a good basic business decision to go with outright purchases and take the depreciation. With our national buying power, strong cash position, and consistent growth, we keep coming to that decision. Leas-

Do your homework. Make sure you're working with a good leasing agent and that there are no hidden charges.

ing does have a place when other assets are needed and purchasing makes a detrimental effect on buying power."

Tungate adds, "we determine the life cycle of our machines using the manufacturer's projections and our own estimates of our own usage of that piece of equipment. Each machine is analyzed with replacement based on those factors, along with the performance of the machine and its maintenance and repair records."

The same kind of analysis

and performance tracking is followed by those leasing equipment. Because Stipanovich keeps newer machines in his lineup, maintenance generally is confined to regular servicing; the company

handles it in-house.

"We get a one year, bumper-tobumper warranty on new turf equipment and opt for two more years of warranty on all the major parts through our distributor (Ari-

zona Machinery) so all the major repair issues are covered," says Herman. "We handle general, scheduled maintenance."

Stipanovich cautions that "all leases are not created equal. Do your homework and make sure you're working with a good leasing agent and that there are no hidden charges."

Cleve Cleveland, CGCS, is superintendent and owner of Newark Valley Golf Course, Newark Valley, NY. He holds two degrees in accounting, and speaks on financial issues at turf conferences.

"Ask your sales rep to put you in touch with a leasing specialist, who will be more than happy to explain the types and details of various leases," says Cleveland.

"Have the salesman provide you with a detail of a lease arrangement. Talk to your CPA or the golf course's CPA and have them analyze it and try to estimate the built-in interest rate factor"

"Do pick a leasing company that understands your business, offers flexibility and is willing to work with you," adds Herman.

Some leasing companies offer a "bundling" option with used equipment from the associated manufacturer and allied products, in the same package with your new equipment lease.

Herman says, "We're using John Deere Leasing and not just for John Deere machines.

> Things that we'll have for a long time, such as our



Cleveland: Know the built-in interest rate factor.

leased through them with a one dollar buyout."

Flexibility is a key component of leasing. Herman notes, "One of the greatest advantages to leasing is the opportunity to make the move to more advanced equipment, a ma-

chine that performs better or more closely matches our needs.

With leasing, we can do this when that equipment becomes available, even before we reach the end of the lease cycle on our current unit. We switched from our leased Gators to leasing the new Turf Gators when they came out with a minimal increase in our lease payments and no penalty for making the change.

"The previously leased machines are a great buy for courses that don't have the resources to lease or purchase new equipment. Our Gators had been serviced regularly and were in great shape, but we wanted the advantages of the new machines."

21

storage towers, are See leasing financial tips on page 22

Cutting costs a key

For many contractors and superintendents, signing a lease could be like signing away a headache or two. Contractors and superintendents find leasing a way to defray the amount of their capital investments.

It also answers a maintenance question: who will fix it, and for how much?

Other advantages include trade-in options, tax advantages and convenience.

Lance Schelhammer, president of Grass Roots, Inc., Lenexa, KS., knows first hand how vital leasing is due to equipment depreciation.

"We feel that since some of the trucks are used in snow removal, their value decreases a lot faster than a truck that wouldn't be used in snow removal. Therefore, it's not a sound investment. We feel we should lease the snow trucks rather than purchase them. Since we need to turn over the trucks every three to four years, it makes sense for us to lease those trucks. You're not absorbing the same amount of loss as you would on a purchase."

Schelhammer doesn't equivocate on the dollars he saves.

"A lease is normally cheaper than buying," says Schelhammer. "There might be as much as \$100 per month difference per vehicle."

Grass Roots leases 15 vehicles, for a savings of \$1500.

A leased vehicle, however, can't be listed on the Assets column of a financial statement.

"It's just a cost " reminds Schelhammer

Sam Burke, owner of Hebron, Ky.-based Landscape One, has leased mid-range mowers and trucks.

"That's the main part of your workforce. Those are the items that are used daily. Those are the higher dollar pieces of equipment and the types of equipment that you want to try to keep updated without stretching yourself cost-wise to purchase."

Burke says that over a five-year period, you may save 20-25 percent, considering downtime, or possibilities of downtime.

Tom Tuttle, golf course superintendent of Trenton CC, Trenton, NJ, leases a reel grinder.

"In the long run we pay a little less

money. We incorporate the payments for it into our operating budget. I didn't have to ask for any more capital money to purchase it. From that standpoint, I just continue to use my operating budget to get the piece of equipment.

Tuttle may lease more in the future, including fairway mowers, spray tanks and tractors

"Those are the kinds of equipment you want to replace on a regular basis, especially the mowing machinery. They have an estimated lifespan, and you set up the lease for the estimated life of the equipment. As opposed to just buying it and keeping it years on end; then, when you want to get rid of it, it doesn't have its trade value.

"It's a way of keeping the average age of your primary pieces of equipment at a young age, with less breakdowns and more productivity," says Tuttle.

"There is a benefit as far as capital output," adds **Dennis Smith**, fleet manager for an Irving, Texas-based landscape company. "You don't have to come up with initial capital to get the vehicle. We lease the bulk of our equipment primarily for capital purposes."

That retention of capital was a key advantage for **Ed May**, super-intendent of the new Blue Bell CC, Blue Bell, Pa.

"This is a new golf course, so we had to purchase the entire maintenance fleet, which is about \$500,000 worth of equipment. The lease/purchase option was good because we didn't have that initial large amount of money going out."

In some cases, leasing is just plain easier.

"It's easy to get a lease. It's convenient. The payments are nice," lists Melissa Shrader, president of Greenshades, Inc., North Liberty, Iowa.

"If you're careful, the payments can be equal to buying it, without all the paperwork."

Greenshades leases mowers, trucks and radios, "for the convenience and the tax savings. You can deduct that completely off your taxes rather than having to go through

a depreciation schedule.

"My feeling isn't that you necessarily save money. It's more for your tax dollars."

Maintenance advantages

"My biggest advantage in a leasing agreement would be that at least the agreement I have includes maintenance. The pieces of equipment that I lease can be a big maintenance item," says Myron Groat, owner of ABC Lawncare, Fort Dodge, Iowa. "Then, in turn, they never get old under a lease agreement," says Groat, who leases walk-behind mowers.

Shrader enjoys the warranty advantages offered by leases.

"If you have a leased truck and you get into an accident, you trade it in and get a new one, and it doesn't affect your lease at all. You're guaranteed that. For smaller equipment, like radios, it's the same thing. If it's not working, instead of having to deal with repairs and sending it in, and waiting, you have a new one right away."

"If a piece of equipment goes down while it's on the lease, most rental dealers have a repair shop where they can take care of the repairs for you, which is included in

> the lease," says W. Paul Stacey, Jr., president of Landscape Services, Inc., Fairview, TN, who likes long-term leases.

"The best way to lease is over a three-year period; that way, you have the warranty on the truck for the whole duration of the lease. We do it for four years, because we maintain our own trucks," says Schelhammer.



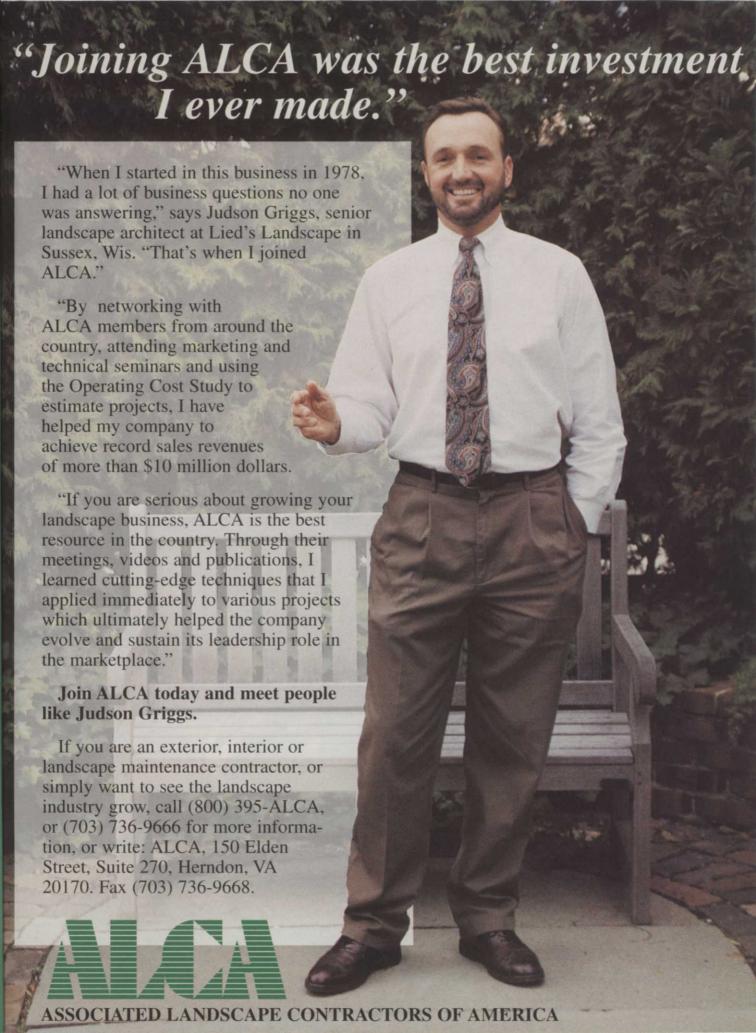
Schelhammer: Lease the snow trucks.

And, don't forget the intangibles, like just how good a new truck or mower can make you feel.

"It's nice to have a new piece of equipment every three years," admits **Dave Spotts**, superintendent of Indian Hills Golf

& Tennis Club, Paxinos, PA.

-Sharon Conners



At least she insists

There are times when it is critical to know that you're getting the real thing.

Like when you're buying Dursban* insecticide.

No Dursban wannabe can give you the same level of confidence, performance and support that you get from Dow AgroSciences.

Not to mention the superior control of over 140 insects, including worms, ants, fleas, ticks, mole crickets, aphids and chinch bugs.

The only way to get the real Dursban

is to buy Dursban. So always look for the Dursban trademark on the label, whether you buy from Dow AgroSciences or one of our formulator partners.

For more information, call us toll-free at 1-800-255-3726 or visit our web site at www.dowagro.com.

Always read and

follow label directions.

fake background

fake Ferrari

*Trademark of Dow AgroSciences LLC

on Dursban.





If it doesn't say Dursban, it's not.



Selbro offers its ProBlow line of walk-behind debris blowers in 8, 9 and 11-hp. Blowers have 180-degree blowing action.



Little Wonder push-style commercial blowers were field tested by 30 landscapers from New England to North Carolina.

POWER BLOWERS

Look at the range of attachments and other features that each power blower system offers.

By CURT HARLER

Size the blower to the job. A 32 cc, 360-cubic-foot-perminute gas blower will deliver a speed of 170 mph, enough to blow wet leaves. However, for sand, dry grass or pine needles a lighter unit will do.

Choosing the right air blower is getting more complex as the variety of models increases. But bureaucratic regulations may have more of a say in your purchasing decision than the operator's comfort or working efficiency.

Some local governments restrict the use of gasoline-powered blowers, which do not meet certain minimum requirements, in residential and other areas. Blowers fall under both EPA and CARB regulations, although most models comply with the 1999 specifications. Noise levels must be kept under 70 decibels at 50 feet, according to ANSI B175.2-1990.

It's been mentioned before, but bears repeating: always operate gas blowers in a safe, courteous fashion.

There are two major categories of blowers: backpack style, and the hand-held unit. For big jobs that will take several hours, choose backpack models. Although most are much heavier than the hand-held units, backpacks usually provide better power, a larger fuel tank for longer operating time, and more freedom of movement to the worker.

Hand-held units are good for quick cleanup and short jobs and usually are simple, one-person systems to run. However, their operating time is likely to be much less than with a backpack unit and the fatigue factor mounts much quicker.

Look at the range of attachments and other features that each blower system offers. A blower which can perform multiple tasks will get more use and will return its investment fast. As always, be safe: a gas powered unit with a bottom impeller should not be set down in loose leaves or grass — the material will be sucked in and block the intake. Be cautious with drawstrings on coats or windbreakers too. They have a way of getting sucked into the engine intake.

POWER BLOWERS

AGRI FAB, INC. 217-728-8388 Circle No. 250

The Agri-Fab Vac and its host of attachments can handle clean up jobs for any landscape operation. The optional remote hose kit allows easy pickup of lightweight materials like clippings or leaves. All work with the 45-0249 shredder.

BILLY GOAT INDUSTRIES 816-524-9666 Circle No. 251

A full line of grounds blowers and vacuums from Billy Goat Industries, Lee's Summit, MO. The QB series of blowers feature exclusive 14-blade fan that eliminates the "gyro" effect and a toe-controlled quick-change discharge chute. Rolling units available in 8 hp to16 hp.

ECHO, INC. 847-540-8400 Circle No. 252

Low-noise gas-powered blower from Echo, Lake Zurich, IL generates a mere 65 dB at full throttle. The PB-46LN is 50 percent quieter than its earlier model, yet delivers the same air volume and velocity and uses the same 44 cc, two-stroke commercial-grade engine. It has a padded backrest, rugged frame, heavy-duty auto-type filter, and a 2-quart, see-through fuel tank.

GIANT VAC 860-423-7741 Circle No. 253

The Chip-N-Vac is desgined to give versatility of a yard and drive-way vacuum system with a chipping capacity of two-inches diameter. The all-in-one compact machine is built to meet rugged standards.

HUSQVARNA 800-438-7297 Circle No. 254

Two-stroke blower features E-tech, a combination of features to reduce certain harmful exhaust emissions and the smoke and odor associated with them. The 225HBV features a Clean Sweep crankshaft that effectively "sweeps" the fuel/air mixture into chamber.

JOHN DEERE Circle No. 255

Deere's BP40 Backpack Blower with 40.2cc Kawasaki engine, 250-

mph air velocity and 590 cfm volume. Fully covered muffler and noise-suppressing air filter for a quiet 71.5 dB(A) sound level. Also the BH30 Hand-held blower with 180 mph velocity and 450 cfmvolume. Weighs just 10.7 lbs. Extra large 23-ounce fuel capacity.



Husqvarna two-stroke blower

LITTLE WONDER 215-537-5110 Circle No. 256

Little Wonder, Southampton, PA has just redesigned its line of push-style commercial blowers.

All were field tested by 30 landscapers from New England to North Carolina.

Models range from the 9500HO with 5 hp Briggs engine; 9800HO, 8 hp Briggs; 9910HO, 9 hp Honda; and the 9111HO with 11 hp Briggs IP. All with side-discharge.

MAKITA 719-522-8088 Circle No. 257

The RBL500 Backpack Blower from Makita, La Mirada, CA weighs just 19.2 pounds, but its 48.6 cc engine produces 187 mph windspeed with 447 cfm air volume. A rugged backpack frame protects the blower, plus it evenly distributes weight to the operator to reduce fatigue. 61-oz. see-through fuel tank.

MANTIS 800-366-6268 Circle No. 258

The Mantis BSV does the work of three tools: blower, shredder and vacuum. Its 21.2 cc gas-powered engine blows air at up to 125 mph. Cruise control eliminates need to hold trigger down while working. Switch to the debris-collection bag and feeder tube and it is converted to a hand-held vacuum-shredder.

MACKISSIC, INC. 610-495-7581 Circle No. 259

Nine models of Mighty Mac leaf blowers from MacKissic, Inc., Parker Ford, PA. The LB552PN (shown) is powered by a 5 hp Briggs & Stratton engine, 15-inch diameter impeller, blows 1800 cfm at 175 mph.

MARUYAMA 425-885-0811 Circle No. 260

The newest backpack blower from Maruyama, Redmond, WA represents a new generation of quieter, lighter, more powerful blower. The BL4500 features a newly designed 40.2cc Kawasaki engine with a wideopen design for cooler running. Weighs 18.6 lbs.

McCULLOCH 800-423-6302 Circle No. 261

The 1998 ProMac line of professional products includes the BP4300 Backpack Blower. It features the durability of Mitsubishi and the craftsmanship of McCulloch. Controls mounted on the blow

pipe.
The 43cc Mitsubishi Industrial engine revs up to 644CFM air volume with 70dBa at 7000 rpm.

RED MAX 770-381-5147 Circle No. 262

Pro Series power blowers available in the RedMax line from Komatsu Zenoah America, Norcross, GA. Choose back-pack style EB431, 441 and EB6200 which feature a maximum air speed of 186 mph and move and air volume of 565 cubic feet per minute; hand-held HB2300 has a 353 cfm air volume at 150 mph.

RYOBI 602-961-1002 Circle No. 263

Powerful 31 cc, two-cycle gas engine powers the Ryobi 280R gas blower. The unit from the Chandler, AZ company has an operating weight of 11.5 lbs. A super-low tone muffler assures quiet operation. Dual-operating handles allow for left-handed or right-handed use.

SELBRO, INC. 419-483-9918 Circle No. 264

The ProBlow line of debris blowers from Selbro, Bellevue, OH come in 8, 9 and 11 hp walk-behind models. All units feature cast aluminum precision balanced impellers, fully adjustable and reversible handles.

SOLO, INC. 757-245-4228 Circle No. 265

Lightweight air blaster is operated by a 5 hp, two-cycle engine. This backpack unit from Solo, Newport News, VA, has padded shoulder straps and an anti-vibration system. The unit is recoil started with a 1.6 quart fuel tank, providing about an hour's work between stops. It blows 468 cubic feet per minute.

STEINER

330-828-0200 Circle No. 266

THE PB 100 attaches to the company's Quick-Hitch front mount attach system on power units. A 14-inch blower fan generates winds of up to 150 mph at rated engine speeds. Durable construction and greaseable bearings.

WOLFE METAL FAB 724-339-7799 Circle No. 267

The Saxon Blower-Vac from Wolfe, Lower Burrell, PA, lets one operator do two functions. With the chute open, the unit blows clean around trees and then windrows. By pulling up a lever, the same person can vacuum up all the material. Unit has a 5-foot diameter impeller enclosure, fully-encased in a heavy-duty deck. **LM**

Maruyama BL4500

COOL-SEASON WEED CONTROL

Timing is everything

The smallest (youngest) immature stages of turfgrass insect pests usually are most vulnerable to insecticides.

By PATRICIA J. VITTUM, Ph.D. University of Massachusetts

he key to successful management of turf insects is understanding their habits and the life cycles. This determines when a particular management strategy is most appropriate. Each insect species has stages that are most vulnerable to control. That's when your control efforts have the greatest chance of success. In addition, each insect species has particular habits that have a bearing on insecticide decisions; some insects



The effectiveness of any control product can only be determined after extensive field trials under varying reallife conditions.

occur in the soil, which means special efforts must be taken to ensure penetration of an insecticide beyond the thatch, while others reside in the thatch, so insecticides that are bound readily in thatch are perfect choices.

Habitat

Most turf insects are active only in certain parts of the turfgrass community. Some, like bermudagrass mite and other mite species, tend to remain on the leaves and stems during much of their development. Others, like chinch bugs, two-lined spittlebug, webworms, and cutworms, are active in the thatch and feed on stems and leaves. Meanwhile some of the most troublesome turf insect problems are soil insects, which spend much of their time in the root zone but may make brief forays into the thatch. These include various species of white grubs in cool-season grasses.

The habitat affects management approaches. Insects which feed and live primarily in stems and leaves are more exposed than others, while those that hide in the thatch are just a bit more protected and less vulnerable to insecticide applications.

Therefore, the chemical characteristics of insecticides become important. A material like chlorpyrifos (Dursban) would be a wise choice for some of the thatch-inhabiting insects because the material is bound quickly in thatch and remains right where the insects are most active. However, such a material often is not able to penetrate the thatch and reach the soil-thatch interface and therefore often does not reduce white grub populations significantly.

Distribution

Some insects occur in particular areas, preferring certain soil types or certain turf species. For example, hairy chinch bugs (the most common species in coolseason turf) prefer lawns with thick thatch and usually cause the most damage in sunny areas and soils that drain well. Insect problems often show up first in turfgrass on south-facing slopes, in part because these areas are under more moisture and temperature stress during the summer and are more likely to suffer from additional insect activity.

There are several species of white grubs that attack cool-season turfgrass. Many of these species were introduced to North America accidentally, and have adapted to conditions rapidly.

The Japanese beetle, introduced in New Jersey around 1915, has spread until it can be found in virtually every state east of the Mississippi River. The European chafer, which was first found near Rochester, NY, in 1940, has spread to the southern shores of the Great Lakes, through the heart of Michigan, and throughout much of eastern Massachusetts. The oriental beetle, apparently introduced in Connecticut around 1910, is well established throughout coastal New England and has spread into other regions as well. It has also become a major pest in production nurseries, and has ne-

cessitated the use of soil drenches before plants can be shipped to non-infested areas. The Asiatic garden beetle has been around for at least 70 years, primarily in the northeastern U.S., but until recently was not considered to be a major pest in turf. However, there have been increased reports of activity of this species in turfgrass, perhaps as a result of changing patterns of insecticide use.

Habits

Each white grub species has a slightly different life cycle and behaves differently in the soil. Thus, it's important to determine which species is present before attempting to control the grub problem.

For example, European chafer grubs remain in the root zone later in autumn and return earlier in the spring than other grub species. Oriental beetles tend to be quicker and move downward in the soil profile when the upper soil dries out. Under unusually dry conditions, grubs of most species will migrate downward to avoid the hot, dry conditions. In these circumstances, watering the area about 24-36 hours before the intended insecticide application will trick the grubs into thinking that conditions are improving, and they will move back upward into the root zone. The insecticide application will have a much better chance of suchlorpy

There are many species of cutworms and webworms that attack turfgrass, and most are active at night. Searches for caterpillars during the daytime usually are futile, unless a "disclosing solution" (an irritating drench or soap flush) is used to force them to crawl to the surface. When insecticides are used to control cutworms or webworms, the applications should be made as late in the day as possible so the material is still "fresh" when the caterpillars emerge to feed in the evening.

Timing of application

In many cases an insecticide is the most reliable option for managing a turf insect problem, but the success of that material depends on the timing of application. Consider these rules of thumb when dealing with pest insects:

most insect eggs and pupae are not susceptible to insecticides, and White grubs and other soil insects tend to be the most difficult to control because an insecticide must penetrate through the thatch to contact them.

▶ the smallest (youngest) immature stageş usually are most vulnerable to insecticides.

A turf manager needs to determine when the pests will be in the egg or pupa stage, and avoid the temptation to treat at that time. The best target date is to treat just as the last of the immatures, whether larvae (of insects like white grubs and weevils) or nymphs (of chinch bugs and other insects with gradual development), emerge from eggs.

The period during which an insecticide can be used with success, varies with insect species. For most white

cont. on page 32

TURF INSECT CONTROL PRODUCTS

COMMON NAME	TRADE NAME	SPEED	PERSISTENCE
acephate	Orthene	rel. fast	short
bendiocarb	Turcam	intermediate	intermediate
bifenthrin	Talstar	rel. fast	intermediate
carbaryl	Sevin	intermediate	intermediate
chlorpyrifos	Dursban	intermediate	intermediate
cyfluthrin	Tempo	rel. fast	intermediate
diazinon	(Diazinon)	intermediate	intermediate
deltamethrin	Deltaguard	rel. fast	intermediate
ethoprop	Mocap	rel. fast	intermediate
fipronil	Chipco Choice	slow	very long
fonofos	Crusade, Mainstay	intermediate	intermediate
halofenozide	Mach 2	intermediate	rel. to very long
imidacloprid	Merit	very slow	very long
isofenphos	Oftanol	slow	relatively long
lambda-cyhalothrin	Battle, Scimitar	rel. fast	intermediate
trichlorfon	Proxol, Dylox	fast	short

Speed of efficacy (how quickly pest reduction may be observed):

fast=1-3 days; rel. fast=3-5 days; intermediate=4-7 days; slow=7-14 days; very slow=2-3 weeks.

Residual activity (most likely period during which pest control can be expected): short=1-2 weeks; intermediate=3-6 weeks; relatively long=5-10 weeks; very long=more than 3 months.

For all products, note that state regulations vary and information may not be completely accurate. Always check the label to confirm that the pest you wish to control is indeed on the label. Mention of a product does not imply endorsement by the author.

