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Circle No. 127 on Reader Inquiry Card

THE WEED WAR

Those hard-to-control weeds—spurge and oxalis to name a few—can be controlled. Some new formulations show promise in the fight against the die-hards.

The battle continues to rage: lawn care operators vs. "hard-to-control" broadleaf weeds.

These die-hard weeds—wild violets, spurge, oxalis, and ground ivy—cause frustration, customer complaints, and economic loss.

Chemical manufacturers are constantly testing new herbicide formulations to get the upper hand in the battle and LCOs continue to test those new products.

The history of the battle provides a foundation for discussing today's situation.

The history

In the 1960s two herbicides, silvex and 2,4,5-T, were widely used to control difficult weeds. But these products were banned by the Environmental Protection Agency more than a decade ago.

Since the ban, some of the weeds

that were effectively controlled by silvex and 2,4,5-T have once again become a major problem.

Dr. Bob Shearman, turf specialist at the University of Nebraska, cites a prime example.

"In the last five to eight years, oxalis has become a more difficult weed to control. That's basically because we lost silvex, which did an excellent job on oxalis," Shearman says. "It took a couple years for that weed to build back up to prominence and now it certainly is one of the major problem weeds."

Until recently, there had been a void in products which effectively control the difficult weed species. However, some new formulations do show promise in putting LCOs ahead of their foes.

Economic loss

A recent WEEDS TREES & TURF study of LCOs (September 1985) showed poor weed control as a major reason for

Top, the hard-to-control weed, woodsorrel (oxalis stricta L.).

Far left, the wild violet, with its heart-shaped leaves, is another hard-to-control species.

Below, to identify spurge, look for numerous long, creeping stems with oblong leaves opposite each other on the stem.





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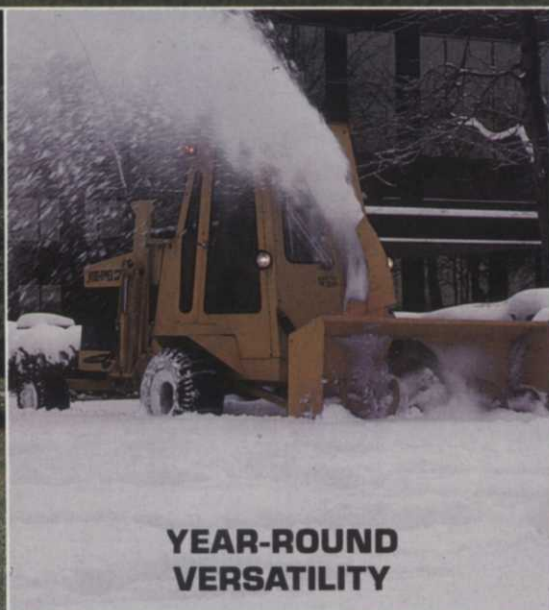
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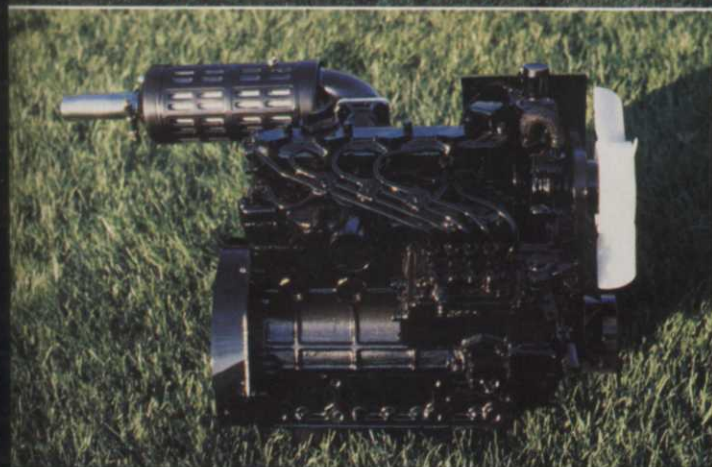


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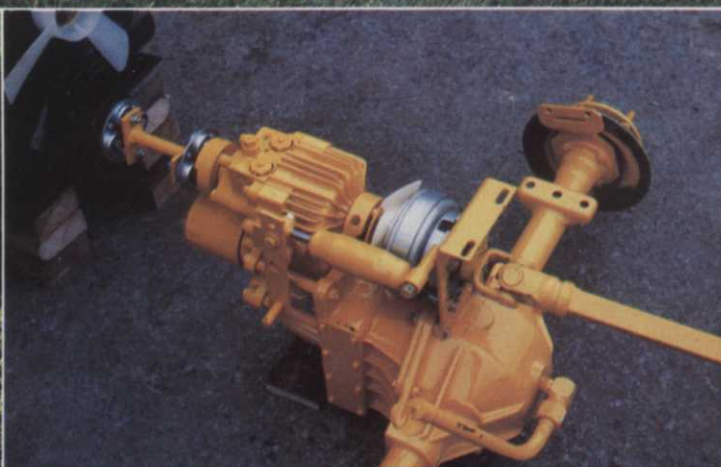
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customer loss and service callbacks.

Survey respondents said lack of weed control caused 25 percent of their customer cancellations. Only customer relocation, an uncontrollable factor, ranked higher.

In addition, retreatment for hard-to-kill broadleaf weeds was the leading cause of callbacks for two-thirds of those surveyed. The data should tell you that these plants are "weeding" a lot of dollars out of your pockets.

The weeds causing the most problems, according to the survey, were violets followed by spurge, oxalis, and ground ivy.

In order to obtain effective control of difficult weeds, timing is just as important as herbicide selection.

Why they are so tough

Just what makes these plants so indestructible? There are differing reasons, says Dr. Shearman, but some common characteristics are evident.

"To a large extent, these weeds

have plant characteristics which make it difficult for the chemical to adhere to the leaf and penetrate the cuticle (leaf surface)," he says.

Waxy leaf surfaces or hairs on the weeds are two characteristics which inhibit herbicide penetration, he says.

Another factor that enters into play is the root system. "Some of the more difficult-to-control weeds, such as the wild violet, are perennials and therefore have an extensive root system," says Dr. Shearman.

"To achieve total kill, you need to control the roots as well as the foliage."

Control may be here

Recent herbicide formulations have shown promise on the hard-to-control weeds.

Manufacturers are producing "low-volatile" ester formulations for post-emergence application. Dr. Bruce Branham of Michigan State University says these herbicides are better able to penetrate the cuticle of the more difficult weeds.

"The low-volatile esters are easier to get into the weed's nutrient and water transportation system than amine formulations," he says. "The result is quicker and better control of

roots and foliage on the more troublesome weeds."

One problem with esters been "volatilization," which means the herbicide evaporates into the air after application. When that happens, damage to desirable plants can occur.

The new low-volatile formulations have minimized problems with off-target damage. However, if extremely hot and dry or windy conditions are present then you should use extra caution when applying esters.

Some of the more common ester products include Weedone DPC, Super Trimec, and Turflon D.

Turflon D, from Dow Chemical Company, includes a herbicide molecule which is new to the turf market: triclopyr.

Tony Hall, who is in charge of turf herbicide development at Dow, says triclopyr has been proven to be effective against many of the hard-to-control weeds.

"This is the first truly new herbicide to be introduced to the lawn care market in more than a decade," says Hall.

Timing

In order to obtain effective control of difficult weeds, timing is just as important as herbicide selection.

Explains Dr. Branham: "To get effective weed control through use of post-emergence broadleaf herbicides, the plant must be actively growing," says Branham. "That's especially important for weeds which have an extensive root system."

He feels the fall months present the best opportunity for control on difficult weeds. "At that time of year, the weed is storing nutrients in its root system to last out the winter. At the same time, they pump herbicide down to that root system to provide a more effective kill."

An added benefit is that during the fall, the potential for any volatility from ester-based herbicides diminishes.

Temperatures are down and desirable plant species are hardening off for the winter.

By exercising good timing and choosing the right herbicide, LCOs can gain the upper hand against hard-to-control weeds.

Herbicides which incorporate ester formulations have proven to be effective and fall is generally the best time of year to treat broadleaf weeds, perennials in particular.

The economic consequences of improved weed control should also be emphasized. With so many callbacks and cancellations related to poor weed control, any improvement translates into increased profits.

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SEASONAL HELP

Do you keep them or let them go?
Most green industry firms face that question yearly.
The answer may depend on your company philosophy.

by Rudd McGary and Ed Wandtke

Anyone in a seasonal business has a recurring problem.

At the end of the working season, you may not have sufficient work to justify keeping some employees during the off-season.

The issue is not work performance. Rather, the cost of keeping them during the slow season is not feasible.

This is a typical challenge the seasonal business faces today because of the increased compensation paid to all employees.

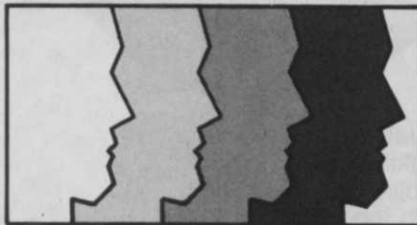
There are two ways to approach an answer to this problem: first, from a management and organizational standpoint, and second, from a cost analysis viewpoint. Both need to be integrated when making the decision on retention.

From the management and organizational viewpoint, the question of continuity of effort and understanding of company methods, and philosophy of operation are the keys.

A work unit's continuity will determine, in many cases, its productivity. If the team has been together for a long period, it is able to work smoothly and understand the work that needs to be done.

You don't have to preach working together each year if you keep the same people. This usually means better efficiency from the work unit and a

MANAGEMENT



IN BUSINESS

better attitude.

The question of philosophy and methods is another part of the managerial issue.

Whether you are in lawn care, grounds maintenance, or golf course work, the way tasks are done is usually determined by the top manager. If the people working for you understand tasks and also how you expect them to be done, less management time is needed.

This will happen more quickly if you have continuity in the work force.

A typical response to these thoughts is, "Yes, but I can find people whom I pay less if I get new people each year." That may not be wise. Let's look at the quantitative side of the question.

First, you must add in the amount of your time needed to manage or train new people to do their tasks. This costs money.

Second, consider the cost of a less effective worker. They may get the task done but will take longer. This costs money.

Third, consider the time it takes to get a unit working like a team. The individuals may work well alone but they need to function together and it takes time to do so. This costs money.

The question of how much money it costs for all of these things to occur is hard to tell unless we can look at your financial statements and assess the costs. Often it is cheaper, in real dollars, to keep your people than it is to lay them off.

There are certain instances—such

as golf course work or lawn maintenance—where you can keep your key people and lay off your entry level workers.

But in many cases, such as lawn care, you might look at off-season vehicle and building maintenance work or even the marketing function to keep your people employed.

The cost analysis involved in keeping the people should include the costs indicated above plus the benefits of having experienced help.

Experienced help will usually have fewer equipment accidents and may also possess the ability to solve equipment problems easier as they arise in the field.

If you do an exact time and money analysis of management costs, continuity, team building, and efficiency,

From an organizational standpoint, it is best to keep your people. Often it is cheaper, in real dollars, to keep your people than it is to lay them off.

you might find that the best possible way to work is to retain your people year-round.

There is no easy answer to the question of retaining current employees vs. recruiting new hires annually. Each company or organization is different.

Clearly, from an organizational standpoint, it is best to keep your people. Factoring in your costs for retraining and other time consuming management processes will give you the correct picture of actual costs.

Doing both organizational and financial analysis will give you the best possible tool in determining your choice of keeping your people or hiring a new work force for each new season.

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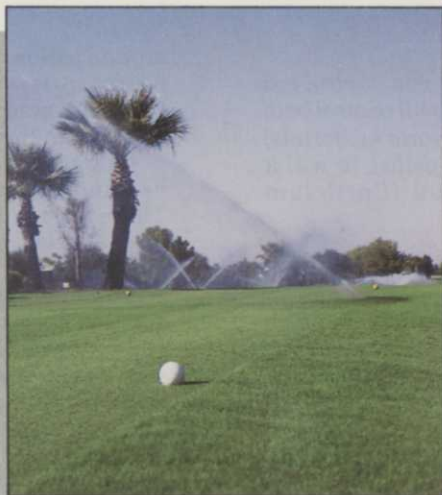
Wandtke and McGary are owners of All-Green Management Associates, Columbus, OH

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When you team up our rotary pop-up sprinklers, controllers and valves, you have a combination that can't be beat. Just ask Stuczynski. He's now finalizing a plan to changeover the entire Palm Desert system to Weather-matic. Because Weather-matic works. Write or call for all the details.

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LAWN AND TURF IRRIGATION

Circle No. 179 on Reader Inquiry Card

PROBLEM SOLVERS

by Balakrishna Rao, Ph.D

Red thread control

Problem: I understand that Bayleton can control red thread disease. Does this mean that it will control both the newly described red thread (*Laetisaria fuciformis*) and pink patch (*Limonomyces roseipellis*), or will it control the old name red thread (*Corticium fuciforme*)? (Maryland)

Solution: Reports indicate that Bayleton will control the red thread disease caused by *Laetisaria fuciformis* (new name) or *Corticium fuciforme* (old name). It will not control pink patch caused by *Limonomyces roseipellis* (new name).

Therefore, to properly manage these problems, it is important to identify the disease first. The following discussion may help you to distinguish these two newly described diseases.

Recently, turfgrass pathologists renamed red thread disease caused by *Corticium fuciforme* (old name) into pink patch (*Limonomyces roseipellis*) and red thread (*Laetisaria fuciformis*). Both these agents can affect *Lolium* sp. and *Fertuca* sp. but only red thread is reported to affect *Agrostis* sp. and *Poa* sp.

Since pink patch spreads slower than red thread, it will be less severe and won't affect the growth rate of turfgrass. Leaves will be covered with pink, membranous mycelial growth. Pink patch differs from red thread by the lack of red, thread-like mycelial growth on leaf tips and the pink, cottony flocks of anthroconidia. Pink patch disease can be managed by cultural practices such as proper mowing and feeding programs.

The red thread disease can be prevalent during spring and autumn on slow-growing, nitrogen-deficient turf. The fungal agent kills the affected blades and then pink- or reddish-colored threads protrude from the tip of the leaves. When the disease is active following humid weather, the diseased areas appear reddish-brown. If the disease is severe, provide adequate supplemental nutrients in addition to fungicides to manage the disease.

Desert vegetation

Problem: Can you provide some information on shrubs, flowers, and greenery that can withstand the heat (110 to 115 degrees Fahrenheit) in the Southwest Low Desert in Phoenix, Arizona? (Arizona)

Solution: Native Palo Verde trees are well adapted to desert conditions. Although they drop their leaves during drought periods to conserve moisture, their green bark continues the photosynthesis and prepares food. They tolerate intense sunshine and temperature extremes.

There are three species which are adapted and found in the deeper, sandier soils: Mexican Palo Verde (*Parkinsonia aculeata*), Blue Verde (*Cercidium floridum*) and Foothills Palo Verde (*Cercidium Microphyllum*).

Palo Verde trees can be used as shade trees or

around patios when they are pruned higher. They do poorly in lawn areas because of too much water. However, among the three species, Blue Verde does better than the other two in a lawn situation.

Other plants which can be grown in your area are deciduous shrubs and broad-leaved evergreens. There are a number of plants which can be selected for a specific purpose such as hedges, shrubs, and groundcovers.

Still another group of plants which are well adapted to desert conditions are cactus, Agave, Yucca and Ocotillo. Contact your local cooperative extension service and request publications on these landscape plants.

Attacking borer problems

Problem: Do any systemic insecticides go after the borers once they have gotten inside the wood of trees? We have some real problems with shot hole borers in elms, clearwing moths in willows, and flatheads in conifers. (California)

Solution: Generally, systemic insecticides do not work well for borer problems in plants. Systemic materials move through xylem-conductive tissue and perhaps there is not enough concentration of pesticides near the inner phloem tissues to kill the larvae.

The better approach is to apply pesticides externally on target host plants such as elms, and protect them either from pest infestation or reinfestation. The application should be aimed and timed properly to get rid of the adult population before they have a chance to lay eggs, as well as to get rid of the larvae soon after they hatch and enter into the trunk.

The clearwing moth group includes a number of distinctive pests such as the rhododendron borer, dogwood borer, oak borer, ash borer, willow borer, and poplar borer.

Like other borer problems, managing the clearwing moth on willow (*Aegeria tibialis*) would be difficult by the use of systemic insecticides. Lindane applications on the trunks at monthly intervals from May to August is recommended for general borer problems on willows. This might be useful in dealing with the problems on willows in your area.

We have seen flathead borers on deciduous trees such as apple, but have not seen them on conifers. Contact your local cooperative extension service personnel for more information on all of the above problems and specific pest management guidelines.



Balakrishna Rao is Director of Lawn Care Technical Resources for Davey Tree Expert Co., Kent, OH.

Questions should be mailed to Problem Solver, Weeds Trees & Turf, 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Please allow 2-3 months for an answer to appear in the magazine.