

Old Technique . . .

New Look

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Dateline, Missouri . . . Better brush control on distribution lines with savings in use of critical oil and economy in line maintenance . . . this is the big news that is emerging from the experience of electric co-ops. Maintenance engineers in this state have been fine-tuning their brush programs to get maximum return out of maintenance budgets.

A new look has been taken at a

familiar technique — basal stem application of herbicides to unwanted brush and small trees growing under lines on the right-of-way. The new look includes full use of an outside contractor and expanded use of Hyvar X-L bromacil weed killer, a water-soluble compound that needs no oil yet provides needed, durable control of a wide range of species. This compound can be used without harm to wildlife and the environment, but in addition to energy savings, it provides for an applicator improvement since there is no messy oil to permeate clothing or spray crews.

There are more than 60 electric co-ops in Missouri, but the highlights of their brush experience can be summarized through the report of a southeastern Missouri cooperative.

"Brush control has been our biggest maintenance problem," notes John B. Barker of the Ozark Border Electric Co-op in Poplar Bluff, Mo. "We have been searching for new and better ways to control root regeneration on our rights-of-way. We have needed an economical, effective program and ideally one that could be safely handled by an outside applicator, whose specialists would be up to date on new compounds. This would avoid troubles with various herbicide-oil combinations."

Right-of-way maintenance for Missouri electric co-ops is a specialty of Townsend Tree Service which has a regional base in Fredericktown, Mo., and which keeps thirty-five crews on the road most of the year, working on co-op rights-of-way. Townsend offers a variety of mechanical and chemical services to help keep brush and tree growth under control. The firm works on contract to many of the Missouri co-ops, and over the past two decades has helped to bring new brush control know-how to most of the co-ops in the state.

"The costs on brush control have been trending up," reports Jay Cheatham, a 20-year employee with Townsend. Spray oil, for example, has increased in cost by nearly 50 percent in the past few months. It has been an important ingredient and supply is now very uncertain almost at any price. But we've had some trials out on Hyvar X-L for the past couple of years. With this compound, we're getting good control of many tough species; and the costs are certainly in line."

Major tree species that Townsend crews are dealing with include oaks, elm, maple, hackberry pine, willow, persimmon, black locust, ash, sycamore, sassafras and cedar. Growth of some of these trees can be more than a nuisance in areas of Missouri where water supply

On left: Basal stem treatment by Townsend Tree Service crewman involves application of "Hyvar" X-L to tree trunks four inches in diameter or less. Bottom 18 inches is sprayed.



Mechanical cutting of brush along fence line is a slow two-man operation — one man cutting, the other handling cut brush.

is plentiful and temperatures are moderate. A sycamore tree, for example, can add six to eight feet of growth in a year. An oak will grow up to five feet, and a willow will easily add eight feet. Uncontrolled, a tree will soon invade air space around a distribution line. This spells trouble for any co-op maintenance engineer with a heavy population of brush and trees beneath his distribution lines.

Ozark Border Electric, one of the largest electric co-ops in the state, has about 18,000 members today and new members are coming in at a steady rate — about 100 per month. But this co-op also has a big potential problem with brush and small trees on their 30-foot rights-of-way; nearly 2,000 miles of line on their 3,800-mile system — 60 percent — are "brush miles". Here Ozark and maintenance engineer John B. Barker focus their attention and energies to achieve economic control of vegetation.

"We aim to get over our system every five years," says Barker. "If we have to go back on some lines in three years, our manpower costs are too high. We have used every brush control idea we could find, including ground and air application of chemicals, mechanical cutting and so on. A sound brush program does not depend on a single approach, but on a blend of ideas that meet specific vegetation control needs."

Ozark has employed a four-man crew year-round to concentrate on brush control. During the summer, these men have been the nucleus of as many as seven crews handling cutting and spray-

ing. But Ozark has also been looking at the help it can get from an outside tree firm.

In 1973 Townsend Tree Service crews handled close to a hundred miles of distribution line maintenance for Ozark. This year, they are likely to be doing more.

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in our handling of tree and brush control with the electric co-ops," comments Jay Cheatham, area supervisor and salesman for Townsend Tree. "We start carefully with a new chemical like Hyvar X-L. In 1971 we began to use it on some fence rows, under co-op distribution lines where there were crops nearby, yet where we could be sure to avoid any washing. The control was excellent when we used the basal stem application technique. We have avoided regrowth."

The same approach has been followed by John Barker's crews at Ozark Electric: "We have used X-L for spot spraying of oak, willows and elm — our quick re-growth species. We have also used it on some line spraying. In 1973 we were in our second year of experience. How to use any chemical is a vital element in brush control. You must learn what it will do before expanding use," concludes Barker, who has 28 years of service with Ozark.

The basal stem treatment season is somewhat longer than that for foliage-treatment. Townsend crews have found they can spray for as much as eight months out of the year. Spraying is handled by any member of a Townsend four-man crew. But a foreman in this crew is likely to have up to 15 years experience, and Townsend people are constantly getting added training, oriented

to safety and environmental concerns.

During trimming periods, crews are cautioned about the application of Hyvar X-L to areas containing roots of valuable trees that are growing adjacent to the right-of-way. This product is a potent tree killer and injury may result if crews do not exercise caution.

During the first year with the bromacil compound, one Townsend crew did most of the basal stem spraying. Standard practice has been to mix 3 gallons in 100 gallons of water and then apply one to two fluid ounces per tree stem that is 2 to 4 inches in basal diameter. The base of the tree should be wet to runoff. Last year, three crews were using it steadily, on distribution lines in Missouri, with some spot spraying by others. By next year Jay Cheatham hopes to extend the use of this material, as he develops added knowledge of its characteristics.

"We should get longer, more economical control plus some energy savings as we learn more about X-L," says Cheatham. "The basal spray technique looks very promising for precision control of troublesome trees and brush, under fence-row distribution lines. We have had no re-sprouts on trees treated in 1971, indicating good control of roots of species that are always stimulated by mechanical cutting.

Using the basal stem technique, a single tree and brush crew can apply up to 400 gallons in a day, along electric distribution lines, according to Cheatham. That covers up to five acres and is usually equivalent to almost two brush miles of line. Costs will naturally be variable, depending on brush and tree population. One co-op indicates that a figure of about \$60 per acre or \$216 per brush mile was about average in their experience, but in some areas the cost was a good deal higher.

The shift from co-op crews to outside contractor crews holds promise for better line maintenance in cases where engineers and managers have needed more flexibility in scheduling brush control work. Outside contractors have been able to focus their attention on new, economical ideas. They have worked to keep up to the minute on these ideas. And they are able to funnel new technology to control brush and trees without repetitive start-up delays and with assurance of environmental protection. Specialized service like this can help maintenance engineers keep their budgets down — and in these days of energy shortages, the proper use of bromacil weed and brush compound delivers oil savings as well! That's a nice kind of a dividend for anyone in the utility field. □

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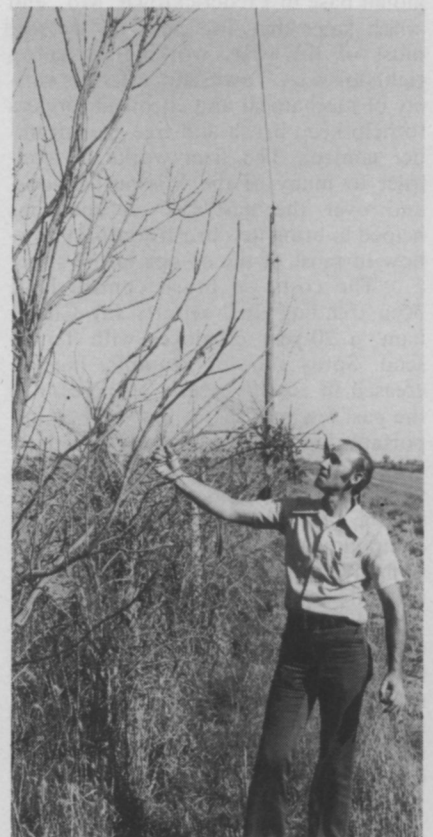


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Tree solution on fence-line right-of-way is seen in this 20-foot black locust tree. It received basal stem application of "Hyvar" X-L in 1971. Early fall check in 1973 shows no regrowth.