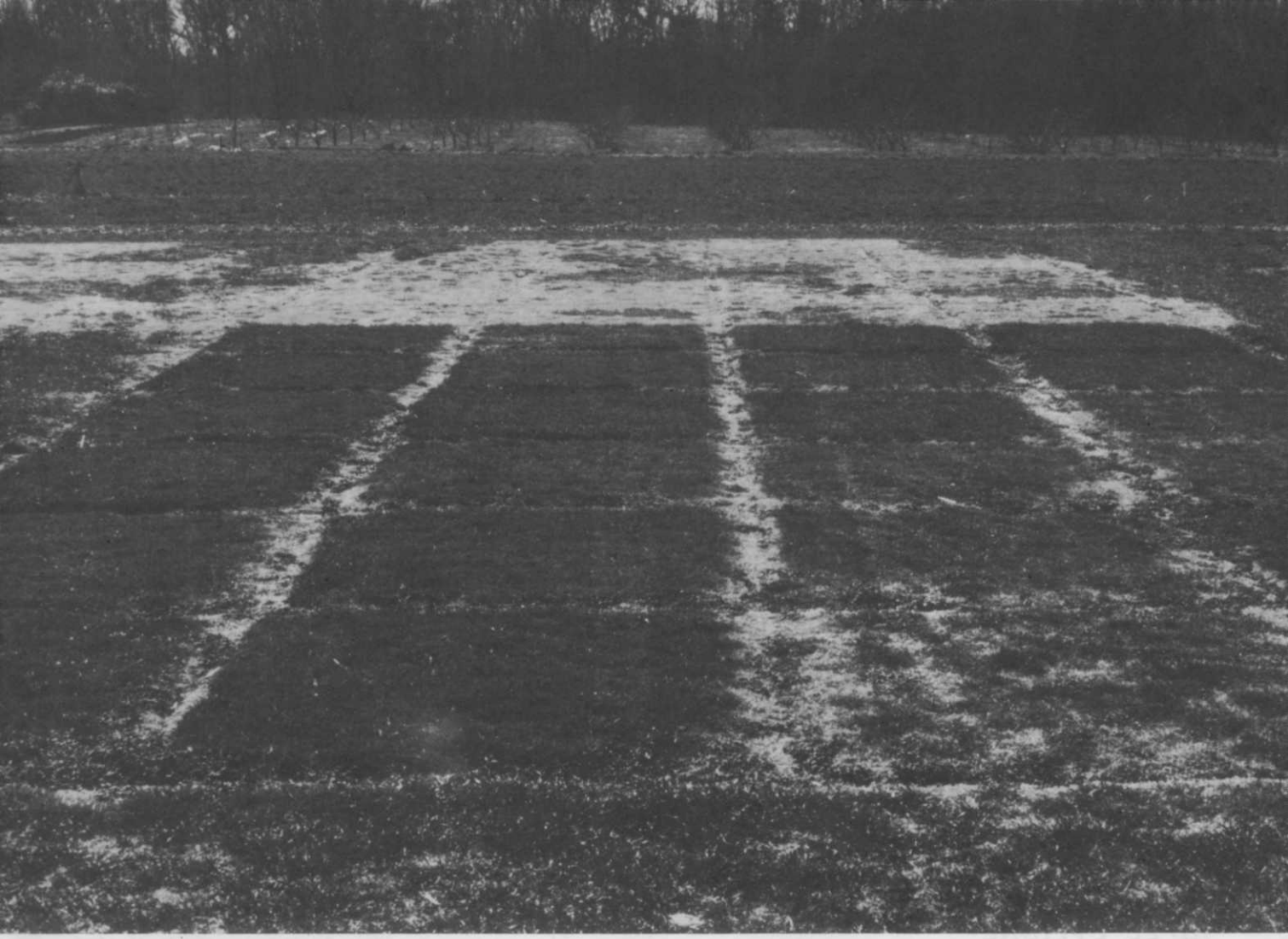


Improved turf quality for experimental plots on the left foreground are due to sand topdressing applied the previous year. Plots are a mixture of warm and cool season grasses.

the topdressing of turfgrasses. Engel (1967) reported on a ten-year study where topdressing was used in three out of ten treatments for thatch control.

He used a sandy loam topdressing containing 8 to 12 percent organic matter. Topdressing — containing treatments in this study were associated with reduced thatch, improved quality, reduced amounts of Poa annua, improved infiltration and freedom from dry spots.

Rice (1964) included topdressing in a relatively short term study he did on Penncross creeping bentgrass. He compared a sand, a loam and a loam-sand mixture with no topdressing. Skogley (1976) reporting on this thesis noted that the loam and the loam-sand mixtures produced the highest quality scores. Sand resulted in inferior quality scores in the spring but was better than no topdressing. In July of each year only the no topdressing treatment was rated inferior. Roots were more plentiful under topdressed turf, and in a fall sampling only sand topdressing had significantly more roots below two inches. Sand was found to be most effective in reducing the organic matter accumulation in the surface inch of soil.

Skogley (1975) also reported effects of topdressing on management of velvet bentgrass. Using a soil-sand mix he reports topdressing seven times per year resulted in reduced organic matter and improved turf quality score averages two out of four years when compared to two topdressings per year but not when compared to four topdressings.

Madison (1974), in several similar articles suggested topdressing with sand containing fertilizers and pesticides as "an alternative method of greens management". Thompson and Ward (1965 and 1966) report topdressing to be the management method which best reduces thatch under bermudagrass. Both Cole (1975), Madison and myself suggest that topdressing will reduce disease problems. Engel, however, found more dollarspot associated with topdressed bentgrass plots than untopdressed plots.

Most, but not all, writers on the subject favor topdressing. With those writers that do favor regular topdressing there is disagreement as to what should be used for topdressing material. Madison recommends sand and the USGA Greens Section appears to be leaning in this direction. Most of the old superintendents and most of the researchers above use or used a sandy loam, often with medium to high organic content. In the past, recommended practices were to use a material of

Continued on page 32

the same composition as your soil. But if you want to improve the soil, most of you would want a sandier mix which would hold promise of better drainage. So why not topdress with sand? I personally see no good reason for including organic matter in a topdress mix when reducing thatch accumulation (organic matter) is a principal goal. I would feel more comfortable in recommending straight sand topdressing if there were some research results showing that it was indeed better than a loamy sand.

A straight sand topdressing does offer advantages over a topdressing mix. It should be a lot cheaper, and secondly, one should be better able to spread it cheaply and easily with large cyclone spreaders. If you do go the straight sand route, I suggest you follow Madison's advice. Use sand less than 1mm in size. This gives you a material which will work easily into the surface mat and thus not interfere with mowers or golfers.

Straight sand topdressing is a lot cheaper and can be spread more easily and cheaply with large cyclone spreaders.

I agree with Madison in that the first couple of sand applications should go on after a heavy, deep aerification in which the cores are removed before topdressing. The sand should then be worked down into the holes so that there will be a transition zone of sand and old soil rather than a direct layer of sand on soil. If the soil below is extremely impervious you can still create a "Dagwood sandwich" of alternate layers of sand, thatch, calcined clay and other topdressing materials. Layers impede water, air and roots. Regardless of what you decide to do about topdressing, avoid layers of fine materials on coarse materials. Layers may cost you your turf and also your job.

Also I suggest that you topdress more frequently when creeping bentgrass stolons are growing the most. The peak growth period for stolon growth is the last half of June. Therefore, topdressing should be most frequent in the May through July period.

Holman Griffin recently wrote, "A good topdressing material (properly analyzed) can eventually modify or replace the poor soil to a depth which is adequate to give your green a new lease on life and provide a manageable situation." Properly done, topdressing can be beneficial to creeping bentgrass. Improperly done, it may cause you many more problems than it is worth.

I suggest you read the articles I mentioned by Engel, Madison, Skogley, Thompson and Ward before beginning on a topdressing program or before changing to a straight sand topdressing.

Dr. Douglas T. Hawes is assistant professor, department of agronomy, at the University of Maryland College of Agriculture at College Park.

Bibliography on Topdressing —

Cole, Herbert Jr. 1975. Planning a disease control program. Proc. 46th Annual Conf. of Mid-At. Golf Course Super. Assoc. pg. 1.3.

Engel, Ralph E. and R. B. Alderfer. 1967. The effect of cultivation, topdressing, lime, nitrogen and wetting agent on thatch development in ¼-inch bentgrass over a ten year period. Rutgers Univ. N. J. Agr. Expt. Sta. Bull. 818, pg. 32-48.

Griffin, Holman M. 1975. Topdressing for turf. USGA Green Section Record. 13, No. 5, pg. 1-3.

Madison, J. H., J. L. Paul and W. B. Davis. 1974. Alternative methods of greens management. Proc. of the 2nd Int. Turf. Res. Conf. pg. 431-437.

Madison, John H., Jack L. Paul and William B. Davis. 1974. A new management program for greens. USGA Green Section Record. 12(3)16-18.

Madison, J. H., W. B. Davis, J. L. Paul. 1974. An alternative method of greens management, Part I. Calif. Turfgr. Cul. 24(2)11-13.

Madison, J. H., W. B. Davis, J. L. Paul. 1974. An alternative method of greens management, Part II. Calif. Turfgr. Cul. 24(3)20-22.

Rice, Edward J. 1964. The effect of soil pH levels, topdressing and cultivation treatments on Penncross creeping bentgrass. Ph.D. thesis, Univ. of R. I., 79 pages, pg. 1845 of Dissertation Abstracts, Vol. 26. (Order No. 65-11, 252).

Skogley, C. R. 1975. Velvet bentgrass putting greens—fertilizer and topdressing management. USGA Green Section Record. 13(5)7-8.

Skogley, C. R. 1976. "Soil acidity and Penncross creeping bentgrass." Turfgrass Research Review, Vol. 2, No. 1, Univ. of R. I.

Thompson, W. R. Jr. and C. Y. Ward. 1965. "Prevention of thatch accumulation on Tifgreen bermudagrass golf green turf." Mississippi State Univ. Agric. Exper. Sta. Info. Sheet 912.

Thompson, W. R. Jr. and C. Y. Ward. 1966. "Prevent thatch accumulation on Tifgreen bermudagrass greens." The Golf Super. 34(9)20.

Reubens grass indicated for revegetation

Some of the toughest territories for revegetation in the cool season areas of the states and Canada are mining areas.

The Jacklin Seed Co. has researched a substantial number of grasses that have good revegetation characteristics. One of these, Reubens Canada bluegrass, was tested in metal mining and coal stripping areas. Results were significantly encouraging to both mining people as well as professionals who specialize in contracting for reseeding freeway cuts, county road projects, pipeline rights-of-way and other construction.

Reubens Canada bluegrass has an excellent tolerance factor that permits it to germinate faster and to establish a better density under low fertility conditions because of its aggressive rhizome growth and tiller development. It also persists in extremely dry, barren soils and regrows quickly after a fire.

Reubens is best suited for all cool season areas of Canada and the United States as well as portions of the warmer transition zones. Following establishment, Reubens survives severe extremes of cold and dry conditions.

Additional tests in progress indicate it could be included in most plans for revegetating subsoils exposed by telephone, power line and pipeline right-of-ways, ski slopes, sanitary landfills, backfilled quarries, stripmines, roadway cuts, mine tailing, earthen dams, dikes and burned areas.

Reubens appears to be a significant find in the continuing search for vegetation that can withstand poverty soils, lashing winds, and gully-washed rains, droughts and the challenge of erosion control. □

Better live oaks grown with new method

A novel method of propagating the live oak tree without using seeds has been developed by horticulturists at the Texas Agricultural Experiment Station (TAES).

The technique permits live oak growers to select trees for uniformity and provide superior trees for the public, according to Dr. David L. Morgan, horticulturist with the Experiment Station at Dallas.

Desirable characteristics in live oaks which could be selected and propagated include tree shape, leaf color, leaf retention in winter, increased growth rate, drought tolerance, and possibly insect and disease resistance.

The implications of landscape design with uniform plant materials are readily obvious to growers and landscape architects, Morgan points out. Instead of growing the oaks from seed, cuttings are multiplied from selected trees. This system, called asexual propagation, gives consistently high quality, uniform trees.

At present, nurserymen grow the live oak from seed. The problem with this method is that the live oak is wind pollinated, and seed from a beautiful spreading oak may also get half of its characteristics from a nearby tree that's weak, diseased, and ugly.

In the past three years, Morgan has successfully propagated native live oaks from tip-stem cuttings.

The cuttings are taken from young, select trees in the spring-summer growing season, treated with a chemical hormone, and kept in a high humidity chamber at the Experiment Station at Dallas.

Cuttings form roots in 12 weeks and when grown should be like the parent tree.

An example of the advantage of this method is the propagation of trees resistant to the mealy-oak gall. Morgan and two Experiment Station entomologists have discovered trees with apparent gall resistance. Such trees, if propagated through stem cuttings, would retain their resistance to galls. □

TOUCHDOWN
...this Elite is TOUGH.

...sod production your bag? Then Touchdown Kentucky Bluegrass is for you.

You want a Bluegrass Blend that's fast starting and has the rhizomes to make a tough solid, quickly marketable turf. Touchdown germinates fast and continues growing, developing rhizomes and side shoots to quickly form a mature turf. High capacity harvesters or rough 'n ready fieldhands—you can minimize waste and turn-around production time with Touchdown Kentucky Bluegrass.

And Touchdown will cost less in other ways too—less fertilizer. Tom Rewinski, Course Superintendent at the National Golf Links of America who discovered the variety reports "Touchdown, growing on the original area of discovery holds great quality, stays free of disease and continues spreading at nitrogen rates I figure to be about half that required by Merion."

Testing of Touchdown was initiated at Rutgers University by Dr. C. R. Funk. There it continues to rate tops among Elite varieties. It has shown good resistance to Stripe Smut, Leaf Spot and other major turf diseases. In broad testing it exhibits fast spring green up, tolerance to low mowing heights and significantly improved turf density and rhizome development.

Professional Quality, Certified seed of Touchdown Kentucky Bluegrass is now available.

Contact your distributor and try some.

Produced and distributed by

PICKSEEDWEST, Inc.
Box 888, Tangent, OR. 97389 (503) 926-8886

Available from:

Lofts
Pedigreed Seed, Inc.,
Bound Brook, N.J. 08805
(201) 356-8700

Lofts/
New England,
Arlington, Mass. 02174
(617) 648-7550

Lofts
Kellogg Seed Co.,
Millwaukee, Wis. 53201
(414) 276-0373

Lofts/
New York,
Albany, N.Y. 12205
(518) 456-0042

...in Canada: Otto Pick & Sons Seeds Ltd.,

Box 126, Richmond Hill,
Ont. L4C 4X9
(416) 884-1147
Telex: 06 219623

Box 4, Grp. 200,
R.R. 2, Winnipeg, Man.
R3C 2E6
(204) 633-0088

Box 151,
St. Hyacinthe, Que.
J2S 5J9
(514) 799-4586

Newly elected officers of the National Arborist Association are: Front row, from left, Kenneth B. Kirk, first vice president, Gerald E. Farrens, president, Larry Holkenborg, second vice president; Second row, from left, Bruce M. Walgren, secretary, Walter E. Money, treasurer, Boyd Haney, past president; Top row, from left, Erik H. Haupt, George P. Tyler, Earl J. Sinnamon, and Lee L. Lesh, directors.

How to make your board see the value of new turf equipment.

Convincing your Board of Directors that new turf equipment is a neccessary and sound investment can be one of your most difficult tasks. They don't always see the benefits behind such a purchase.

And as good businessmen, they won't commit the money until they're sold on the expenditure. So when it comes time to face them, here are some of the things you should point out.

Point #1: The Duffer Demands More.

Today's golfer is more sophisticated than ever before. He has seen, and many times played, some of the finest courses in the world. He recognizes the value of a good course. And if yours is sub-par, he'll go elsewhere.

With this more sophisticated golfer comes the need for more sophisticated golf course maintenance. Heavy player traffic has increased the work required to keep the turf in top condition. So jobs that were once optional are now mandatory. Where spiking a green used to be sufficient, today it also needs deep aeration.

All this dictates the use of specialized equipment that wasn't available ten or even five years ago. Equipment that will enable you to build and maintain a top flight course, and help avoid special turf problems that could prove extremely costly.

Point #2: Machines Do More.

In the past decade, the price of labor has tripled. The same number of men must do more work in less time to give you the same value for each labor dollar invested. Mechanized equipment allows you to trim hundreds of unnecessary manhours. One man can now cut more sod in an hour than six men used to cut in six hours. Or that same man can aerate 18 greens in a few hours instead of a few days.

New engineering concepts coupled with precision machinery means he'll do a consistently good job. You get better results and fewer occasions when a job must be redone.

And your turf equipment is depreciable; something your labor is not. You get an accounting break over a period of years. At the end, it's like owning a piece of free machinery. One that will continue to save you money long after you've paid for it.

Which brings us to the third point.

Point #3: Longevity Makes Them Worth More.

Equipment life should be a prime consideration when you select a manufacturer. The longer a machine works, the more it does, and the less maintenance it requires, the better your investment. And here's where we'd like to put in a little plug for Cushman and Ryan turf equipment.

Both lines of machinery are built to last . . . and last. It's not unusual to see a piece of Cushman or Ryan equipment still doing it's daily chores after ten or fifteen years of use. We believe the idea of "planned obsolescence" should be obsolete.

But performance is just as important as longevity. A Cushman Turf-Truckster and its accessories give you the capabilities to transport, spray, spike, dump, aerate, and top dress . . . all from *one* power source.

Ryan offers a machine for almost every turf task. Equipment that does a better job, in less time, and with a minimum of maintenance. For over 30 years, all Ryan equipment has been built with three goals in mind: quality, performance, and innovation.

If "A Day With the Board" is in your future, we'd like the opportunity to tell you more about the full line of Cushman and Ryan Turf equipment. Write to us and we'll send you our catalogs, full of detailed product information. Information that may help you open a few eyes to the value of new turf equipment.

CUSHMAN®

RYAN®

OMC-Lincoln,
a Division of Outboard
Marine Corporation,
2228 Cushman Drive,
P.O. Box 82409,
Lincoln, NB 68501

Circle 127 on free information card

TRI

Unrivaled control of

Kills these weeds, and others:

Common Chickweed	Heal-All
Mouse-Ear Chickweed	Henbit
Lambsquarter	Knotweed
Milford (Yarrow)	Mustard
Morning Glory	Peppergrass
Shepherdspurse	Pigweed
Spotted Spurge	Plantain
Carpet Weed	Purslane
Sheep Sorrel	Ragweed
Black Medic	Smartweed
Wild Lettuce	Sunflower
Bedstraw	Thistle
Bindweed	Wild Garlic
Clover	Yarrow
Dandelion	Curled Dock
Dichondra	Wild Onion
Ground Ivy	

Special Bentgrass formula also available

TRIMEC is a registered trademark of PBI-GORDON Corporation, U.S. Patent No. 3,284,186

Learn why Trimec efficiency gives you unparalleled economy:

TRIMEC today is the standard in weed control, offering unprecedented benefits.

Perhaps you know about its efficiency. What you may not appreciate is its economy. Actually, they're twin benefits — both remarkable, both from a common source. Here's the story:

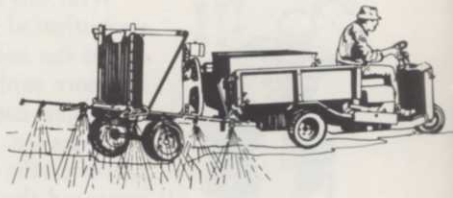
Synergism is the word frequently used to describe a truism — that certain chemicals combined in certain ways create a multiplying effect greater than the sum of their parts. Synergism is basic to Trimec's renowned success.

Trimec's active ingredients — 2, 4-D, MCPP and Dicamba — are synergistic. Precisely formulated, Trimec has tremendous power and high efficiency. It delivers great wallop with less chemicals. It's hard working. And that's the basis for yet another advantage —

Trimec Economy

Comparisons show that Trimec costs less per acre for weed-free turf than any other herbicide. You use fewer gallons . . . you seldom need retreatment . . . your total cost is less . . . period.

Such economy/efficiency alone is reason enough to make Trimec your herbicide. And we haven't mentioned the third great advantage —



AUTHORIZED DISTRIBUTORS
GORDON PROFESSIONAL TURF PRODUCTS

ALASKA
Palmer • Alamatu, Inc.

ALABAMA
Birmingham • Norala Company, Inc.
• Tieco, Inc.
Montgomery • Tieco, Inc.

ARIZONA
Phoenix
• Occidental Chemical Co.
• Target Chemical Co.
• Capitol Nursery Supply
Tucson
• Copper State Chemical Company

ARKANSAS
Alexander
• Capital Equipment Co.

CALIFORNIA
Anaheim • Eagle Chemical Co.
Bakersfield
• Abate-A-Weed Co.
Cathedral City
• Butlers Mill, Inc.
Cerritos
• Target Chemical Company
Chula Vista
• Wilbur-Ellis Co.
Clovis
• Custom Chemicals, Inc.
Coachella • Foster-Gardner, Inc.
Milpitas • Namco-VWR
Newark
• L & V Farm Sales, Inc.
Orange • Robinson Fertilizer Co.
Oxnard • Coastal Ag Chem
Sacramento
• Orchard Supply Co.
San Diego • Butlers Mill, Inc.
• San Diego Chemical Co.
San Gabriel
• J. Harold Mitchell Co.
San Jose • Moyer Chemical Co.
• Northern Calif. Fertilizer Co.
• Target Chemical Co.
• Eagle Chemical Co.
San Leandro
• Custom Chemicals, Inc.
Santa Anna
• Moyer Chemical Company
Santa Barbara • Agri-Turf Supplies, Inc.
Santa Rosa
• Purity Chemical Products Co.
South Gate City
• Los Angeles Chemical Co.

COLORADO
Arvada • S.A.I. TURF Products
Colorado Springs
• Gorby, Inc.
Denver • Van Waters & Rogers
• Western Gard'N-Wise
Pueblo
• Pueblo Chemical & Supply

CONNECTICUT
Cos Cob • Lawn Chem
East Norwalk
• Turf Products Corp.
Greenwich
• Emanuel Shemin Greenhouses & Nurs.
Hazardville • Old Fox Chemical, Inc.

FLORIDA
Homestead
• Atlantic Fertilizer & Chemical
Jacksonville • Bingham Seed Co.
Pompano Beach
• Swift Agricultural Chemicals Corp.
Pensacola
• Gulf Shore Turf Supply, Inc.
• Tieco Gulf Coast
Sanford • Chase & Company
Winterhaven
• Swift Agricultural Chem. Corp.

GEORGIA
Atlanta • Regal Chemical Co.
College Park
• Stephenson Chemical Co.
Conyers • Lawn & Turf, Inc.
Doraville • Georgia Golf & Garden
Ft. Valley
• Wolfolk Chemical Works, Inc.

HAWAII
Hilo • Occidental Chemical Co.
Honolulu • Gaspro, Inc.
• Occidental Chemical Co.
Kahului • Occidental Chemical Co.
Lihue • Occidental Chemical Co.

IDAHO
Boise • Steve Regan Co.
Caldwell
• Wasatch Chemical Co.
Idaho Falls
• Wasatch Chemical Co.
Rubert • Wasatch Chemical Co.

ILLINOIS
Bloomington
• Professional Turf Specialty
Chicago • George A. Davis, Inc.
W. Chicago • Turf Products Ltd.
Decatur
• Scruggs-Drake Equipment, Inc.
Geneseo • C. D. Ford & Sons
Peoria • Behm & Hageman, Inc.
• Liqui Green Lawn Care Corp.
East Peoria
• Leon Short & Sons, Inc.
Rockton
• Turf Management Supply
Springfield
• Drake-Scruggs Equipment, Inc.
Teutopolis • Siemer Milling Co.
Wheeling • Arthur Clesen, Inc.

INDIANA
Indianapolis
• Desco Chemical Division
Nappanee
• Desco Chemical Division

IOWA
Cedar Rapids
• Hawkeye Seed Co., Inc.
Council Bluffs • Leisur-Aid
Davenport • Tri-State Toro Co.
Des Moines
• Toro Service Center
W. Des Moines
• Resthaven Turf Service
Elkader • Meyer Equipment, Inc.
Iowa City
• Little Wheels, Ltd.
Sioux City
• W. R. Anderson Dist. Co.
Waterloo • Foster's Inc.
West Burlington
• Brayton Chemical, Inc.

KANSAS
Kansas City
• Pest Control Supplies
• Rhodes Chemical Co.
Salina • The Landsco Corp.
Wichita
• Champion Turf Equipment, Inc.
• Robert S. Wise Co.

KENTUCKY
Florence
• Geo. W. Hill & Company
Frankfort
• M&S Supply & Equipment Co.
Louisville
• Ky-Inna Turf Supply Co., Inc.

LOUISIANA
Baton Rouge
• Wyche's Golf Course Specialties, Inc.
New Orleans
• Southern Specialty Sales
Plain Dealing
• Wyche's Golf Course Spec., Inc.

MARYLAND
Baltimore
• Cornell Chemical & Equip. Co., Inc.
• Miller Chemical & Fertilizer

MASSACHUSETTS
Newton Centre
• Grounds Equipment Co., Inc.
Waltham
• Farm Bureau Coop Assn., Inc.
West Newton • The Clapper Co.

MICHIGAN
Birmingham • W. F. Miller Co.
Detroit
• Terminal Sales Corp.

TREC®

broadleaf weeds

Trimec is trouble-free

The same efficiency that makes Trimec less costly, makes it trouble-free. Puts less chemicals in the soil, so there is less root absorption by trees, flowers and ornamentals. Minimizes "drift". Pampers tender grasses. Eliminates errors of tank-mixing at the site, because Trimec's components are precisely formulated in right proportions. And, happily for the environment, the residue is biodegradeable.

Another Trimec plus: it works effectively in cool weather as long as weeds are growing, controls cool-season weeds when some other herbicides can't.

Years of commercial use throughout the U.S. prove it: Trimec gives positive broadleaf weed control under widely different conditions. The formulation is unique. Patented. No other offers all these benefits:

- Controls the widest range of broadleaf weeds
- Gets hard-to-kill species with one treatment
- Wide safety margin for lawn grasses, ornamentals
- Minimum hazard from root absorption
- No vapor action after application
- Effective weed control in wide temperature range
- Unique formula overcomes water hardness problems
- Treated areas may be seeded within two weeks
- Non-flammable and non-corrosive in use
- Product stable several years above 32° F.
- Biodegradeable: friendly to the environment

"We've used Trimec for 3 years with good results. We've found it trouble-free and efficient. The all-in-one formula stops on-site mixing errors, and that's important."

C.M. Dailey, *Pres.*
Liqui-Green Lawn Care, Inc.
Peoria, Ill.

"We used to use separate herbicides to control clover and broadleaf weeds. Now Trimec does the entire job and, in addition, gets such tough weeds as Filaree and Mallow. Trimec saves us money and does an outstanding job. Our turf has to be excellent — we supply it to the Camelia Bowl."

H. B. Michelson, *owner*
Michelson's Turf Grass Nursery
Elk Grove, California

If you demand professional results, use the professional's herbicide — TRIMEC. It sets the standard.

For information and prices, see your local authorized TRIMEC distributor

GORDON'S

PROFESSIONAL TURF PRODUCTS

pbi/gordon corporation
300 SOUTH THIRD STREET
KANSAS CITY, KANSAS 66118
913-342-8780

• Turf Supply
Grand Rapids
• Molema & Son
• Parmenter & Andre
Hartford
• Desco Chemical Division
Kalamazoo • J. J. Dill Company
Royal Oak • Lawn Equipment
Saginaw • Burdick Seed Company
Taylor • Turf Supplies, Inc.
Traverse City • Ferguson's Company

MINNESOTA
Minneapolis • Minnesota Toro
St. Paul
• Associated Producers, Inc.
• R. I. Gould & Co.
• Turf Supply Company
Savage • Castle Chemical Co.

MISSOURI
Chesterfield
• Bachman Turf & Irrigation Prod.
Grandview • The Landsco Corp.
• Robson's Lawn & Golf Co.
Kansas City
• Bartels & Shores Chemical Co.
• Champion Turf Equipment, Inc.
• Standard Seed Co.
Neosho • Aztec Chemical Co.
St. Louis • Crown Chemicals
• Kitten & Bear
• Outdoor Equipment Co.
Springfield
• Champion Turf Equipment, Inc.

MONTANA
Billings • Turf Aid Dist. Company

NEBRASKA
Lincoln • Rhodes, Inc.
Morrill • Jirdon Agri-Chem, Inc.
Omaha • ADI Distributors, Inc.
• Big Bear Equipment, Inc.
• Midwest Toro
• The Yard Company

NEVADA
Las Vegas
• Clark County Whol. Merc. Co.

NEW JERSEY
Boundbrook
• Loft Seed, Inc.
• Vaughan-Jacklin Corporation
Freehold • Green Hills Turf Supply, Inc.
Maplewood • Pierson's Mill Co.
Rahway • Ferti-Soil Co.
Saddle Brook • The TERRE Company
Union • Andrew Wilson, Inc.
West Caldwell • Rockland Chemical Co.
Yardville • Jep Sales, Inc.

NEW MEXICO
Albuquerque
• Albuquerque Chemical Co., Inc.

NEW YORK
Farmingdale
• Wagner Seed Co.
Hauppauge • Maxwell Turf, Inc.
Jamaica • J & L Adikes, Inc.
South Hampton
• James H. Lynch, Inc.
Syracuse (De Witt) • Agway, Inc.
W. Henrietta
• S.U. Moffett, Inc.

NORTH CAROLINA
Charlotte • E. J. Smith & Sons
• Seedsmen, Inc.
China Grove • Regal Chemical Co.
Fayetteville
• Eastern Turf Equipment
Goldsboro • Jeffreys Seed Co.
Winston-Salem • Goltra, Inc.

OHIO
Canton • Letherman Seed Co.
Cincinnati
• Century Toro Dist. Inc.
• Thorton Wilson
Cleveland
• Sidney L. Dryfoos Co.
• U. S. Garden Sales, Inc.
Columbus
• Century Toro Dist. Inc.
• W. R. Grace & Co.
Dayton
• Century Toro Dist. Inc.
Elyria
• Lakeshore Equipment & Supply Co.
Finlay • Desco Chemical Division
Marietta • Aitco, Inc.
Toledo • Century Toro Dist. Inc.

OKLAHOMA
McAlester • Tony's Chemical House
Oklahoma City • Estes Chemicals, Inc.
Tulsa • All Best, Inc.
• Thompson-Hayward Chemical Co.
• Watt Sales Company

OREGON
Portland
• The Chas. H. Lilly Co.
• Van Waters & Rogers
• Wilbur Ellis Co.

PENNSYLVANIA
Doylestown
• Philadelphia Toro
Hanover
• Miller Chemical & Fertilizer Corp.
Horsham • Pocono Supply Co.
Malvern
• Fisher & Sons, Inc.
Philadelphia
• Farm and Golf Course Supply Co., Inc.
Phoenixville
• Lawn & Golf Supply
Pittsburg • E. H. Griffith, Inc.
• Krigger & Company

RHODE ISLAND
East Providence • Old Fox Chemical, Inc.

SOUTH CAROLINA
Columbia • Regal Chemical Co.
Myrtle Beach • Bingham Seed Co.

SOUTH DAKOTA
Sioux Falls • C & R Supply Co.

TENNESSEE
Knoxville • Regal Chemical Co.
McMinneville • Forrest Nursery
Memphis
• Oldham Chemicals Company, Inc.
• Bob Ladd Co.
Nashville • Tieco Tennessee
• Central South Turf Dist.

TEXAS
Amarillo
• Amarillo Seed House
• Taylor-Evans Agri Supply
Dallas
• Chemical & Turf Specialty Co.
• Van Waters & Rogers
El Paso
• El Paso Turf Supply
Houston
• Swift Agriculture Chemicals Corp.
Lubbock
• Williamson Seed Co., Inc.
Paris • Estes Chemicals, Inc.
San Antonio
• Aggie Chemical Industries
Waco • Estes Chemicals, Inc.
Wichita Falls
• Estes Chemicals, Inc.

UTAH
Orem • Wasatch Chemical Div.
Salt Lake City
• Steve Regan Company
• Wasatch Chemical Div.

VIRGINIA
Chesapeake • Turf & Garden
Harrisonburg • Wetsel Seed Co.
Richmond
• Richmond Power Equipment
Roanoke
• Agri-Turf Products, Inc.
• Miller Chemical & Fertilizer

WASHINGTON
Kent • Van Waters & Rogers
Renton • Pacific Agro Co.
Seattle
• The Chas. H. Lilly Company
Tacoma • NuLife Fertilizers

WEST VIRGINIA
Charleston
• Youngs, Inc.

WISCONSIN
Chilton
• Horst Distributing Co.
Elm Grove
• Reinder Bros. Turf Equipment
Milwaukee
• Loft-Kellog Seed, Inc.
Sun Prairie
• Turf Management Supply

Aerial photography useful for brush control

Ecological changes following brush control were studied on two honey mesquite infested deep hardland range sites in north central Texas by the Texas Agricultural Experiment Station.

In the study, low altitude color infrared aerial photography was used to document the initial effects of brush control on secondary plant successions.

The first aerial photo mission was flown prior to treatment in the spring of 1973 and has continued to be taken each spring and fall through 1976.

Supportive field data were collected in conjunction with each photo mission.

Together, the field and aerial photo measures provided information on plant response to brush control which could not have been available using either technique alone. For more information, telephone K. C. McDaniel, J. H. Brock and R. H. Hass, College Station, Tex., 713-845-7012. □