

## Herbicide Emulsions Keep Applicators On Target

**P**ROFESSIONAL application of vegetation control materials is an exact business that requires as much on-the-job training and experience as many of the established trades. You just can't put a spray gun in the hands of an inexperienced man. That's why applicators are licensed and tough Federal laws are enacted.

There's good reason to be careful. Modern herbicides are designed to fit specific problem situations much like the way in which modern medicines are prescribed for a specific illness. The wrong compound can have disastrous results.

Application techniques are critical, too. The professional applicator must take into account as many as a dozen factors before he squeezes the trigger or flips the lever. Wind velocity, volatility, drift, weed species, coverage, wand and arm movement and a host of others must all be clearly understood. New techniques and new application equipment are helping the applicator minimize the chance for error, however. One of these is foam.

Foam revolutionized the shaving industry. Foam makes it possible to land crippled aircraft on runways

with minimum loss of life. Foam is used throughout the fire-fighting industry. And now foam has entered the industrial herbicide market in a big way. At least a half-dozen major manufacturers currently make equipment or associated products designed to help the applicator stay on target.

Perhaps the biggest problem in application is drift. Foam, for the most part, makes this problem small. The applicator must still be careful, no question about it. But the chances of injury to desirable vegetation are certainly reduced.

This handgun is equipped with an air emulsion nozzle. Note compactness of unit.



One of the newer foam systems is Accutrol. (See WTT April 1972) —Without the need of an auxiliary foam generator, dual holding tanks, or other special apparatus, this system boasts impressive control at reduced application costs.

The secret of the system is in the nozzle. Simple in design yet effective, nozzles fits standard sprayers. In about as much time as it takes to fill the tank with water, you can gear up to put down milky-white droplets of air emulsion that have little or no tendency to float in the air. That's right, air emulsion. You've heard about invert emulsions where oil surrounds water droplets. This is air emulsion where air and water mix to form foam or something closely resembling foam. All this takes place about six inches away from the gun handle—right in the nozzle.

Inside the nozzle things are quite simple. There's a flow control disc which does just what it says; the foam generator and the nozzle tip to control the spray pattern. The flow control disc and the foam generator work together to increase or

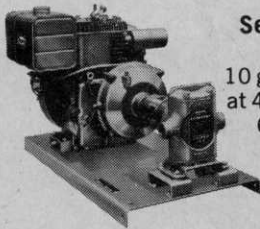
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# Hypro sprayer pumps

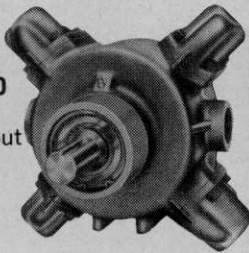
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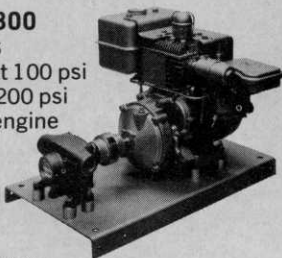
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Tom Smith, Hill-Smith Systems, (l) and Orvil Cotten look over schedule of the day's work ahead. Cotten is a recent Memphis State grad, employed by Hill-Smith as a management trainee.

## HERBICIDE EMULSIONS (from page 16)

decrease velocity of the spray liquid thereby increasing or decreasing pressure.

Of course, just like in a bubble bath, you need something to make the foam. This is done with a spray adjuvant—mixed right in the same tank as the herbicide.

How does the system work in the field? Great, says Thomas M. Smith, who heads up industrial weed control for Hill-Smith Systems, Memphis and Nashville, Tenn. He's been able to cut application costs "nearly half" while at the same time rack up a record of impressive results.

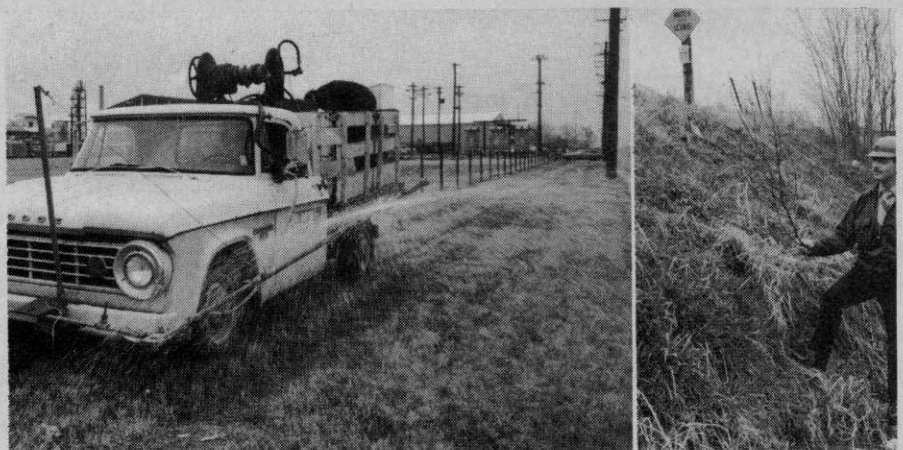
Smith reports his crews have in many instances cut gallonage and application time nearly in half, too, still maintaining excellent control. "The reason is that there's better, more complete coverage using the foam-type nozzles," he says. "Also, one V-type Accutrol boom-mounted

nozzle sprays as wide a path as we formerly got with nine conventional nozzles."

Hill-Smith got into the industrial weed control business in 1959. The company is still active in structural pest control, a business that started in 1928.

Industrial weed control must be done right the first time. It cost money to retreat an area. That's why Smith uses a prescription approach in his operation. Banvel, simizine, Pramitol and other herbicides are regularly called on to control vegetation in such areas as ditchbanks, parking lots, utility substations, fences and around signs. Many of these areas have valuable plantings around them which could be injured by drift. Smith's air emulsion system, however, keeps drift to a minimum.

Another big advantage of foam



One Accutrol nozzle attached to a boom sprays a band of chemical 12-15 in width. Truck will soon be equipped with three nozzles for broadcast spray jobs. At right, Smith stands on hillside cleared of Black Locust with treatment of Banvel-4S.

is in coverage. Because the spray that comes from the nozzle is white in color, it's easy to see what you've sprayed. A trained applicator can "eyeball" where he's been. Surprisingly, many applicators report better coverage with less chemical. That's what happened to Smith.

"The first time we used the air emulsion system we ended up applying a lot less solution than we had intended," he says. "We were spraying Banvel and 2,4-D at relatively low rates on honeysuckle,



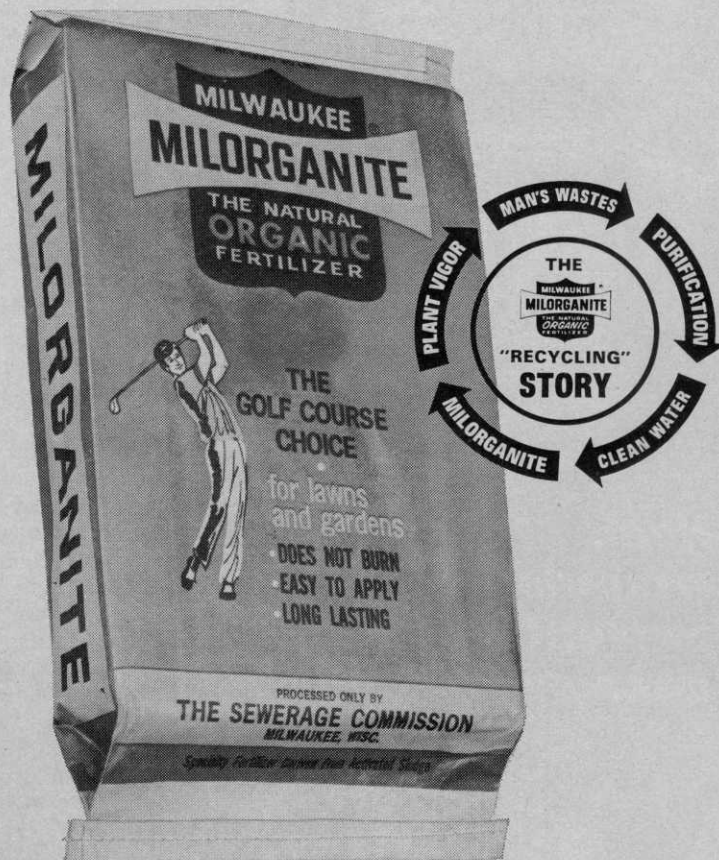
Smith adds Banvel-4S to tank to control seedling Black Locust. Note that he's wearing gloves and hardhat.

trumpet creeper (vine), dewberry and other vines. I figured we needed 150 gallons of mix to handle the job, but when we finished we had applied only about 30 gallons. It was a hand job, and we judged coverage by the 'eyeball' method. It looked good to us as we applied the chemicals, so we decided to wait and see what would happen.

"In three or four days," he continued, "we could see we'd achieved just about complete control."

Smith explains that the adjuvant in the air emulsion sticks the mixture to the leaves—there's practically no runoff.

Is foam just a passing fancy which like air bubbles pop after a time? We think not. Foam has a definite and growing place in the Green Industry. Commercial applicators are finding that anything that makes the job more precise, anything that makes for better control and anything that enhances weed control management will increase their reputation as industry professionals.

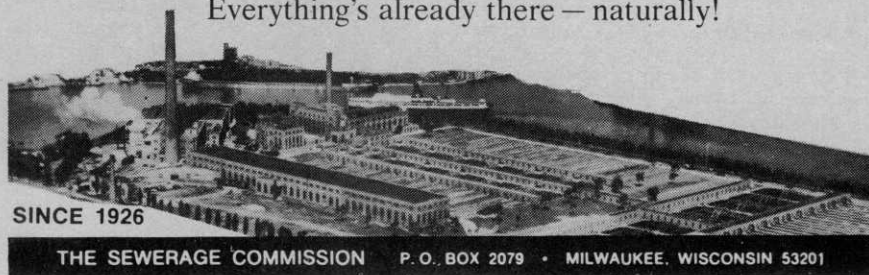


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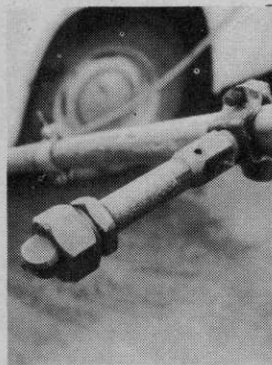
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Air emulsion system from the driver's seat.



Close-up of Accutrol V-type nozzle.



This nozzle tip can spray a stream up to 80 ft.