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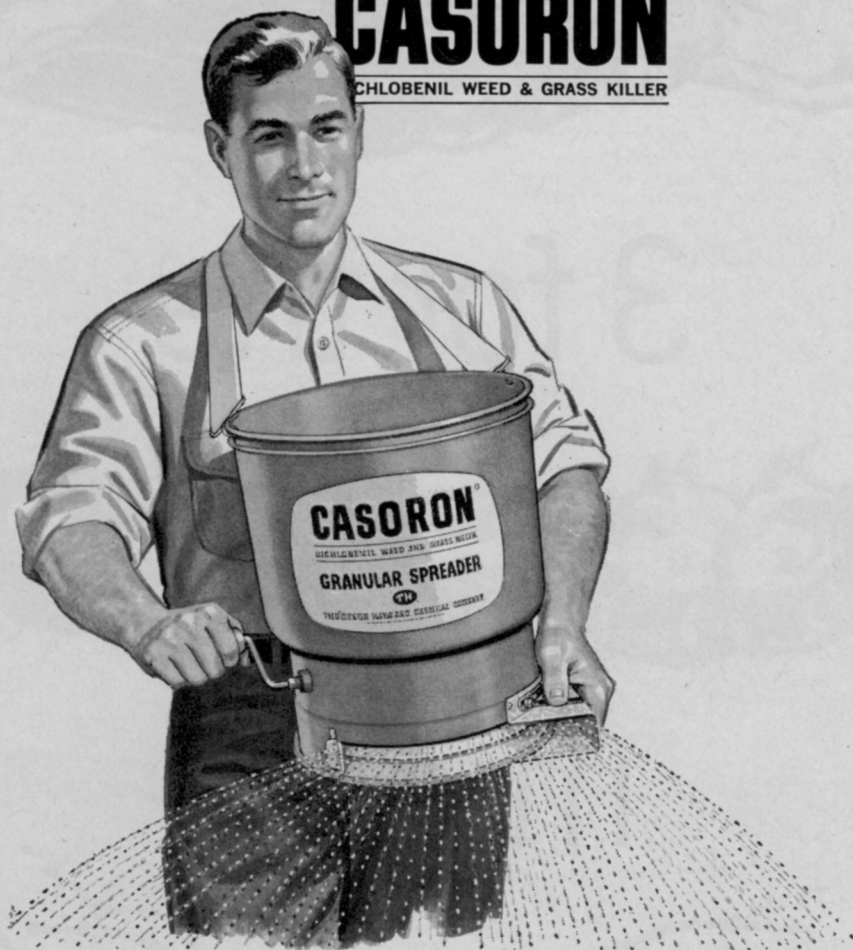
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WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

July 1967
Volume 6, No. 7

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Who Are the Decision Makers?

Who sets the buying policy in your company? Owner-operator, absentee owner, president, vice-president, various supervisory employes, purchasing agent, foreman, or who?

We find it interesting that buying policy varies so much among the various facets of the vegetation maintenance control fields served by WTT. For example, we've talked with owners who wouldn't consider a major piece of equipment unless their men tried it out on the job. Others say they depend a lot on the name of the manufacturer and the reputation established through the years.

This latter policy is difficult to maintain today because of the wealth of new machines and equipment built as specialty items by small manufacturers or by operators new in the business who have developed a specialized piece of equipment. When such is the case, can you afford to gamble on the equipment, or do you check it out carefully. Perhaps a trial run at your own site, a demonstration, or a check with someone in the business who is using the equipment is your best bet. Maybe you feel a newly produced machine by a new manufacturer is too great a risk. But if it is a good piece of equipment, and designed to do your special job, the biggest gamble may be the loss of efficiency you experience by not buying the equipment.

Because much equipment constitutes a major expense which must be written off over a number of years, a firm hand and a definite policy become musts in making the decision. Here is where experience and judgment count. And it is at this point that you, as owner or manager or purchasing agent, prove your value, whether to yourself as owner or to your company as employe.

Combine your judgment with a written agreement from the manufacturer, distributor or dealer and you assume less risk. Few operators can afford to make mistakes on major equipment and remain in business. Impulse buying has little place in the industries served by WTT. Most are contract operators who operate with narrow margins. Few businesses are measured as rigidly as the contract applicator, tree care man, or turf specialist. If the weeds show up, the tree dies, or the turf fails to stand the traffic, then there is no question as to where the buck stops.

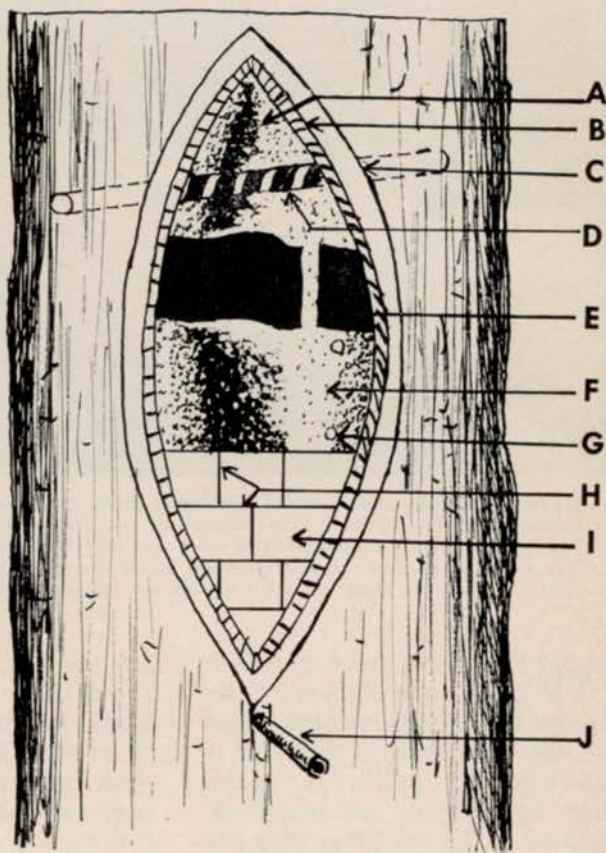
If we have any advice to the specialists we serve, it is to rely on your own judgment and experience to investigate new equipment carefully and try it out under your own conditions. Be sure you can effectively utilize the equipment when it is delivered and couple this with the maker's or seller's guarantee.

WEEDS TREES AND TURF is the national monthly magazine of urban/industrial vegetation maintenance, including turf management, weed and brush control, and tree care. Readers include "contract applicators," arborists, nurserymen, sod growers, and supervisory personnel with highway departments, railways, utilities, golf courses, and similar areas where vegetation must be enhanced or controlled. While the editors welcome contributions by qualified freelance writers, unsolicited manuscripts, unaccompanied by stamped, self-addressed envelopes, cannot be returned.

TREE CAVITY WORK

needs to be based
on judgment
of the professional

Filling a cavity is a step-by-step procedure. Shown in the illustration are the common steps and materials: A. Sapwood; B. Cambium and bark; C. Shellac cambium; D. Screw rod bracing; E. Asphaltum paint; F. Felt asphalt layer; G. Tacks; H. Asphalt or tar paper; I. Sectional filling; and J. Drainpipe.



TREE cavity work, properly done by the professional, can add years of life to a tree. But with old, weakened trees, it is often a questionable practice. Whether to fill the cavity depends on the good judgment of the tree care specialist. He relies on experience and also considers the worth of the tree in its particular location.

Veteran tree men know when old, slow-growing trees with advanced decay are better left alone. Good rolls of callus growth around large cavities are strong. Removing callus rolls may weaken a tree structure and actually interfere with an important means of sap flow. Such trees can best be treated by bracing the cavity area and fertilizing the tree.

Only vigorous trees should be

treated. When trees are weakened by changes in grade, excision of roots, gas leaks or chemical injury, cavity filling needs to be delayed until the tree overcomes the condition causing loss of vigor and is again in a healthy state. Experience is the greatest help in deciding whether to fill the cavity.

Filling of cavities is seldom done on such trees as gray birch, white birch, cherry, chestnut, black locust, mountain ash, or Lombardy poplar. Only the most vigorous of trees among catalpa, poplars other than Lombardy, willows and old specimens of black oak and silver maple should be treated. For example, in Maine*, linden and maple having cavity treatments after early to mid-September often have the bark around cavities

killed back, or the fillings forced out. Normally, it is unwise to do cavity work in maples during the dormant period.

When the decision is made to fill the cavity of the tree, proper tools are needed. These include sharp chisels, gouges and knives. Diseased areas need to be treated by removing all decayed material back into sound, normal wood. It is almost impossible, without structurally weakening a tree, to remove all the fungus strands. These may extend well beyond the visible margin of decay. However, shallow sapwood decay or decay in small branch stubs can generally be eliminated. Exterior shape of the excavation needs to follow the natural lines of sap flow. If the bottom of the cavity is near the

(Continued on page 17)

Chemicals

By S. L. HOCKERSMITH

Eugene, Oregon



Steve Puett, Lane County Weed and Brush Supervisor, field surveys county roads and highways before setting up season's spray schedule. Tour helps develop workable schedule which will catch most weeds when they are susceptible to chemical spraying. Survey also helps spot adjacent crops and time spraying when these are less apt to be damaged.

"WEEDS are great travelers, they are indeed the tramps of the agricultural world . . . like other tramps they find it safest by the highways," John Burroughs, author and naturalist, once said. "In the fields they are intercepted and cut off, but on the public road every boy, every passing flock of sheep or cows gives them a lift."

This statement becomes obsolete as state and county highway agencies turn to chemicals to wipe out these "tramps of the agricultural world." Oregon's Lane County, a county that stretches from the Pacific Coast to the Cascade Mountain Range, is one agency that is quietly but systematically eradicating this tramp—the roadside weed.

Actually, when we talk about roadside weeds, we are talking about more than just Canadian thistles or morning-glories. Roadside weeds include blackberry vines, cattails, trees, or anything else which grows in the right-of-way and thus interferes with either the beauty of the area or the visibility from the road.

There are numerous reasons

for keeping our highways free from the clutter of roadside weeds and brush. A high growth of brush along the edge of the road has caused a great many highway accidents. A deer, a pedestrian, or even another car are hidden from a motorist's sight by tall roadside weeds. The removal of the weeds and brush makes the area look cleaner; it enables tourists to enjoy scenery

that might otherwise be hidden by the tall brush along the edge of the road. By keeping drainage ditches clear from weeds and brush that tend to clog them so that they overflow onto the road, road maintenance costs are greatly reduced. Clean drainage ditches are important to both the Lane County Public Works Department and to property owners whose fields and yards might

Prior to spraying season, Lane County's three spraying trucks and equipment are serviced. Puett checks largest unit used on county highways and roadways.



Cut Roadside Clearing Costs For Lane County, Oregon

be flooded if ditches were clogged. Fire danger is, of course, reduced when weeds are removed. There is not nearly the fire hazard present in weeds and brush that have been eradicated by chemicals that there is to vegetation that has dried up from lack of water or because it is the end of the growing season. For the county there is the added bonus of good will, and often cooperation, between the Public Works Department and the farmer who tries to keep his fields free from weeds.

Spraying is Efficient

For efficiency in cleaning weeds and brush from roadside rights-of-way, Lane County has found an answer in the use of chemicals. Lane County, as one of the first organizations to experiment with a complete spraying program, has gained recognition from other counties within Oregon and in other states. It has even had requests for reports on spraying success from 2 foreign countries.

Spraying is both cheaper and faster than the mechanical method for clearing roadside weeds and brush. For example, Lane County had both spraying crews and brush crews clearing roadside areas last summer. The brush crews worked in areas not previously sprayed including new roads and in areas where the spray might endanger a tree or landscaping that should remain. By comparing the work accomplished in these two methods for clearing rights-of-way,

Weed and Brush Supervisor Steve Puett found that four men were able to spray 71 miles per month while the 4-man crew that was clearing brush by using graders and caterpillar tractors was able to clear only about 2¼ miles per month. The difference between 71 miles a month and 2¼ miles a month becomes significant in a county with more than 1400 miles of county roads to be maintained. Public Works Director Gerald Attig explains that since Lane County has been spraying, the roadside clearing work is done so much more quickly and easily that the Public Works Department has been able to devote much more time to more important things. Prior to the spraying program the Public Works Department had to spend so much time clearing

roadside brush that there was very little time to devote to anything else.

In the 9 years that Lane County has been using chemicals for roadside brush control, it has been able to make the road clearing program an annual accomplishment on all the major county roads. Nearly all other county roads are sprayed at least every 2 years. This tends to speed up the time required for clearing brush and weeds because they do not have the opportunity to return unchecked year after year. With the mechanical brushing techniques it was often years from the time a road was cleared until it could be cleared again. This makes a considerable amount of difference in an area where weeds and trees grow rapidly. Along the coast

Hand labor for weed and brush control is largely eliminated today in Lane County. Chemicals handle the job around guardrails and posts quickly and do the job at a lower cost.





Bridge abutments, culverts, sign posts, and similar areas previously inaccessible to power equipment are easily covered with chemical spray equipment. Lane County costs approximate 63¢ per structure to spray.

in Lane County, for example, an alder tree will grow as much as 6 feet a year. At that rate, if the tree is not sprayed within 1 or 2 years, county crews would find themselves removing a large tree after just a few years of neglect.

Primarily as a result of the decrease in the time required for clearing weeds, the county has been able to cut costs considerably. Whereas it would cost from \$400 to \$500 a mile each year to reshape ditches and clear weeds and grass by mechanical means, in 1966 it cost \$19.60 for each mile (\$5.63 an acre) of road sprayed for summer foliage. The cost for the early spring sterilization program in 1966 in Lane County was \$92.40 per mile (or \$30.80 per acre) for sterilizing areas that had not previously been sterilized and \$65.41 per mile (or \$21.80 per acre) for maintaining areas that are sprayed each year. Lane County's program over the past 9 years has been one of progressively enlarging the maintained area until all 1400 miles of road are included.

Experimentation with the sprays has shown Lane County the importance of paying strict attention to such things as the careful selection and timing of roads to be sprayed, attention to the proper use of pump pressures in spraying, and awareness of the weather conditions and

wind and their possible effects at the time the spraying is done.

Early Spraying Is Best

The best results in killing weeds and brush, Lane County has found, are obtained in the early part of the season when the leaves of the plants are young. As summer comes and the foliage reaches full maturity it becomes necessary to use larger quantities of the spray and, therefore, to increase costs.

The county has 3 major areas within its roadside spraying program. Early in the spring ditches are sterilized to prevent new growth, in the summer foliage spraying is done, and later in the summer noxious weeds such as poison oak and berry vines are sprayed.

The summer spraying program in Lane County actually begins in February. At that time field reconnaissance is done to select roads to be sterilized and to make up a schedule for spraying. Sterilization then begins the first part of March. The county, after experimenting with numerous chemicals and formulations, now uses two different formulations of chemicals in the sterilization of roads. One solution is used for roads that are to receive an initial application of the sterilants and a weaker mixture of the same chemicals is used for areas where spraying has been done previously. (See Table 1

Table 1. Formula for initial application for sterilization

Chemical	Lbs.
Atrazine	12 80W, plus 8 ounces X-77 surfactant per 100 gallons of water
Hyvar X	6 plus 8 ounces X-77 surfactant per 100 gallons of water
Simazine	12 80W, plus 8 ounces X-77 surfactant per 100 gallons of water

100 gallons of the above formulation will adequately treat one acre. If there is foliage within the area to be treated, one gallon of Amitrol-T is added to each 100 gallons of water.

for the formula used in areas not previously sprayed and Table 2 for the formula used when spraying has been done.)

By the end of April a field survey is made prior to beginning the summer foliage spraying program. This survey is made to determine the amount of spraying to be done, but more important than that, it attempts to organize the spraying program to coordinate it in relation to adjoining domestic crops so that it will not be necessary to spray next to a planted field at a time when that crop might be destroyed by drift from the spray blowing over the field. The formulation used for summer foliage is one gallon of 2,4-D and 2,4,5-T esters plus 8 ounces X-77 surfactant to 100 gallons of water.

In the middle of May the noxious weed spraying program begins with a field survey as in the other spraying programs. In Lane County, the Public Works Department coordinates its work with the Lane County Weed District. The county sprays rights-of-way for Canadian thistle, poison oak, and berry vines with Tordon 22K and Amitrol-T and the Weed District sprays areas

Table 2. Formula for maintenance application for sterilization

Chemical	Lbs.
Atrazine	6 80W, plus 8 ounces X-77 surfactant per 100 gallons of water
Hyvar X	3 plus 8 ounces X-77 surfactant per 100 gallons of water
Simazine	6 plus 8 ounces X-77 surfactant per 100 gallons of water

100 gallons of the above formulation will adequately treat one acre. If there is foliage within the area to be treated, one gallon of Amitrol-T is added to each 100 gallons of water.