

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.



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

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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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