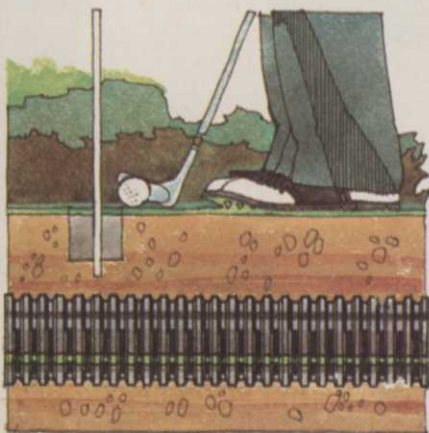


ADS Drainage Tubing

It's dependably tough for your toughest turf jobs.



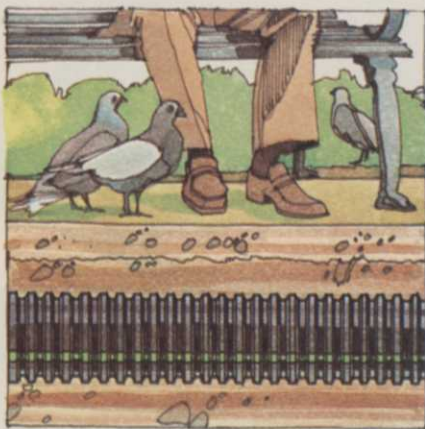
Flexible ADS drains your greens.



ADS helps maintain beautiful landscapes.



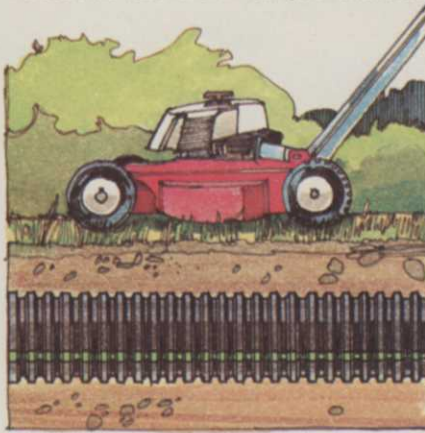
ADS keeps your athletic fields dry.



ADS controls water runoff in heavily trafficked areas.



Sandy soils call for ADS Drain Guard® — the nylon filter that won't block or clog.



ADS tubing — a small part of your turf care budget.

Whether you buy or sell turf care products, you want quality. That's why ADS polyethylene tubing is your best bet. For healthy soil, drainage is important. Strong and durable, ADS tubing provides years of trouble-free drainage, and helps maintain stable soil systems.

ADS is easy to install, requiring less labor and no heavy machinery. A flexible tubing, it follows ground contours and adapts to underground obstacles. And, ADS tubing won't rot, rust or break down during handling or backfilling. A full line of accessory fittings and couplings help simplify even the most challenging installations.

At a cost of just pennies per foot, ADS means quality AND value.

This season rely on ADS drainage tubing. You deserve the best.

SPECIFICATIONS

ASTM F-405, Standard Specification for Corrugated Polyethylene Tubing and Fittings. **SCS**, National Engineering Standard, Code 606. **ASTM F-667**, Standard Specification for 10", 12" and 15" Corrugated Polyethylene Tubing.

Look for the ADS green stripe

It's your sign of quality — #1 in the land.



ADVANCED DRAINAGE SYSTEMS, INC.

Corporate Office
3300 Riverside Drive
Columbus, Ohio 43221
(614) 457-3051

To serve your drainage needs, ADS operates 21 manufacturing plants nationwide, and the eight regional sales offices listed below:

Madera, CA	209-674-0903
Iowa City, IA	319-338-3689
Bellevue, WA	206-643-2770

Monticello, IL	217-762-9448
Atlanta, GA	404-393-0602
Napoleon, OH	419-599-0585
Livermore, KY	502-733-4324
Palmer, MA	413-283-9797

Circle No. 101 on Reader Inquiry Card

For additional product and technical information, contact your nearest ADS sales office.



Proof that the best fungicide costs less.

There's no doubt why Daconil 2787® flowable fungicide is the preferred fungicide on America's tees and greens. It consistently delivers superior control of 9 major turf diseases.

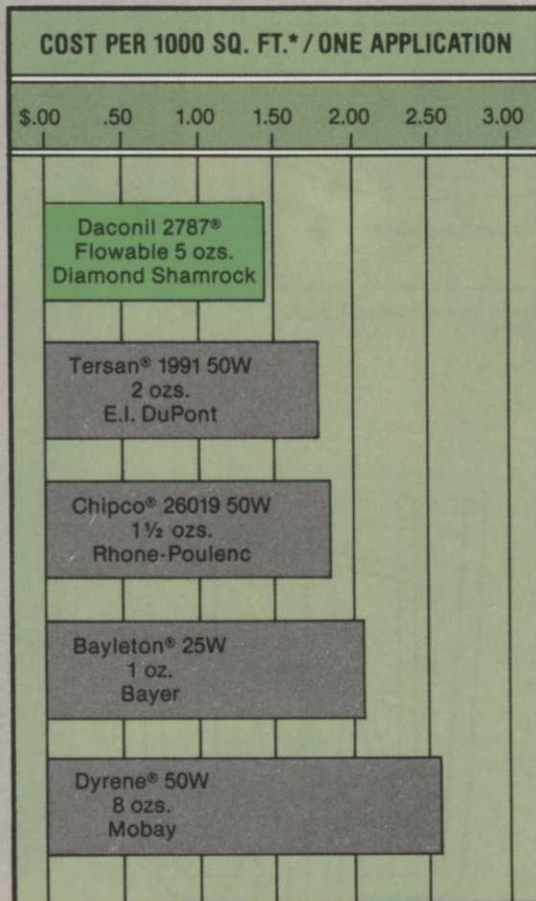
But what you may not know is that Daconil 2787 is more economical to use than the other leading fungicides.

Using a typical spray schedule, Daconil 2787 gives you greater savings on a per 1000 sq. ft. basis when it comes to controlling your most serious diseases — dollar spot (including benomyl-resistant dollar spot), *Helminthosporium* (leafspot and melting-out) and large brown patch.

Take a look at the chart. See for yourself how the cost of Daconil 2787 compares with the other leading fungicides on tees and greens.

Here are more reasons why it pays to use Daconil 2787. There's no need to add a costly spreader/sticker. Daconil 2787 already has it built in to assure full and even coverage for maximum disease protection.

And Daconil 2787 resists wash-off, so it keeps on working during heavy rains or watering.



*Costs based on manufacturer suggested retail unit price as of January, 1983.

What's more, in 15 years of continuous use, there has never been a documented case of resistance with Daconil 2787. Even on courses where it was applied at weekly intervals over many years.

The facts speak for themselves. You can't buy more effective, more consistent disease control on tees and greens than Daconil 2787.

Add to that the important cost savings you get spray after spray, and you'll see why Daconil 2787 gives you more for your fungicide dollar.

So this season go with Daconil 2787 from Diamond Shamrock. Because the best costs less.



Diamond Shamrock

Agricultural Chemicals Division
Diamond Shamrock Corporation
1100 Superior Avenue
Cleveland, Ohio 44114

Always follow label directions carefully when using turf chemicals.

Circle No. 113 on Reader Inquiry Card

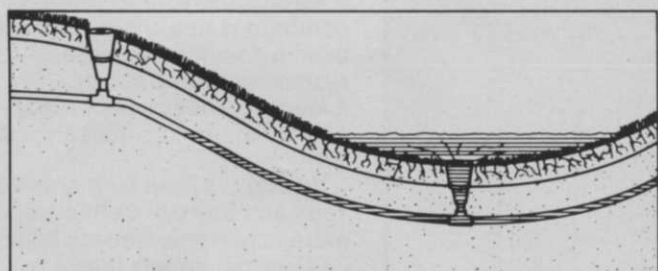
THE SPRINKLER FAMILY THAT MAKES LIFE EASIER.

MINI-PAW sprinklers offer low trajectory throw and superior performance with low gallonage operation.

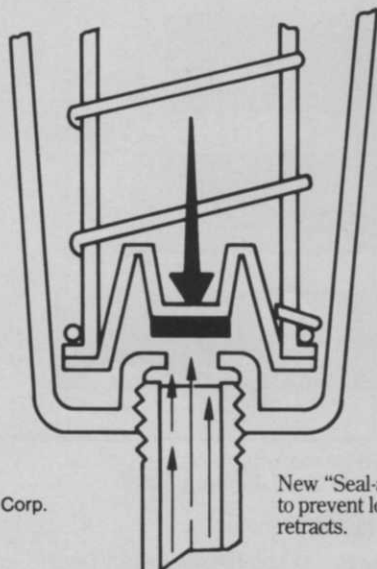
MINI-PAW sprinkler performance is boosted with new nozzles that provide "Short Range" and full or part circle performance out to 40 feet.

Just about every irrigation professional is familiar with the Rain Bird MINI-PAW® pop-up sprinkler. The word is out that the MINI-PAW 15103 outperforms its competition six-to-one, efficiently covering the same area as six conventional spray heads. That means installers have less pipe and fewer valves to worry about and simpler operation and quicker installation to look forward to.

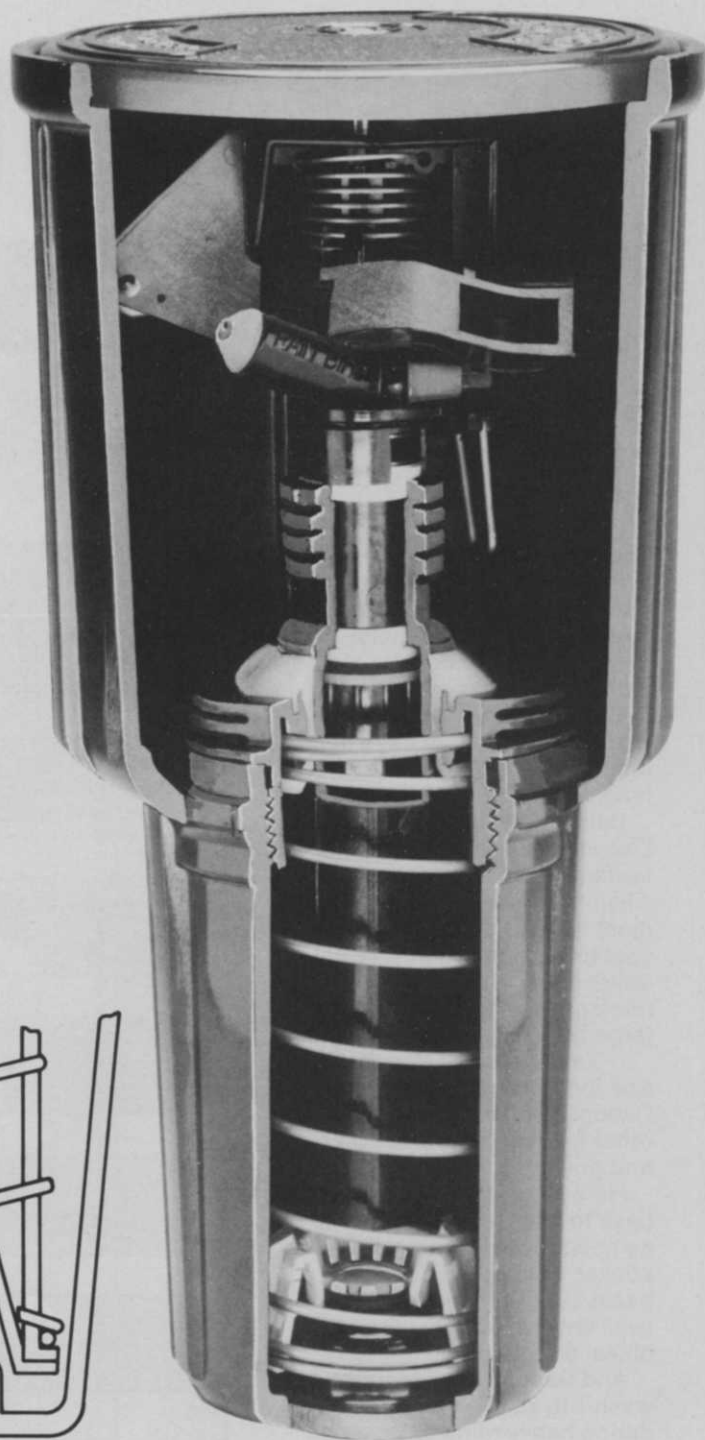
Now Rain Bird technology makes life even easier with three new MINI-PAW models that incorporate the same precision engineering that went into the original — with a few added bonuses. Rain Bird has added low head drainage prevention, short range performance and full or part circle throw out to 40 feet. More than ever, the MINI-PAW family is simply better.



Low head drainage occurs when water seeps out lowest head on the line. New "Seal-a-Matic" option prevents this problem.



New "Seal-a-Matic" option closes inlet to prevent low head drainage when sprinkler retracts.



RAIN BIRD SALES, INC.
Turf Division
145 North Grand Avenue
Glendora, CA 91740 USA
(213) 963-9311

® Registered trademark of Rain Bird Sprinkler Mfg. Corp.
©1982 Rain Bird Sprinkler Mfg. Corp.

MOWER EFFICIENCY

Mid-size, walk-behind mowers are replacing mid-size riding mowers and small trim mowers for many maintenance contractors.



The 36-inch Exmark, a new entry in out-front mowers.

By BRUCE F. SHANK, Executive Editor

Sales of mid-range, walk-behind mowers are booming according to manufacturers and distributors called recently by *Weeds Trees & Turf*.

Price and Efficiency are the reasons why, according to landscape maintenance managers.

"We do see contractors going from larger to smaller mowers for cost-effective reasons," says John Kinkead of National Mower Co. "Many contractors are replacing 21-inch push mowers with 36-inch or wider walk-behind mowers," reports Stan Byers, president of Bunton Corp.

"I started to notice the switch two years ago," says Ron Kujawa, owner of Kujawa Enterprises in Cudahy, WI. "But, it is very difficult to make a blanket statement. Every working site is different. Overall, the mid-range walk-behind mower is being utilized more by maintenance contractors."

Kujawa sells F.D. Kees mid-range mowers, but he also mentioned the new Ex-Mark, Bobcat, Bunton, Giant Vac, and Gravely walk-behinds.

"For years there was a tradition for contractors to upgrade from handmowers to 48-inch or larger riding mowers, says Don Synnestvedt, vice president of Theodore Brickman Co., Long Grove, IL. "This is no longer the case."

"Time-motion studies have proven to me that in a large proportion of our work the walk-behind mower is more cost effective than riding or small push

mowers," says Carl McCord, President of Landscape Design and Construction of Dallas, TX. "Anything under 52-inches wide might as well be walk-behind. The workers find the walk-behinds more maneuverable and cooler to operate."

Dave Marsh, president of Industrial Landscape Services, Cupertino, CA, "We use 36-inch walk-behinds for trimming. A typical crew has one 21-inch and two 36-inch walk-behinds on their truck. We don't have many jobs with a large amount of flat area, however. You can almost do an average mowing job with just the walk-behind. "We have two riding mowers which we transport crew to crew where needed. But, they probably get less than 2 hours use per day."

"We bought one Bobcat in 1981 and have since bought four more," says Al Alvarino of Classic Landscapes, Raleigh, NC. "They are a third of the cost of riding mowers. We use our trim mowers only for around patios. Our mowing crews get as much as 7 hours a day from the walk-behinds."

"Bigger seems to be better," says

Ted Smith, president of Smithco. "Depending on what type of turf areas he has to mow, the contractor is buying wider mowers so he can get more done and therefore save time and money on most every job. This also applies to riding mowers."

"The real impact or trend, if there is one, is hard to identify statistically," says Steve Williams, senior marketing manager for Toro Commercial Products. "It really depends upon the nature of the contracts. A riding mower remains more cost effective in many cases. With a riding mower, there are certain space restrictions which a walk-behind may be able to handle." Williams would not divulge Toro's plans in the walk-behind area.

Roger Thomas of Jacobsen, feels there is an equally great trend toward riding type units with grass catchers. "In recessionary times, many smaller businesses start up and they may be buying the smaller pieces."

Byers of Bunton disagrees. He finds both large and small firms switching. The large walk-behinds

continued on page 86



Hydraulic mulching process has saved labor costs because it requires one less worker than blowing straw does. (Below) Freedom Park is one of Charlotte's 91 parks and is one of the oldest.



MULCHING HELPS CHARLOTTE GROW

Park system saves in labor costs and gains versatility in maintenance program

By HENRY FOX,
Operations Supervisor,
Charlotte Parks and Recreation Department

Hydraulic mulching may just be the edge needed for flexibility and as an alternative to straw for mulching. It has provided mulching options in our park system that we didn't have before.

The Charlotte Parks and Recreation Department in North Carolina consists of more than 1,600 acres of property, providing Charlotte's 315,000 residents with a variety of leisure-time activities. Facilities include 91 parks, 16 recreation centers, three pools, a golf course, stadium and other amenities. Annual budget for fiscal 1982 was more than \$4.5 million.

The department is divided into several agencies, including Park Operations, which I supervise. The 220 people in this area are responsible for maintaining, beautifying and landscaping new and existing facilities.

Turf establishment is a critical component of any park department's annual program. Charlotte's is no exception. A good program, in my mind, has to be versatile; I think ours is. And one of the reasons is our ability to use the hydraulic mulching. The process has saved us labor and developed quality grass. It has been es-

pecially effective on steep slopes and for erosion control.

The hydraulic mulching process

The site is tilled to loosen the soil and eliminate weed growth. Mulch, seed, water and fertilizer are mixed into a slurry in a hydraulic mulching machine. The machine is especially-equipped with a mixing tank and mechanical agitator to keep the ingredients in suspension. The machine also has a mulch gun. The slurry is pumped through the gun and hydraulically sprayed on

continued on page 68



A body of water is a living thing...

A delicate balance of plant and animal life. A varied assortment of creatures, many too tiny to see. A place to make peace with the world, and enjoy the wonders of nature.

But all this can change quickly. A slight shift in the environment and a tiny group of plants may suddenly burst into a teeming mass of choking weeds and slime. The effect is dramatic, as fish and other life forms struggle for survival in this hostile new world.

How to deal with these troublesome intruders? How to be sure that the delicate creatures already there may continue their existence unaffected?

The choice is Pennwalt Aquatic Herbicides. To quickly restore the natural balance. Without harming wildlife. Or human visitors.

AQUATHOL® K Aquatic Herbicide

AQUATHOL® Granular Aquatic Herbicide

HYDROTHOL® 191 Aquatic Algicide and Herbicide

HYDROTHOL® 191 Granular Aquatic Algicide and Herbicide

Liquid and granular formulations to control water weeds and algae on contact. And each is biodegradable.

Pennwalt Aquatics. Because an environment so precious should be treated with respect and care. After all, it's a living thing.

AGCHEM

PENNWALT
CHEMICALS • EQUIPMENT
HEALTH PRODUCTS

Circle No. 164 on Reader Inquiry Card

the ground. Because the gun can be aimed accurately from a considerable distance, we can reach hard access places with this process.

Up until two years ago we had used only straw to protect seeds during germination. Then we purchased a Finn Equipment Company hydraulic mulching machine for \$10,000. At that time several Conwed representatives came and spent a couple of days working with my landscape and construction foreman, Leon Shanklin. They

The labor advantage of hydraulic mulching may become more significant in coming years.

demonstrated the hydraulic mulching process and proved its effectiveness for turf establishment in varied situations.

Probably the strongest advantage the product has over straw is the labor savings. Shanklin is able to apply wood-fiber mulch with just one other person, the truck driver. On the other hand, just to run the straw blower requires a third person. That doesn't include the extra men needed to seed and fertilize. The fact that we can use fewer men to spray mulch is important, especially if someone is sick or on vacation. The labor advantage may become even more significant in the coming years as we operate in increasingly tighter economic conditions.

Another problem with straw is that it is often scarce in the early spring. We can't count on having it when we need it. That's never true with the Conwed product.

Tenacity is another advantage for mulch on banks and slopes. Wood fibers form a tight mat over the seeds so they can germinate. This "mat" prevents erosion and washout from rain.

Even though they are less expensive, I've never considered paper mulches since they'd probably have chemicals. Because of the poor quality of much of North Carolina's soil, we're very conscious of using natural products

continued on page 83

For Information Contact Your Nearest Ransomes Distributor

EAST

Bearco, Inc. (North OH)
Cleveland, OH 44136, 216/238-2442

Brodner Equipment, Inc. (Upstate NY)
Rochester, NY 14606, 716/247-5218

The Clapper Co. (ME, VT, RI & East. MA)
West Newton, MA 02165, 617/244-7900

Conaway, Inc. (MD, North VA, & Wash. D.C.)
Lawrence, PA 15055, 412/341-6447

EDM Distributors, Inc. (CT, VT & West. MA)
Agawam, MA 01001, 413/786-6977

S.P. Lummus Supply Co. (East. PA)
Pottstown, PA 19464, 215/327-4920

Ross Lawn Equipment (Upstate NY)
Tonawanda, NY 14150, 716/691-7642

Steven Willand, Inc. (NJ, NY & LI)
Fairfield, NJ 07006, 201/227-5656

SOUTH

Adrian Metal & Tractor, Inc. (East. NC & SC)
Conway, SC 29526, 803/365-5501

Archdale Small Engine (West. NC & SC)
Charlotte, NC 28210, 704/554-7944

Florida Outdoor Equipment, Inc. (FL)
Orlando, FL 32804, 305/295-5010

Goldthwaite's of Texas, Inc. (TX)
Fort Worth, TX 76107, 817/332-1521

Goldthwaite's of Dallas (TX)
Dallas, TX 75234, 214/241-3103

Goldthwaite's of Houston (TX)
Houston, TX 77025, 713/666-4233

Goldthwaite's of San Antonio (TX)
San Antonio, TX 78217, 512/653-9660

Hudson Small Engine Sales (AL)
Huntsville, AL 35800, 205/536-9637

Lawn Care Sales & Service (TN)
LaVergne, TN 37086, 615/793-6052

Moore's Cycle & Supply (OK)
Oklahoma City, OK 73106, 405/236-3785

South Central Turf Equipment (MS & LA)
Jackson, MS 39209, 601/922-7437

Stovall & Co., Inc. (GA)
Atlanta, GA 30318, 404/352-1555

MIDWEST

Brentom Lawn & Turf Corp. (KY & South. IN)
Louisville, KY 40299, 502/491-0865

Conniff's Power Equipment, Inc. (IN & South. OH)
Richmond, IN 47374, 317/935-2344

Eagle Green Corporation (NB, MO & West. IA)
Omaha, NB 68144, 402/334-9019

Ideal Mower Sales (MI & West. OH)
Ferndale, MI 48220, 313/541-4200

Kaye Corporation (MN & ND)
Mankato, MN 56001, 507/345-5083

Olsen Distributing Company (IL)
Barrington, IL 60010, 312/381-9333

WEST

Colorado Outdoor Power Equip., Inc. (CO, WY & NM)
Denver, CO 80223, 303/733-4651

J. & J. Power Equipment, Inc. (OR)
Eugene, OR 97402-0129, 503/344-1483

Jenkins Machinery Company (CA & AZ)
Concord, CA 94520, 415/685-6685

MHT Distributing Co., Inc. (CA)
Pasadena, CA 91103, 213/798-0741

The Bob Randick Co. (CA)
San Mateo, CA 94402, 415/574-7366

Turf-Go Northwest (WA & OR)
Seattle, WA 98133, 206/771-4885

Ward Enterprises, Inc. (UT)
Salt Lake City, UT 84104, 801/972-3287

CANADA

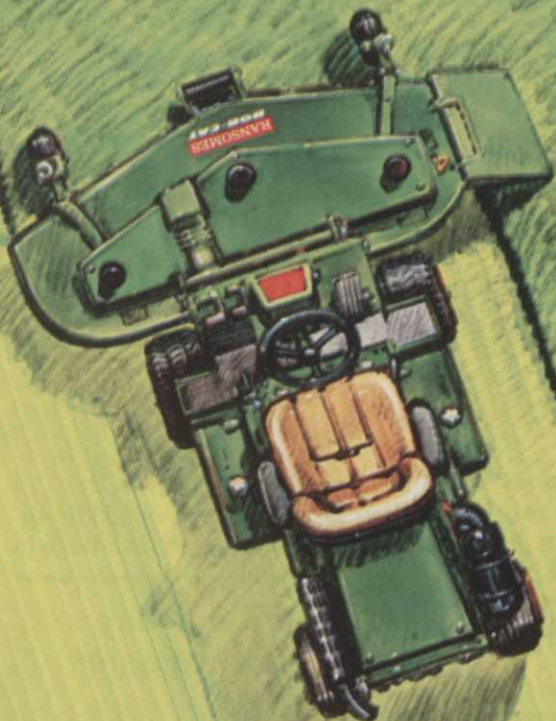
Consolidated Western Ind. Co., Ltd. (Alta & Sask)
Edmonton, Alta T5S 1H4, 403/484-7181

Duke Lawn Equipment Ltd. (Ont, Que, & Maritime Provinces)
Burlington, Ont L7S 1W6, 416/637-5216

Par Equipment Ltd. (Man)
Winnipeg, Man R3E 3J8, 204/775-8988

Rollins Machinery Ltd. (B.C.)
Vancouver, B.C. V5T 1H8, 604/874-6404

RANSOMES
BOB-CAT



CHOICE CUTS

Choosing the right riding mower . . . We've cut the task in half. Because now the maker of the finest rotary mower joins the maker of the finest reel mower. So whether you choose the light-weight maneuverability of the Ransomes Bob Cat or the money-saving durability of the Ransomes Diesel, you get choice cuts everytime out. See your Ransomes Bob Cat distributor or call Ransomes, Inc., One Bob Cat Lane, Johnson Creek, WI 53038, (414) 699-2000.

RANSOMES

BOB-CAT

Circle No. 144 on Reader Inquiry Card

BRANCHING OUT

Property manager takes on outside landscaping to increase efficiency

By JENNIFER GUAY

Mike Fredette took a short growing season, the landscape maintenance division of a property management firm, and his family background in landscaping and built them into a contracting business in Albany, NY.

Fredette's organization is still part of J.T. Burns Management Corp. of Albany, serving both the properties managed by Burns and outside customers with three full-time and 12 seasonal employees. He manages more than 12 apart-

ment complexes for Burns.

Fredette attended Cobleskill Agricultural and Industrial College in

During April and May cash outflow is greater than income.

New York, worked three years for his father's landscaping business, and then joined Burns in 1973.

Fredette claims a big part of his

job is working with people and advising them on landscape programs. "One has to appeal to the pride of owners and tenants of property," he maintains. "Our customers spend considerable money on landscaping without the time or knowledge to understand the processes involved."

Because landscaping and lawn care are highly seasonal and competitive, Fredette spends long days on the job during the busy

continued on page 74



Fredette uses extra touches to appeal to the pride of owners and tenants.