

The Chemical Connection

The Indiana Highway Department proves in some cases chemicals can be more productive and cost effective than mowing.

by Art Edwards



John Burkhardt, landscape supervisor.

A new weed control program tested in Indiana may help reduce highway mowing in that state—and keep more cash in the maintenance budget.

“We find we can spray and get good weed control at \$12 to \$13 per acre, says John P. Burkhardt, landscape supervisor for the state’s Division of Maintenance. “This is weed control only—but it wipes out wild carrot, a most showy weed problem, and sweet clover which also is a noticeable, up-front type. Canadian thistle is another problem weed showing control at this low per-acre cost.”

The compound being tested is Du Pont’s new Telar herbicide, a dry

flowable formulation recently labeled for use on highway rights-of-way. Indiana’s highway maintenance group has been one of the leaders in extensive field work with the product, both

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for weed control and in chemical mowing.

Two-pronged attack

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Spraying is done in the spring for annual broadleaves and in the fall for the hardy perennials.

Spraying for the last 12 years has been on a three-year cycle: interstate highways one year; half the two-lane roads the next year; and the second half the third year.

Indiana highway maintenance has begun to phase in a two-year spray cycle: interstate one year and other highways the next. With an effective chemical spray program and two to three limited mowings per year, Burkhardt believes the new cycle will prove feasible.

With the new spray program Indiana’s Division of Maintenance may be

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able to eliminate one mechanical mowing per year on the acreage it maintains. This could produce big savings in any given season. The system totals 100,000 acres, although not all of the acreage is mowed each season.

The test

Telar herbicide was tested on 700 acres in the chemical mowing program and on 5,500 acres in the weed control program.

“Early spring use gives us some seedhead suppression, and very good suppression with Embark added,” Burkhardt says.

Embark is a growth regulator marketed by 3M.

But he points out that these extra benefits aren’t the primary reason for using Telar.

Art Edwards is the former publisher of WEEDS TREES & TURF.

"We want weed control," he says. "Wild carrot is our key problem, since it grows to about three feet. We are getting almost total control with Telar."

Burhardt says this control holds for other problem weeds like sweet clover and Canadian thistle as well.

The new compound has proven to be very selective. Used alone, it gives good control on those weeds for which it is labeled. If used with 2,4-D, the experience in Indiana is that the spectrum of control is broadened considerably."

Telar is used on contract acreage—that acreage sprayed by private contractors on a bid basis—at one-third ounce per acre along with one-half gallon of 2,4-D amine. Telar costs about \$12 per ounce.

"We can kill wild carrot with other chemicals but not at this low cost," Burkhardt says.

He also notes that a lesser rate, one-fourth ounce per acre in combination with 2,4-D, has also proven effective in some instances.

Other rates tried by the department's own crew have ranged up to one ounce per acre. At the higher rates, Burkhardt says the new chemical also displays some growth regulation which is commendable, but that this is not the present goal of the program. The primary goals, he stresses, are control of weeds and reduced costs—which means eliminating some mowing.

Heavy rates, three-fourth to one ounce per acre, caused some phytotoxicity which appeared as a yellowing of turf, says Ed Edwards, landscape supervisor at the Fort Wayne District of the Department of Highways. This experience was on some plots tested in cooperation with Purdue University.

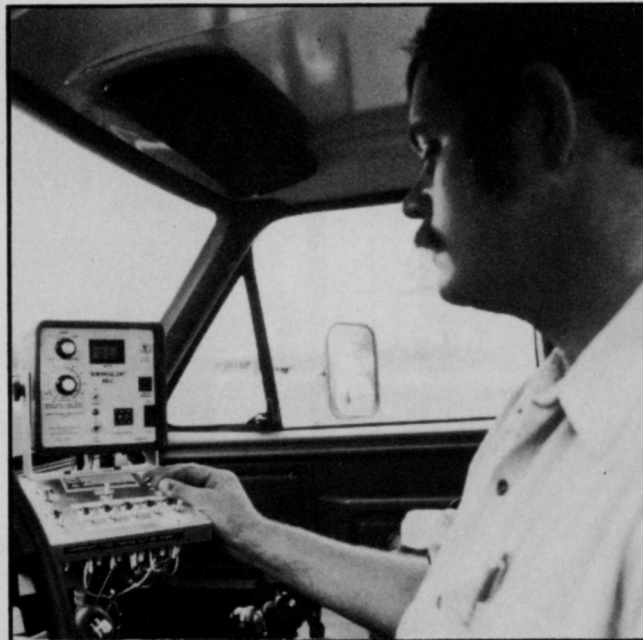
"Our key goal was to kill wild carrot without damage to grass which we have been able to do at the low, one-fourth to one-third rates," Edwards says.

Timing

Timing of spray is always a factor, regardless of the kind of spray combination being used.

Burhardt says a late, wet spring can upset timing, and is especially critical where contact work is involved. A late spring, he has found, can delay leafing of brush and germination of annual weeds, thus reducing control.

Telar has proven compatible in tank mixtures with most other non-crop chemicals. Even so, the com-



Swinglok right-of-way sprayer control box.

pany strongly recommends that small quantities be tested for compatibility before mixing field scale tank mixes. At Indiana, Telar mixed well with Embark. Not only is Telar compatible, Burkhardt believes it may even have some synergistic effect, although he points out that this

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is not documented.

Embark is used at the pint per acre rate with Telar at one-fourth ounce per acre—plus one-half gallon 2,4-D amine and one-fourth percent non-ionic surfactant to the area to be treated.

Indiana is using the new Swinglok

right-of-way sprayer. Telar is mixed as a slurry in water and dumped into a 50-gallon side tank with the other chemicals. Total spray volume mix is 25 to 40 gallons per acre.

Major acreage for weed control is handled by private contract. However, the department is budgeted for spot work—primarily for brush, thistle and Johnsongrass control.

With good weed control Burkhardt says the public does not object to greater turf height. Typically, the program is to mow the full median and 18 inches to 20 inches on each side on the interstates—plus full widths on cycle 2.

Burkhardt says this is true for the entire state. "We operate the entire system on a single plan—not by district," he says, "and this is a strong advantage." Allowances are made for local situations within the statewide plan.

The Indiana Department of Maintenance staff believes that a long-time testing program is now paying big dividends for the state. "Our test work and evaluation which began in the early 1970s now points to a workable mixture of chemicals. These provide accept-

able results and may even help us reduce both chemical spray use and mowing," Burkhardt says.

The evaluation will continue even as the new program is implemented.

Telar promises to be basic in Indiana highway weed control. The new product, labeled in 1983, can be used both for selective and non-selective weed control. Bluegrass, fescue and smooth brome all show good tolerance at the lower rates.

The same is true for bahiagrass and bermudagrass in southern areas where these grasses are common. At higher rates, non-selective weed control is feasible. A surfactant in all postemergence applications enhances activity and is recommended.

Telar inhibits weed growth very quickly after treatment. However, dying weeds may not be noticeable for one to three weeks following spraying.

"This is acceptable. We know that if we can get timely application, we'll have good weed control," he says.

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