

# The Coming Market for Industrial Weed Control

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**W**IDE acceptance of chemical weed control is associated by most people with the early post-war years, and typified by the introduction of chemicals like 2,4-D for selective control of weeds in turf and agricultural crops.

Widespread chemical control of weeds for industry was of later origin, and has increased rapidly only since the mid-nineteen fifties, when new herbicides became available. It has opened up a new field for contract applicators, which can be entered with very little change of existing personnel and equipment.

As in the USA, no precise figures on the size of the Canadian market for industrial weed control are available, but at the present time, excluding the specialized needs of the railways, industrial sites sprayed for weed control probably total 10,000 acres each year, with approximately two-thirds treated by spray and the remainder treated with chemical in dry form.

The oil and gas industry is also a well-developed section of the industrial weed control market, especially for contract application. It was recently estimated that if chemical weed control was practiced throughout, yearly cost would be \$625,000 for refineries and \$2 million for the entire



Market expert G. G. Fisher, Sales Manager for Fisons (Canada) Ltd., has rosy predictions in this analysis of industrial weed control sales in North America.

Canadian petro process industry. This figure is doubtless much higher in the United States.

Other major users are highways, utilities, the Armed Forces, airports, municipalities and general industry.

## Industry vs. Crop Use

Nonselective weed control for industry is quite different from the selective control practiced in turf or agricultural crops. On industrial sites there are no leveling influences on weed growth such as cultivation and crop or grass com-

ranging from 240 p.p.m. with monuron down to only 5 p.p.m. for simazine, and they can remain in the soil for long periods to control fresh weed growth. Finally, except for the effect on plants, these are relatively inert chemicals, low in toxicity to humans and animals, and noncorrosive and non-inflammable.

## Typical Control Program

A typical six year program of industrial weed control suitable for such areas as Eastern Canada, based on over-all spray treatment

**Table 1: Proposed Weed Control Program Suitable for Eastern Canada and Like Regions**

	Herbicide	Type of Treatment	Rate per acre	Time of application
1st year	Simazine 50W	spray over-all	40 lb.	Spring
2nd year	Atrazine 4G	spot with dry granules	50 lb.	Summer
3rd year	Simazine 50W	spray over-all	30 lb.	Spring
4th year	Atrazine 4G	spot with dry granules	50 lb.	Summer
5th year	Simazine 50W	spray over-all	20 lb.	Spring
6th year	Atrazine 4G	spot with dry granules	50 lb.	Summer

petition, and soil type and drainage may vary widely within short distances. Consequently, weeds on waste areas have great variety in species and vigor, and application rates of chemicals should approximate those necessary to control the most resistant perennials present.

If all weeds are not killed, those surviving will have full benefit of the light, water, and nutrients which previously supported the entire weed population, and may sometimes grow with enhanced vigor.

More general use of chemical weed control in industry stems from the introduction of new organic herbicides of the soil sterilant type. Those most often used are monuron and diuron, of the substituted urea type, and simazine and atrazine, commonly known as triazine derivatives. They are all characterized by a high rate of herbicidal activity, and in Canada and like areas are seldom used at rates higher than 40 lbs. of commercial product per acre. They are almost entirely root absorbed, requiring uniform application to the soil surface rather than to the weed foliage, and consequently are largely independent of weather conditions at the time of application. Water solubility is very low,

every other year and spot treatment with dry granules in intervening years, is shown in Table 1. Note the gradual decrease in dosage rates as weed control becomes more of a preventive operation.

An industrial plant requiring sterilant weed control is faced with three choices. They can spray with their own equipment, spread dry granules with relatively simple equipment, or else call in the services of a contract applicator. Each method has its merits and disadvantages.

If a sprayer is owned, soil sterilant weed killers can be purchased and applied at the most suitable time of year, usually in the spring or fall, to obtain greatest efficiency and a minimum of dead weed remains. Many industrial concerns are, however, reluctant to make labor and equipment available for a maintenance practice which has little direct effect on their main production.

Weed killers in granular form can be applied dry and are more convenient than sprays on small and dispersed sites. The major disadvantage of granules is their high cost, which is often twice that of the same amount of active chemical applied as a spray.

The third alternative is to have

professional treatment by a custom applicator. With his large equipment and skilled crews he can apply a range of chemicals or chemical mixtures with a minimum of interference, and by giving a guarantee can shoulder entire responsibility for results over a period of one season, two years, or even longer.

There are, to be sure, some aspects of a contract spray service for industrial weed control, apart from actual cost, that are less attractive to the customer than using his own personnel.

For example, the contract sprayer cannot always spray more than a proportion of the season's work at the optimum spring or fall periods. Neither can he always have men and equipment immediately available, sometimes to treat only small areas many miles away. These difficulties still have to be overcome by skillful use of chemicals and careful choice of equipment.

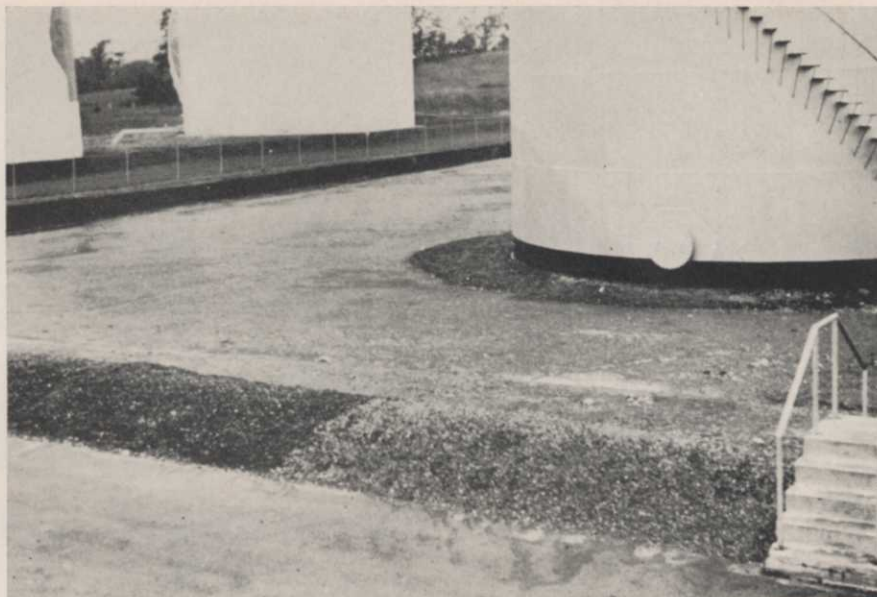
In Canada and like sections of the U.S., the rough calendar of operations which follows will enable contract sprayers to obtain most efficient results.

#### Spring

Spraying with sterilant only can start as soon as snow has gone and the ground can take equipment. Spraying before or during weed emergence while there is still ample soil moisture gives optimum results and minimum dead weed remains — important from both appearance and fire hazard considerations.

#### Early Summer

On standing weeds, quicker control is desirable, and can be obtained firstly by changing to a



From Canada to Texas enterprising CAs are cashing in on such weed control prospects as oil tank compounds, where unwanted vegetation, when mechanically cared for, can gnaw into profits. Oilmen are turning to chemicals, and most of them are calling on the contract applicator for treatment.

more soluble soil sterilant, e.g. from simazine to atrazine, and secondly by use of quick-acting additives. Amitrole (4 to 6 lbs. active per acre), dalapon (10 to 20 lbs. per acre), TCA (20 to 60 lbs. per acre), and 2, 4-D (1½ to 3 lbs. per acre) are common additives. As a precaution against vapor drift, use only amine 2,4-D in most locations.

#### MidSummer

Dry soil conditions and mature weed growth make for slower control and less certain results from soil sterilants, and unless cutting is done before treatment there will always be unsightly dead remains after control. It is better at this period to turn to brush control, but if soil sterilization must be done a good proportion of quick-acting herbicide should be added to the sterilant. This is a useful period for touchup treatment to

missed places or to control patches of regrowth in a previous year's over-all application.

#### Fall

From mid-September until freeze-up, the least soluble soil sterilants, such as simazine can be used. Additives are unnecessary.

#### CA Opportunities Abound

Custom applicators can reach some of this industrial weed control market merely by keeping their eyes open.

Many sections of industry are resigned to the nuisance which weeds cause and remain unaware of the chemicals and services that can deal effectively with the problem. Direct mail advertising from the CA may often bring a response. Chemical companies can assist by promoting their products, especially by advertising in trade journals and by provision of literature.

If a canvass of industrial prospects is undertaken, it should be related to the cycle of seasonal weed growth. No one thinks of weeds when snow covers the ground, and presence of a weed problem is often not fully realized until after the best time for treatment has passed. A site inspection in early September can emphasize to the customer the damage done by weeds and this gives accurate information to the custom applicator on which to base his spring treatment.

#### Note to applicators . . .

*Recommendations in this article are based on formulations produced by Fisons (Canada) Limited, and are not to be used for applications in the United States.*

*Simazine and Atrazine are manufactured in the United States by Geigy Agricultural Chemicals, Division of Geigy Chemical Corporation, and distributed through chemical jobbers as Simazine 80W and Atrazine 80W. Both are wettable powder formulations containing 80% active ingredient. Granular formulations are available as Atrazine 8G (8% active ingredient) and Simazine 4G (4% active ingredient).*