

Roundup®. There's no better grooming aid for unruly turf.



Roundup® belongs in your turf renovation program.

Renovation of a weedy fairway, sod farm or other grassy area used to be a laborious and time-consuming chore, but not any more.

Not with Roundup® herbicide by Monsanto. Because one application of Roundup will control many annual and perennial weeds, yet allow you to proceed with tillage and planting operations as soon as seven days later.

Roundup also makes sense wherever treatments for grounds maintenance are called for. One man with Roundup in a backpack sprayer can replace many of the herbicides and frequent repeat treatments that are often necessary.



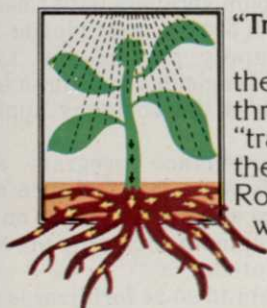
Roundup has no residual soil activity.

That's why you can go in seven days later and re-plant. Roundup won't wash, leach or volatilize from the treated area to injure desirable vegetation. Naturally, normal precautions should be observed to avoid spray drift.

Roundup gets to the root of the problem.

Including many of your toughest vegetation problems, like: bluegrass, bermudagrass, quackgrass, bindweed, johnsongrass, fescue and vaseygrass.

Can you afford to let another season go by without Roundup in your turf renovation and grounds maintenance programs? Your local chemical dealer is the one to see for your supply of Roundup herbicide.



"Translocation" is the key.

Roundup is applied to the weed foliage, absorbed through the leaf surface, and "translocated" throughout the entire plant. In this way, Roundup destroys the entire weed, including the roots or rhizomes.



There's never been a herbicide like this before.

Monsanto

It runs through the briars, it runs through the brambles and it runs through the timber where a rabbit couldn't go.

If the British had used a Klearway at the Battle of New Orleans, they could have beaten a hasty retreat and returned to face "Old Hickory" another day.

Foot soldiers couldn't make it in the Louisiana swamps, and improperly designed equipment can't make it when you need to clear tough right-of-way.

The one-man operated Klearway is built from the ground up to clean out heavy brush and light timber. Dual head cutting makes a clean swath on the first pass. With Caterpillar® power and full frame articulation, it's the best machine for right-of-way applications.

For complete details, write Kershaw Manufacturing Co., 2205 West Fairview Avenue, Montgomery, Alabama 36108.

KLEARWAY
The army of one.



Circle 113 on free information card

uct of Conard-Pyle.

There was a substantial decrease in the mail-order nursery business due to the great depression in the early 1930's and a garden center for retail sales was opened. It grew and prospered and a branch was established adjacent to the rose fields for the summer months when roses were in bloom. In 1961, another branch was opened at Lancaster, 40 miles west of the nursery.

The Conard-Pyle Company owns 550 acres. Of this, 80 acres are devoted to container-grown ornamentals and about 65 acres to field-grown roses. While there is an acre of greenhouses and 1½ acres of cold frames, there are 22.5 miles of plastic-covered quonset huts.

The company employs 80 to 100 field and greenhouse workers and 23 office personnel. Forty-five of Conard-Pyle's employees have 15 or more years with the company.

About 500,000 rose bushes, 500,000 ornamental container plants, 250,000 container roses, 250,000 miniature roses, 75,000 chrysanthemums and 30,000 delphinium are produced yearly. Ninety-five thousand orders are filled yearly and 440 trailer loads of container grown plants go out each year.

Conard-Pyle distributes 400,000 catalogs and 120 million individual sales messages to sell their products. The company is a member of All-American Rose Selections, Inc., American Association of Nurserymen, American Horticultural Society, American Rose Society, Horticultural Research Institute, National Landscape Association, National Association of Plant Patent Owners, the Society of American Florists plus state organizations.

Containers are moved on wagons pulled by one of 20 International 454 tractors that the company owns. The system is palletized for shipping and pallets are placed on wagons. Five larger tractors are used for cultivating the fields and pulling the spray rigs.

Two boom sprayers with 500-gal. tanks and a 500 gal. mist blower are used to apply part of the 1,800 pounds of fungicides and three tons of herbicides the company applies yearly.

A maintenance program was started this year. Two full-time mechanics are employed to work on all of the equipment including preventative maintenance.

A soluble 15-20-24 fertilizer is applied through the computerized, automatic watering system, every



ARBOTECT® 20-S

The strongest Dutch elm disease protection you can give a tree.

ARBOTECT 20-S fungicide helps make it possible to save many elm trees that otherwise would be lost.

Injected into the trunk of the tree, ARBOTECT builds a barrier against Dutch elm disease inside the tree itself. It helps prevent the disease in healthy elms, and can often save infected trees if they are treated early enough.

Used along with sanitation, insect control, and root graft elimination, ARBOTECT can significantly improve the effectiveness of a Dutch elm disease control program.

ARBOTECT differs from other elm fungicides in several important ways:

- It is registered at rates high enough to be effective.
- It is concentrated, requiring much less water for injection, so trees can be treated much faster.
- Thiabendazole, the unique active ingredient in ARBOTECT, is highly effective against

Ceratocystis ulmi, the fungus that causes Dutch elm disease.

- Even though it is more effective and convenient, ARBOTECT costs about the same to use as other elm fungicides.

This year, put ARBOTECT to work in your disease control program. It's the strongest protection you can give an elm against Dutch elm disease.



Arbotect

Strong protection for elms.



Agricultural Products
Merck & Co., Inc. P.O. Box 2000
Rahway, New Jersey 07065
ARBOTECT (thiabendazole) is
a registered trademark
of Merck & Co., Inc.

Circle 146 on
free information card



S. B. Hutton, Jr., chairman of the board of The Conard-Pyle Co. inspects stored bare root roses.



These container plants are on pallets ready to be loaded into trailers for shipment.

time the containers are watered. One hundred and fifty tons of fertilizer are applied yearly. The rose fields are fertilized according to soil test data which calls for about a ton of 10-10-10 per acre in the spring and are then top dressed in the fall.

Quonset huts are fertilized at a rate of 150 parts per million nitrogen, through the irrigation system. When material is spaced out the second year for further growth, a drip tube irrigation system is used. Water is supplied from four lakes on the Conard-Pyle acreage.

The roses are sprayed weekly with fungicide, mainly for mildew and black spot. The containers are sprayed every two weeks and about 150 pounds of fungicide are used per spraying throughout the spray season.

Aphids are the major insect problem in the fields and a spray program is instituted as necessary. Mites then become a problem after the plants are brought in. "We use a disease and insect program because buyers won't accept the plants unless they are disease and insect free," says Betsy Scarborough, assistant vice-president.

A soil mix of hardwood bark is composted and pasteurized, but not sterilized. It kills the weed seeds present, but does not prevent weed seeds from flying in and becoming established. "It gives us maybe a month grace period of no weeds and from then on through the next two years, we do have to combat the weed problem," says Scarborough. "We use approximately eight thousand cubic yards of this soil mix a year." About three tons of herbicides are used yearly. They are applied three times: Spring, Summer, and Fall.

Chemicals are purchased twice a year. Spring chemicals are purchased in March. "Then we'll come back again in July and pick up the rest of the summer supplies," Scarborough adds. "We purchase large quantities at a time and store them securely."

Eleven major horticultural organizations are cooperating in a nationwide campaign to make 1979 the "Year of the Rose," presenting that flower as a living symbol of love, friendship and peace. Thousands of people from throughout the world stop each year to see the Conard-Pyle rose fields blooming. Driveways are maintained through the fields for visitors and a picnic area is adjacent to the Robert Pyle Memorial Rose Garden.

WTT

Can Exhalt® 800 cut your fungicide cost in half?

Many turfmen say yes. Our lab tests confirm it. Don't you at least owe it to yourself to spend three minutes reading the story?

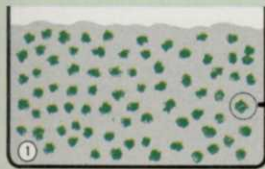
For years, fungus disease control has been a source of trouble, frustration and expense. The problem is not the fungicide itself, but the application: how to keep it in place despite torrential rains and irrigation. The problem is wash-off.

That's why the development of Exhalt800 is a milestone of progress in the turf world. Here's the story:

Unlike many sticker-extenders that give little help, Exhalt800 encapsulates every fungicide particle with an armor of protection . . . a sticky, flexible "fabric" that clings to turf and foliage, essentially on contact. Yet it flexes and "breathes" to allow normal plant growth.

Because Exhalt800 keeps much of the fungicide in place, even in extreme weather, it can double or triple the control period. Even if it rains an hour after application, you'll still have effective control (see test chart), with less wash-off and less build-up of residue in soil.

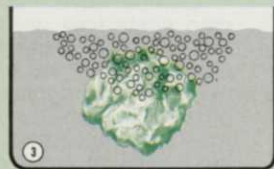
A closer look at Exhalt®800 — the reason it works



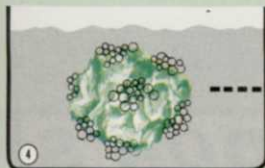
1) Microscopic particles of fungicide are suspended in water in spray tank.



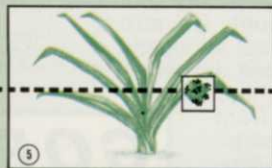
2) One minute fungicide particle, greatly magnified. Countless millions of such particles in water become the spray solution.



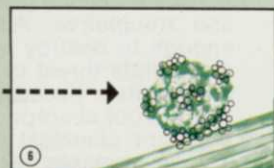
3) Exhalt800 liquid enters spray tank. Hydrophobic (repelled by water), it breaks into a myriad of tiny droplets and attaches to fungicide.



4) Tiny Exhalt800 droplets form a porous, flexible "fabric" that encapsulates each fungicide particle (enlarged to show detail).



5) Turf, when sprayed, becomes coated with millions of fungicide particles, each particle encapsulated within the porous "fabric" of Exhalt800 droplets.



6) Encapsulated fungicide particles on blade of grass (magnified portion). The Exhalt "fabric" around each particle is porous and flexible; it lets plant "breathe", flex and grow, releases fungicide slowly.



Using Exhalt800, you may save 50% or more because you will need fewer sprays, you will use less fungicide with each, and reduce labor costs proportionately. Meanwhile, you can be confident the disease won't flare out of control. The evidence is clear.

In university field tests using leading fungicides, Exhalt800 added to spray tank at minimum-label recommendations gave control equal to higher recommendations without Exhalt800. With higher Exhalt800 dosages, you can double or triple the control period. Results can vary with the kind of fungicide used.

Exhalt800 costs little because it goes far (mix one pint with each 100 gallons in

spray tank). Won't damage turf, trees and ornamentals when used as directed. Easy to use: add to spray tank and agitate. Easy clean-up: rinse equipment with water. If frozen in storage, Exhalt800 won't separate; may be thawed and used.

Too good to be true? The question doesn't surprise us. Compared with its competition, Exhalt800 is hard to believe. To know the truth, you should test it. On a golf green. A fairway. On any fungus-infested lawn or foliage.

As an efficient manager, can you ignore the overwhelming evidence? See your Gordon distributor for information, prices and technical assistance.

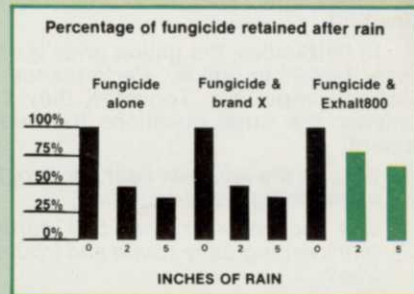


Chart shows how Exhalt800 resisted wash-off in a laboratory test. Spray coatings were applied to glass panels and dried 10 minutes at approximately 70° F. Retention after erosion by rain was measured by solvent stripping the panels and determining the residual fungicide by quantitative ultraviolet spectroscopy.

GORDON'S
PROFESSIONAL TURF PRODUCTS



pbi / GORDON CORPORATION

300 SOUTH THIRD STREET
KANSAS CITY, KANSAS 66118
913-342-8780



Let us prove to you that weed control with TRIMEC® costs less per acre

Test Trimec side-by-side with any other broadleaf herbicide for cost-per-acre, the true measure of economy.

In these inflationary times, discovering bargains is a way of life. Housewives stubbornly track down food and clothing specials. Purchasing agents pore over their price lists. And turf managers intensify their search for economy.

In each case, pitfalls abound. Because *unit price alone* can be misleading.

In herbicides, the gallon price is only one factor in value. Performance is equally important. Together, they can answer the three questions that really count:

1. *What is the smallest cost per acre for maintaining weed-free turf?*
2. *Will the smallest cost buy control that's ecologically sound and trouble-free?*
3. *Which herbicide best provides these ideals?*

Certainly you won't find the answers in a price list. You know that honest solutions depend on how much herbicide you use ... and what happens after you use it.

For several years, we've been saying that Trimec is the most effective, most economical, most troublefree broadleaf herbicide you can buy. But you should have more than our word. That's why we want you to test it.

Test it for power

Trimec has broad-spectrum capability. Normally, one light application

controls almost all weeds, even hard-to-kill species. In fact, we're surprised when we find a broadleaf weed that's Trimec-resistant. Why? Because Trimec's patented formulation of 2,4-D, MCPP and Dicamba is curiously, synergistically powerful. *The interaction of the three components produces strength much greater than the sum of the separate components.* This synergistic gain multiplies the efficiency, and does it with a small chemical dosage. This synergism also increases Trimec's cool-weather efficiency; it continues to work in late fall, at 50° or cooler.

Test Trimec efficiency

Comparisons have shown 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 lower.* Such efficiency alone is reason enough to justify a Trimec test. Yet, other benefits are just as persuasive:

Test Trimec gentleness

This herbicide is ecologically sound, and troublefree. Although it's strong enough to destroy almost all weeds, it poses little threat to trees, flowers and ornamentals because there is little root absorption from the light chemical dosage. Tender grasses are protected, too. And the danger of "drift" is reduced. Biodegradable, precisely factory-formulated, Trimec also eliminates "field chemistry" and the chance of costly mixing errors.

Trimec benefits summarized

- 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 problem
- Treated areas may be seeded within two weeks
- Non-flammable and non-corrosive in use
- Product stable several years above 32° F.
- Biodegradable; friendly to the environment
- Bentgrass formula also available

Will you field test it?

We ask you to put Trimec to the test with these suggestions: Search out the worst weed patch in your turf. *On one half,* apply your customary herbicide. *On the other half,* spray Trimec at the label recommendation. Then, watch the effects. Add up labor and material cost. Evaluate the results for each test plot. Whatever your conclusion, we'd like to know. For such information is valuable to our future progress.

Finally, consult your Trimec dealer for prices, technical information and other help. He's listed on the next page and would like to share in your experiment.

Trimec® is a registered trademark of PBI/GORDON Corporation, U.S. patent No. 3,284,186

GORDON'S
PROFESSIONAL TURF PRODUCTS

G pbi/gordon
CORPORATION

300 SOUTH THIRD STREET
KANSAS CITY, KANSAS 64111
913-342-8780

Prevent grass and weed growth in problem areas with Vegemec™ Total Vegetation Killer

Vegemec is the truly effective way to eliminate all weeds and grasses from driveways, fence lines, sidewalks, patios, parking lots, around commercial buildings, fire hydrants, telephone poles, lamp posts, in cracked concrete or blacktop — wherever no vegetation is wanted.

Vegemec kills existing vegetation and prevents new growth during the growing season. Will not leach out to damage desirable grasses, flowers and ornamentals. Self-marking, the effect is promptly visible on treated foliage. A non-volatile concentrate, Vegemec is unsurpassed for efficiency and economy . . . a superior product for total control.

Authorized Distributors Gordon Professional Turf Products

ALASKA

Palmer
• Alamasco, Inc.

ALABAMA

Birmingham
• Norcia Company, Inc. • Tiego, Inc.
Huntsville • Woolfolk Chemical Works
Montgomery • Tiego, Inc.

ARIZONA

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

ARKANSAS

Alexander • Capital Equipment Co.

CALIFORNIA

Alhambra
• Foster-Gardner, Inc.
Bakersfield • Abate-A-Weed Co.
Cathedral City • Butlers Mill, Inc.
Cerritos • Target Chemical Co.
Chula Vista • Wilbur-Ellis Company
Coachella • Foster-Gardner, Inc.
Manetta
• Ramsey Seed Company
Newark
• L & V Farm Sales, Inc.
Orange
• Robinson Fertilizer Co.
Oxnard • Coastal Ag. Chem.
Sacramento
• Orchard Supply Company
San Diego
• Butlers Mill, Inc.
San Gabriel
• J. Harold Mitchell Co.
San Jose
• Foster-Gardner, Inc.
• Moyer Chemical Co.
• Northern California Fertilizer Co.
• Target Chemical Co.
San Leandro • Custom Chemilene
Santa Ana
• Moyer Chemical Company
Santa Barbara
• Agri Turf Supplies, Inc.
Santa Rosa
• Purity Chemical Products Co.
South Gate City
• Los Angeles Chemical Co.

COLORADO

Arvado • S.A.J. Turf Products
Colorado Springs • Gorbey, Inc.
Denver
• Van Waters & Rogers
• Western Gard'n-Wise
Pueblo • Pueblo Chemical & Supply

CONNECTICUT

Devon • Somers Turf Supplies
Greenwich
• Emanuel Shemin Greenhouses & Nurs.
Hazardville
• Old Fox Chemical, Inc.
So. Windsor
• Turf Products Corporation

DELAWARE

Wilmington • Turf Enterprises

FLORIDA

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

GEORGIA

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

HAWAII

Hilo • Occidental Chemical Co.
Honolulu • 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.
Rupert
• Wasatch Chemical Co.

ILLINOIS

Barrington
• Olsen Distributing Co.
Bloomington
• Professional Turf Specialty
Chicago • George A. Davis, Inc.
W. Chicago • Turf Products, Ltd.
Decatur
• Scruggs-Drake Equipment, Inc.
E. Peoria
• Leon Short & Sons, Inc.
Peoria • Behm & Hageman, Inc.
Geneseo • C. D. Ford & Sons
Morton Grove
• V-G Supply Company
Rockton
• Turf Management Supply
Springfield
• Drake-Scruggs Equipment, Inc.
Wheeling
• Arthur Clesen, Inc.

INDIANA

Indianapolis
• Desco Chemical, Inc.
• Cory Orchard Supply Co.
Nappanee • Desco Chemical, Inc.

IOWA

Cedar Rapids
• Hawkeye Seed Co., Inc.
Council Bluffs • Leisure-Aid
Davenport • Tri-State Toro Co.
Des Moines
• Toro Service Center
W. Des Moines
• Big Bear Turf
• Resthaven Turf Service
Elkader • Meyer Equipment Co.
Iowa City • Little Wheels, Ltd.
Sioux City
• W. R. Anderson Dist. Co.
Waterloo • Foster's, Inc.
Waukee • Baer Ag Supply

West Burlington
• Brayton Chemical, Inc.

KANSAS

Kansas City
• Pest Control Supplies
• Rhodes Chemical Co.
Salina • The Landco Corporation
Wichita
• Bartels & Shore Chemical Co.
• Champion Turf Equipment, Inc.
• Robert S. Wise Company

KENTUCKY

Florence
• George W. Hill & Co., Inc.
Louisville
• Bunton Seed Co., Inc.
• Ky-Inna Turf Supply Co., Inc.

LOUISIANA

Baton Rouge
• Gulfshore Turf Supply
• Wyche's Golf Course Specialties, Inc.
Covington
• Tammany Turf & Supply, Inc.
New Orleans
• Southern Specialty Sales Co., Inc.
Plain Dealing
• Wyche Golf Course Specialties, Inc.

MAINE

South Portland • Yexas Supply, Inc.

MARYLAND

Baltimore
• Cornell Chemical & Equip. Co., Inc.
• Miller Chemical & Fertilizer
Lanover • Vaughn Seed Company

MASSACHUSETTS

Newton Center
• Grounds Equipment Co., Inc.
Waltham
• Farm Bureau Coop Assn., Inc.
West Newton • The Clapper Company
West Wareham • R.R. Morse & Son, Inc.

MICHIGAN

Birmingham
• W. F. Miller Company
Detroit
• Terminal Sales Corporation
Grand Rapids
• Mollema & Son, Inc.
• Permemder & Andre
Hartford • Desco Chemical, Inc.
Kalamazoo • J. J. Dill Company
Royal Oak • Lawn Equipment
Saginaw • Burdick Seed Company
Taylor • Turf Supplies, Inc.
Traverse City • Fergusons Company

MINNESOTA

Minneapolis • Minnesota Toro, Inc.
St. Paul
• R. L. Gould & Company
• Turf Supply Company
Savage
• The Castle Chemical Co., Inc.

MISSISSIPPI

Jackson
• Southern Seed Company, Inc.

MISSOURI

Chesterfield
• Beckman Turf & Irrigation

Grandview

• The Landco Corp.
• Robison's Lawn & Golf Supply
Kansas City
• Bartels & Shore Chemical Co.
• Champion Turf Equip., Inc.
• Standard Seed Company
Maryland Heights
• Outdoor Equipment Co.
St. Louis
• Crown Chemicals • Kitten & Bear
Springfield
• Champion Turf Equip., Inc.

MONTANA

Billings • Turf Aid Dist. Company
Helena • Mr. Turf

NEBRASKA

McCook • Cornbelt Chemical
Morrill
• Jirdon Agri Chemicals, Inc.
Omaha
• Big Bear Equip., Inc.
• Midwest Toro • The Yard Company
• Leisure-Aid
• Tri-Valley Corporation
Waterloo • Simplot Soil Builders

NEVADA

Las Vegas
• Clark County Whol. Merc. Co.
North Las Vegas
• Las Vegas Fertilizer Co., Inc.

NEW HAMPSHIRE

Greenland • Turf Specialty, Inc.

NEW JERSEY

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

NEW MEXICO

Albuquerque
• Albuquerque Chemical Co., Inc.
Roswell
• Roswell Seed Company, Inc.

NEW YORK

Dix Hills • Island Golf & Turf
Farmingdale • Wagner Seed Company
Hamburg • Eaton Equipment Company
Hawthorne • Metro Milorganite
Hauppauge • Maxwell Turf, Inc.
Jamaica • J & L Adikes, Inc.
Bergen • Lawn Medic
Rexford • S. V. Moffett, Inc.
South Hampton
• James H. Lynch, Inc.
Lincolndale
• Westchester Turf Supply Co.
Syracuse • Agway, Inc.
W. Henrietta • S. V. Moffett, Inc.

NORTH CAROLINA

Charlotte • Seedmen, Inc.
Shelby • Porter Brothers, Inc.
Winston Salem • Goltra, Inc.

OHIO

Canton • Letherman Seed Company
Cincinnati
• Century Toro Dist. Inc.
• Thornton Wilson
Cleveland
• Sidney L. Dryfoos Co.
• U.S. Garden Sales, Inc.
Columbus
• Century Toro Dist. Inc.
• W. R. Grace & Company
Dayton
• Century Toro Dist. Inc.
Elyria
• Lakeshore Equipment & Supply Co.
Findlay • Desco Chemical, Inc.
Mantua • John R. Skinner Co.
Toledo
• Century Toro Dist. Inc.

OKLAHOMA

McAlester • Tonys Chemical House
Oklahoma City
• Estes Chemicals, Inc.
Tulsa
• All Best, Inc.
• Thompson-Hayward Chemical Co.
• Wait Mig. & Sales Co.

OREGON

Portland
• The Charles H. Lilly Co.
• Van Waters & Rogers
• Wilbur-Ellis Company

PENNSYLVANIA

Doylertown • Philadelphia Toro
Hanover
• Miller Chemical & Fert. Corp.
Harleysville • Geiger Corporation
Horsesham • Pocono Supply Company
Lebanon • Lebanon Chemical Corp.
Malvern • Fisher & Son Co., Inc.
Philadelphia
• Farm & Golf Course Supply Co., Inc.
Phoenixville
• Lawn & Golf Supply
Pittsburgh
• E. H. Griffith, Inc.
• Krigger & Company
Reading • Reading Bone Fertilizer
Wycombe • Histand Supply

RHODE ISLAND

East Providence
• Old Fox Chemical, Inc.

SOUTH CAROLINA

Inman
• Woolfolk Chemical Works, Inc.

SOUTH DAKOTA

Sioux Falls • C & R Supply Company

TENNESSEE

Knoxville • Regal Chemical Co.
Memphis
• Axon Corporation • Bob Ladd, Inc.
• Oldham Chemical Co., Inc.
Nashville
• Central South Turf Dist.
• Tiego, Inc.

TEXAS

Amarillo • Amarillo Seed House
Dallas
• Chemical & Turf Specialty Co.
• Van Waters & Rogers
El Paso • El Paso Turf Supply
Paris • Estes Chemical, Inc.
Waco • Estes Chemical, Inc.
Wichita Falls • Estes Chemical, Inc.

UTAH

Orem • Wasatch Chemical Div.
Salt Lake City
• Wasatch Chemical Div.

VIRGINIA

Chesapeake • Turf & Garden Div.
Harrisonburg • Wetsel Seed Company
Richmond
• Richmond Power Equip. Co., Inc.
Roanoke

• Agri-Turf Products Co., Inc.
• Miller Chemical & Fertilizer

WASHINGTON

Kent • Van Waters & Rogers
Renton • Pacific Agro Company
Seattle
• The Charles H. Lilly Co.
• Western Farmers Association
Tacoma • NuLife Fertilizers

WASHINGTON, D.C.

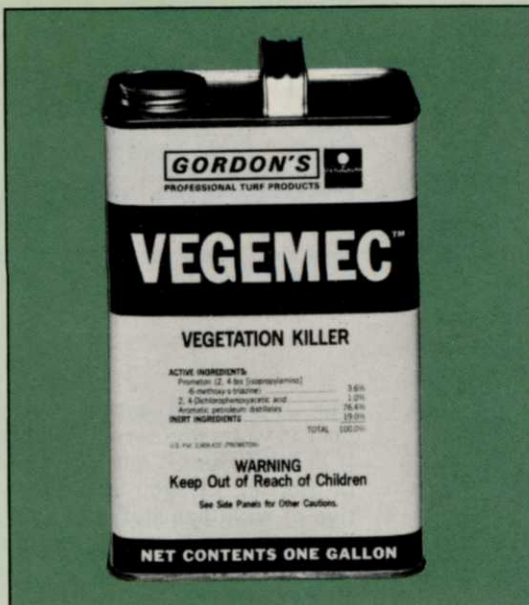
• Lea's Green Meadows, Inc.

WEST VIRGINIA

Charleston • Youngs, Inc.

WISCONSIN

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



SCHMIDT AND SON: PROPAGATORS OF DECIDUOUS TREES

The events and happenings of the past 32 years that formed and shaped J. Frank Schmidt and Son Company of Boring, Oregon are demonstrative of what has and is happening in the bare root shade and flowering tree industry.

The forces and factors were climatic, human and economic. The company grew under the inspiration and directions of J. Frank Schmidt, Jr., the company's president. As in the case of most Northwest nurseries, it began as a family farm-nursery. Each member of the family, three sons and a daughter, branched out into a different aspect of the industry.

Frank, Jr., took the direction of ultra-specialized, mass produced

nursery stock. Ultra-specialization means propagating and growing one line of nursery stock, bare root deciduous shade and flowering trees. Such concentration of effort results in the production of a line of trees that represents a careful balance between conservatism with proven trees and forward thinking with tested new selections. Schmidt states, "By the mid-1940's it was apparent that asexual propagation of cultivars was the only way to assure a uniform, predictable product, rather than depending on seed-produced trees that are like people, each somewhat of an individual."

Mass production, strenuous grading standards and continuous trial and error experimentation set the

Three quarters of Schmidt's annual crop is branched two- and three-year-old trees up to two-in. in caliper.



stage for a continuous expansion philosophy. Today the nursery continues to plant approximately 10% more seedlings per year.

"Conditions in the Country were right for this philosophy," comments Schmidt. "Ample production each year beyond experienced sales levels always allowed us to have trees for sale during mid-winter and spring when the specimen tree grower and the retailer discovered the market was going to be stronger than anticipated." As a result, the company's sales graph over the years has been a continuous upswing. "This has permitted us to reinvest in people, equipment, land and facilities," Schmidt states. "It is my belief that a company's purpose for existence is to provide a group of people an enjoyable means of livelihood as they provide for the needs of the customer. The president's main job is to see that the companies policies are maintained in a healthy economic balance."

This spring the company delivered 600,000 trees to customers in 36 northern states and to the Provinces of Canada. The past few years sales increases have averaged around 30 percent. One-third of the crop was sold as one-year whips to specimen treegrowers and two-thirds as branched two and three-year-old trees to retailers and landscapers. Sales Manager, Archie Whiteford, comments, "Each year we seem to sell more trees during the spring months, filling those last minutes needs not anticipated by the customer. Having extra trees dug and held in our new 325,000 ft. cooler is going to increase these sales even more in future years."

"Other factors of the industry have contributed to the growth of this Oregon nursery" states Norbert Kinen, business manager. "Previously, most of the Oregon nursery production was sold both through Oregon-based wholesale brokers and re-wholesaler firms scattered throughout the country. Communication and transportation have shortened the distance between the grower and the ultimate customer, reducing costs."

The temperature-controlled tractor-trailer truck has allowed rapid delivery with less handling of the trees. Nursery Trade Shows, ten of which the nursery participates in, have placed the grower and their customers together. "It is one of our major ways to gather feed-back on our trees and address ourselves to

special needs," states Frank Schmidt III, vice-president and production manager. "Customized canopy trees were introduced last year as a result of that communication."

Asked about the future, Frank Jr. displays a confidence in a continued expansion of the shade and flowering tree demand. Quality trees and a wider selection of materials will be part of that demand. The growing interest in environmental quality and energy consciousness accounts for the motivation. He expects the national advertising program being developed by the newly created Nursery Marketing Council will stimulate a momentum that will surprise many. "The question is," he says, "are we going to be prepared when it happens."

Trees are dug, graded, and stored beginning in late October through January and shipped beginning late in February, through March and into April. 133 cultivars and varieties are offered in the company catalog of which 33 are patented trees. Slightly over a million seedlings are being planted this spring.

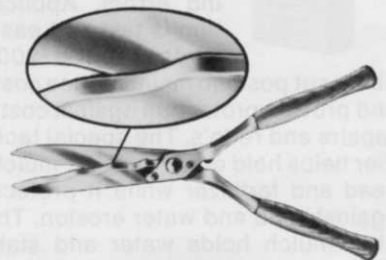
Principal propagating techniques are by budding on a root stock, rooted cuttings. Some are strictly from seed with no asexual propagation and some are grafted. The company produces its own understock in its own seedling department. Seedlings are held in the seedling beds for one to two years, then planted out in fields for one season, at the end of which they are budded. Late the following winter the seedlings are cut off just above the bud of the cultivar and above a good active bud of those that will be grown on their own root. As growth begins in the spring from the selected bud, a device called Grow Straight is placed 1/4-inch away to direct the new growth straight upward avoiding a "dog leg" in the tree stem or trunk. After one season of growth from the selected bud, the tree is termed to be a one-year-old tree having a three to four-year-old root. Approximately one-third of each year's production is sold as one year whips and the remaining two-thirds is sold as two to four-year-old branched trees ranging in size from five to 15-ft. tall and an inch to two inches in caliper.

All of the nursery's production is sold wholesale to customers in hardiness zones two to six throughout the U.S. If you drew a line from Northern California through South-



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ern Colorado into Oklahoma, East through Missouri on to Virginia you would establish the Southern boundary of the company's customers. Customers include growers in their local areas for balled and burlapped specimen trees, re-wholesalers and propagating nurseries who resell to retailers, and garden centers and landscape contractors who sell to the commercial and domestic consumer either bare root or by containerizing until the trees are established.

The company holds patents on five trees and the Grow Straight which it produces and sells. Schmidt has established with its employees a joint partnership, a specimen tree nursery called Northwest Shade Trees, Inc. It produces balled and burlapped specimen shade and flowering trees for the West and Northwest U.S.

There are 60 full-time employees, and up to 130 workers are added seasonally. Professional budders are employed, mainly Mexican Nationals who have work permits for this specialized work.

Schmidt spent approximately \$100,000 on new equipment last year. It owns 24 tractors of various sizes for work ranging from plowing, discing and subsoiling to cultivating between rows of trees. Four customized diggers are used during the digging operation which are track machine elevated to go over the top of trees, a U-blade for cutting the roots, and hydraulic shakers to remove the soil. All trees are handled on pallets conveyed on trailers and moved by forklifts.

Much of the equipment is customized after purchase for special tasks such as snow blowers for opening up sawdust trenches for winter storage and a compressor rig and boom to convey workers over each row to operate pneumatic shears for stubbing the seedlings down to the selected bud. Other customizing work is necessary to strengthen or adapt machinery such as planters, cultivators and disks for cultivation between the rows. The shop foreman is hired both for maintenance of equipment as well as customizing equipment. There are other types of

specialized equipment produced for the nursery industry like tree tag printing machines and tree bundling machines.

Despite the machinery, there is still much hand labor in a nursery of this type which increases the labor cost and the cost of trees. Industry has not evidently found it profitable to address themselves to the needs of this type of nursery operation in designing and manufacturing labor saving equipment. As a result, companies are left to their own resources.

The process, therefore, of merchandising the shade tree industry has been slow. Costs could be cut considerably if there was a means of conveying trees from behind the digger onto pallets without damaging them. Conveying systems for grading trees and handling then in the warehouse in preparation for storage and shipment would also reduce costs a great deal.

The nursery has two acres of humidified warehouses for short term storage and processing of trees, six acres of outdoor sawdust bins for

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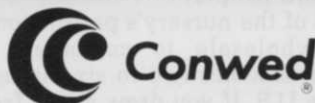


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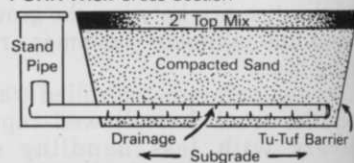
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