Because the flexibility of the Cushman Turf-Care System saves you time and money. Here’s how!

The System is built around the rugged, versatile 18 hp Turf-Truckster, 3-or 4-wheel model. With this one power source and options, you can haul, spray, spike, spread and top dress. And save as much as 35% on equipment in the process.

Because, instead of buying separately powered units for each job, you buy only the Turf-Truckster and the modular Cushman accessories you need. So you pay less in total for equipment...and have only one power unit to maintain.

But that’s not all. The System is also a time saver that can cut your labor costs. Accessories mount on the back of the Turf-Truckster. Your men do their work quickly, efficiently...and then move on to the next job at speeds up to 22 mph. There’s less wasted traveling time, so you get more work out of each hour of labor cost.

The Cushman Turf-Care System. Versatility, superior performance, economy. It’s a tough system to beat.

Write today for your free Cushman Turf Care Catalog.

You can’t beat the system.
SPRAYING SYSTEMS CO.

TeeJet;
SPRAY NOZZLES
AND ACCESSORIES

SPRAY BOOM
CONTROL VALVES
LINE and
SUCTION STRAINERS
PRESSURE
RELIEF VALVES
Vari-Spacing, Split-
Eyelit and Hose
Shank 90 DEGREES and
NOZZLES
SPRAY GUNS

Over 800
INTERCHANGEABLE SPRAY TIP TYPES AND CAPACITIES . . .
tapered edge, even and wide angle flat spray . . . hollow
and full cone . . . disc type hollow and full cone . . . and
flow regulators. The most complete line for spraying
herbicides, insecticides, fungicides, liquid fertilizers and
foam solutions. All materials. For complete information
write for Catalog 36 . . . and for foam spraying
ask for Data Sheets 13602 and 13626.

SPRAYING SYSTEMS CO.
North Ave. at Schmale Rd., Wheaton, Ill. 60187
Telephone: 312 665-5000 / Telex No. 72-8409

PROMPT SHIPMENT FROM STOCK
Circle 116 on free information card

LEARN PROFESSIONAL LANDSCAPING

We prepare you to cash in on countless money-
making opportunities in modern landscaping and
show you how, by easy steps, to start your own
business part or full time. You will learn latest
developments in Modern Landscaping, including
creative design—plant propagation—revolutionary
new methods of growing in manufactured soils—
practical soil testing—growth regulators—the low
don on fertilizers—easy ways of plant identification—estimating and
contracting. My unique home study course features easy to understand
assignments with careful detailed illustrations. Certificate Awarded. May. I
send FREE, and without obligation, my informative BOOKLET?
LIFETIME CAREER SCHOOLS Dept. A-69
2251 Barry Avenue Los Angeles, Ca 90064
Circle 122 on free information card

NEW! AQUAPROBE

Sub-Soil Moisture Tester
AQUAPROBE takes the
guesswork out of soil mois-
ture testing. Scientifically
measures moisture at depths
from 2 to 26 inches. No dig-
ning ; no fixed point of
measurement. Amazingly
light-weight, portable and
easy to use. Aquaprobe is
low in cost, too. Write:
HOWARD S. CRANE, INC.
Oneida, N.Y. 13421

Circle 103 on free information card

DIRECTORY APPENDIX

The following equipment listing was inadvertently
omitted from our 1977 Managers Guide to Equip-
ment and Supplies:

Dedoes Industries, Inc. 1060 W. Maple Rd.,
Walled Lake, Mich. 48088
Aerators
Rollers
Spikers
Slicers
Poa-anuia Stripper

Fusarium wilt hits Texas shade trees

Two Texas shade trees, the mimosa and the mulberry,
are suffering from fungus diseases.

Dr. Wendell Horne, a plant pathologist for the Tex-
as Agricultural Extension Service, says the mimosa tree
is being removed from the Texas landscape by Fusar-
ium wilt. The fungal organism that causes the disease
had its origin on the eastern seaboard and has spread
westward in recent years.

The wilt, which also occurs in cotton, peas and
watermelons, results from spores that become airborne
after lying dormant in the soil. It affects plant vitality
and the leaves. The tree later shows symptoms of color
loss and droopiness and cracks along the bark soon ap-
pear, emitting a foul smelling sap.

Two resistant varieties of mimosa trees, Charlotte
and Tyrone, are currently being used but not to a great
extend in Texas, notes Horne. Furthermore, chemical
controls for the disease are not profitable at this time.
About all homeowners can do is to give the trees good
cultural care and to avoid mechanical injury.

The mulberry tree is afflicted with a fungal leafspot
disease during the autumn months. This shade tree loses
its leaves as a result of a windborne fungus that pro-
duces the disease, explains Horne.

Let's keep Scouting going stronger than ever.

Today, more than ever, isn't it great to
know Scouting is still going strong? Still
helping our kids grow up to become good
Americans. To be prepared.

Yes, thanks to the United Way and
people everywhere, Scouting is still teaching
honesty, self-reliance, respect. All the ideals
worth believing in. Ideals worth supporting.

Get behind Scouting. Become a
Sustaining Member.
Make a contribution to your
local Scout Council.

Mail your contribution to the (town) Scouting Council,
street, city, state, zip.
Daconil 2787® fungicide controls nearly all of the fungus diseases found on golf greens, tees and fairways, as well as many ornamentals. And now it is available in convenient flowable or wettable powder form. Excellent turf tolerance permits use right on through the hot, summer months. Used successfully on over 25 species of grass… established turf or new seedings. Daconil 2787 is highly effective against Helminthosporium in the spring and fall.

For professional turf care over your entire golf course, follow the Diamond Shamrock Pro-4 system: Daconil 2787 fungicide, Dacthal® preemergence herbicide, Dacamine® and Daconate 6® post-emergence herbicides. You’ll see beautiful results.

Contact your turf chemicals supplier, or write the Diamond Shamrock sales office nearest you.
Horticultural Perlite...
The multi-purpose soil conditioner for turf, containers and propagation.

Professional landscapers and grounds maintenance men have long made Horticultural Perlite one of their main 'tricks of the trade'. It's an ideal soil conditioner that helps promote "a sea of green velvet". You see, by preventing compaction, it keeps the soil loose enabling more oxygen to reach and help nourish the root system. And because Horticultural Perlite also retains three to four times its weight in moisture, it keeps the root network moist long after watering. The result is a beautiful blanket of green growing on a thick healthy, robust root system that not only keeps grass beautiful, but prevents golf courses, institutional and campus lawns from getting soggy, mushy or soft underfoot.

Nurserymen find Horticultural Perlite practically indispensable for container grown plants and shrubs because of its ability to retain moisture, and to keep the mixture around the root environment loose. It is also a great "starting mixture" for transplanted stock as it helps reduce the incidences of transplant shock. And because Horticultural Perlite is sterile and non-toxic, it won't rot, decompose, disintegrate or break down. Nor will it help promote insect life. Being light in weight, Horticultural Perlite makes container moving light work and shipping costs a lighter expense. It's not only ideal for your plants — Horticultural Perlite is ideal for your business.

For plant propagation, Horticultural Perlite soil mix is almost as important as sunlight. Because of its water-retention characteristics, this mixture maintains an even distribution of moisture to stimulate fast root development in cuttings and to speed seed germination. Most important, by keeping the starting mixture loose, Horticultural Perlite permits a freer flow of oxygen to help nurture the new growth. This also makes transplanting easy; without root damage; and without undo shock. Horticultural Perlite is inert matter that can last indefinitely in your seed beds. It is sterile, odor-free and can't promote insects or bugs. It is a great asset for the new beginnings of plant life.

City trees more insect vulnerable

A city dweller who plants a forest tree in his front yard today is perhaps as foolishly as the misguided soul who accidently introduced the tree-destroying gypsy moth into the hardwood forests of the United States in the 1870's.

D. G. Nielsen, entomologist at the Ohio Agricultural Research and Development Center, makes this comparison to show that man's meddling with nature is making it easier for some insects to attack and damage trees.

Forest trees planted in the hostile urban environment of polluted air, high velocity wind currents, insufficient light and water, and extreme temperature fluctuations often have less vigor than their counterparts in the wild. Nielsen says this makes trees along city streets more susceptible to insects which would not normally bother them in the woods.

For example, in the forest the bronze birch borer prefers mature trees or those in poor health. Actually, the insect provides a "service" to the forest by weeding out sick and old trees to allow more room for young healthy trees. However, in the city the birch borer will attack apparently young healthy trees. Nielsen says these trees are probably suffering from water stress in their foreign surroundings which make them more vulnerable to their insect enemies. Insects will attack a stressed tree in the urban environment just as they will attack a sick or old tree in the forest.

Nielsen says that since people will continue to plant trees in the city, some insects will take advantage of the situation. The problem is knowing when the insect population will change from being harmless to destructive. Some people will "jump the gun" and use a pesticidal spray because they see all insects as threats. What many people do not understand is that most insects are harmless and some even beneficial in their relationships with trees.
Before a Johns-Manville irrigation system is put to the task, it's put to the test at the most modern test facility in the business.

We want to make sure that our Buckner® irrigation systems will provide years of perfect irrigation to protect your turf investment. So we put the Buckner products to the test at our new Fresno proving ground.

Our new facility, the most modern of its kind in the irrigation industry, is equipped with the latest technological equipment. Product performance is electronically measured and a visual read-out shows exactly how sprinkler heads distribute water.

We go to all this trouble for three very good reasons:

First, it helps us develop new irrigation products.

Second, we want to make sure that every Buckner sprinkler can do everything the specifications call for.

Third, the test facility helps us develop programs to design the irrigation system that exactly fits your needs, based on variables such as climate, soil and types of turf.

So the next time you're planning to replace an old system or need to add a new one, call the Irrigation TECHspert at your nearest J-M distributor. (He's in the Yellow Pages.) His specialized knowledge and experience will help you in designing your system, and make all the difference when it comes to protecting your turf investment.

For more information, call Carroll Wood at (303) 770-1000, ext. 3330, or send the coupon.

FOR SALE — 1974 TS44A Vermeer Tree Spade, phone 616 627-6547, Cheboygan, Michigan 49721.

SEEDS

SOD QUALITY Seeds Merion, Fylkling, Delta, Park, Newport, Nugget, Adelphi, Cheri, Glade, Maron bluegrasses also fine fescues, Manhattan ryegrass. Custom mixing available. Michigan State Seed Co., Grand Ledge, Michigan 48837. Phone 517 627-2164.

HELP WANTED

TECHNICAL SERVICE REPRESENTATIVE

Expansion of our Agrochemical Division has created a need for a Technical Service Representative. Primary responsibility will involve providing technical and sales support to distributors and users of a Fisons developed pesticide, FICAM.

Qualifications include some college training in Entomology or a Natural Science (degree preferred), 3 years experience in pest control industry and ability to make effective oral and written presentations. Must be willing to travel extensively.

Please send resume, in confidence, with salary requirements to: Personnel Manager Fisons Corporation 2 Preston Court, Bedford, Ma 01730

YEAR ROUND WORK A.A.A. Tree Service, Inc. of Florida. Looking for experienced top notch climbers with or without truck and equipment to work by the hour, on percentage or under Franchise in Florida areas. Also needed older men with sales ability. Young-agressive type who want to help club prosper. Salary based on experience. Reply to Box 432, Bridgeport, N.J. 08302.

FOR SALE — Beck sod harvesting and sod installation system franchise. Beck Manufacturing Company, P.O. Box 204, Auburn, Alabama 36830.

WANTED TO BUY


STOP! Turn back to page 34C. Fill out your Editorial Quality Control Audit. HELP US HELP YOU be a better professional in the Green Industries.
Winterize your trees

Lab findings may alleviate tree mortality

To a tree, Greg Brown is a "cold" person.

On more than one occasion he has calmly watched little seedlings freeze to death.

Then he has torn apart the seedlings — right down to their cells — to find out why some trees are more cold-hardy than others.

The "autopsies" are beginning to pay off. The University of Missouri-Columbia professor of forestry had identified factors ranging from a "supercooling" phenomenon to a built-in "anti-freeze" that could help us have more cold-hardy trees in the years ahead.

He and his colleagues have isolated and identified a glycoprotein (a protein bound with sugars) which binds the water in the cells and keeps it from turning into ice. They found the glycoprotein in black locusts, well-known for their hardiness. Similar glycoprotein has been found in fish which live in the Antarctic Sea.

Brown's basic research findings will be used by plant breeders who will now be better able to select for cold hardiness. Others will use his information to develop chemicals that will stimulate plants to produce glycoprotein or other forms of plant "antifreeze."

Manufacturers are already selling cyro (cold) protectants which basically slow plant growth. "Dormant plants are more hardy," explained Brown.

The UMC research will help protect trees from early fall freezes and late spring freezes — something that would be worth millions of dollars to the fruit and nursery industries.

"And by extending a tree's hardness, we could introduce desirable species into areas where they couldn't grow before," said Brown.
Study predicts 4.5% growth in lawn, garden, houseplant chemicals: $650 million in '75

U.S. consumers spent $650 million at the manufacturers' level in 1975 for pesticides, fertilizers, potting soils, and related chemicals for lawns, gardens, houseplants, and general household use, a new 18-month survey reports. Fertilizers, which are used on lawns, gardens, and potted plants, are the largest category with 46 percent of the market, followed by insecticides with 27 percent.

Although the overall business is forecast to grow at a steady yet not spectacular rate of 4.5 percent to 1980 (as measured in constant 1975 dollars), several products are forecast to far exceed the average, according to C. H. Kline & Co., marketing consultants. The most rapidly growing products will be houseplant fertilizers, pesticides, and potting soils, the survey reports. The major reason for the growth of these products is the increasing popularity of potted plants.

According to Kline, over 750 million houseplants are maintained by nearly 60 million households, or an average of 12.5 plants in each household. Although hundreds of different varieties of plants are offered, ivy, philodendron, cactus, fern, and wandering jew are the most popular. Many plants are fertilized and otherwise cared-for regularly.

Certain other segments of the overall business are also growing rapidly, according to Kline. For example, supermarkets and discount stores are becoming leading retail outlets for these products and women are becoming more important purchasers of garden chemicals.

Changes in retail distribution and the growth of small-packaged houseplant chemicals have attracted many consumer product companies to this business because of their skills in selling to mass marketers.

Among the recent entrants are 3M, Alberto-Culver, Gillette, and Pfizer (Leeming/Pacquin).

According to the study, however, the overall market is dominated by three companies: O. M. Scott, a division of ITT (lawn fertilizers); Standard Oil Co. of California's Ortho Division (outdoor pesticides); and S. C. Johnson & Son (household insecticides). These three together controlled 29 percent of the overall market in 1975 with the remainder split among small regional companies. In all, about 250 companies market lawn, garden, and houseplant chemicals in the U.S.

Private labeling of these products is an important aspect of the overall business. Kline reports that roughly 15 percent of all manufacturers' sales, including 25 percent of all potting soils, 15 percent of all fertilizers, and 15 percent of all soil conditioners and mulches, are made by private-label manufacturers.

Lawn, Garden, and Houseplant Chemicals 1976 is based on analysis of 1,697 interviews, including 166 in-depth interviews with executives in the industry, government agencies, and trade associations and journals; 1,004 telephone interviews with a national probability sample of individual consumers; and 527 interviews with retail outlets.

The study is part of a two-survey analysis of all off-farm applications for fertilizers and pesticides. The companion survey Professional Markets for Pesticides and Fertilizers, covers the market for these chemicals in 16 end-use industries including highways, golf courses, mosquito-abatement operations, and railroads. Information on both surveys is available from C. H. Kline & Co., 330 Passaic Avenue, Fairfield, N.J. 07006.
This new Jacobsen rotary mows, trims, mulches, sweeps, shovels and plows snow. Wow.

The good news in the picture is this brand new Jacobsen Out-front Commercial Rotary Mower. Just ask Jim Walker of Outdoor Equipment Company in St. Louis about it. Like the rest of us, he's excited about this husky workhorse that can mow up to 30 acres a day.

He'll show you how it can climb curbs, trim around trees, and even perform a zero turning radius. He'll adjust the seat forward and backward for leg comfort.

He'll show how to mow up to 6 MPH, and then hydraulically raise the cutter deck and whip along at 14 MPH to another mowing site. And how the cutter deck tilts up and down for mowing gullies and bank edges.

That's not all. He'll show you how to attach the optional accessories like the leaf mulcher. Or the 60" snow plow. Or the 54" 2-stage snow thrower. Or the 60" rotary broom. And the protective cab for cold weather.

There are a lot more big features you'll want to know about. So you'd better ask your nearest Jacobsen distributor for an eye-popping demonstration.

It's the last word in out-front rotaries. And that word is "wow!"

Your Jacobsen Distributors
Great products deserve great service.

For the name of the distributor near you write: Jacobsen Turf Distributor Directory, 1721 Packard Avenue, Racine, Wisconsin 53403