

Accutrol—Industry Unites Chemicals And Air

HARNESS air to apply chemicals! That's the latest way to spray chemicals for brush control.

Sound incredible? Velsicol Chemical Corporation doesn't think so. They've developed a new concept in spray application that is winning much attention from applicators across the country.

Called Accutrol, the new system:

1. minimizes drift and environ-

mental problems.

2. reduces the number of times required for refilling spray tanks.

3. increases the efficiency of the chemical being sprayed.

Accutrol basically consists of two parts, a special nozzle and spray adjuvant. The nozzle produces large droplets of air emulsion which have little or no tendency to float in the air.

Large droplets ordinarily would not provide good coverage because there would be too much space between the droplets, but the spray adjuvant compensates for this by causing the droplets to spread over the surface of the plant, thereby increasing the area of contact. The adjuvant also reduces spray run-off by causing the chemical to stick to the target plant and to penetrate through the waxy surface of the plant.

The nozzle and adjuvant create a spray mix resembling foam, although Velsicol is careful to point out that it isn't really foam. It's a mixture of air and water and is called an "air emulsion".

"The difference between air emulsion and foam, as most people think of it, is that foam is thick and heavy and does not readily break apart," says Phil Nathan, product manager for Accutrol. "A heavy type of foam that does not readily flow would not be appropriate for brush control because coverage would not be thorough. Accutrol flows readily and rather resembles the froth on top of milk rather than the thick, heavy type of foam that comes out of a shaving cream can."

Drift control is only one advantage of Accutrol. The white spray is highly visible against green vegetation. The applicator can see the volume of the spray and see where the spray is falling and make necessary adjustments, thereby minimizing skips and reducing excessive spray usage.

Savings in time is another major advantage. Only one spray tank is needed. With Accutrol the number of times required to refill spray tanks is reduced. Less water is required be-

(continued on page 53)



This applicator accomplishes a precision spray job with minimum drift. A variety of spray patterns are available with the Accutrol handguns.

ACCUTROL (from page 18)

cause the air in the air emulsion "expands" the spray mix and replaces part of the water needed for good coverage.

Reports from the field are enthusiastic. Here is what they say:

"When we use the system for ballast work, we estimate that it cuts the amount of water about 20 to 25 percent," says David Mobley, Mobley Company, Inc. Kilgore, Tex. "We also feel our application is more effective. We get better coverage and penetration." He uses Accutrol with MSMA, Banvel and Hyvar X-L with good results.

Bill Crabaugh, systems engineer for Servitron Inc., engineering and maintenance-way representative, Kansas City and Southern Railway, sprays with Accutrol mounted to a high clearance sprayer. He uses Banvel and 2,4-D for vine-type weeds such as red vine, trumpet vine, blueberry and blackberry. On railroad ballast trial work indicated



Heavy droplets penetrate thick brush like this. Accutrol increases chemical action on the plant surface.

Nozzle Patterns With Accutrol Handguns



LS Nozzle — Long Straight stream



XLS Nozzle — Extra Long Straight stream



SS Nozzle — Short Straight stream



F Nozzle — Fan stream



LF Nozzle — Long Fan stream

better coverage with Accutrol, says Crabaugh. "We found we could go twice as far with a tankload. Before we went about 20 track miles to a tank load, but with Accutrol, we went 40 track miles."

Another advantage of the new system is that you can see where you have sprayed. "We had no overlapping," says John Leighton, Eastern Maine Electric, Calais, Maine.

"With conventional application, the applicator would end the tank and tag the brush, load up again and begin six feet back just to make sure coverage was complete. With Accutrol, the spray mix still glistens on the leaves, even though time has elapsed in refilling the tank. It has a different look than conventional spray, and you can definitely see where you have sprayed."

Leighton sprayed about 90 acres with Accutrol in 1971 on distribution rights-of-way. Conservation of spray mix was another feature he liked.

"We went from 400 gallons per acre to 200 gallons per acre," he says. "Part of the difference was the size of trees. With the conventional system in 1970, we were spraying brush that was six to seven feet tall. Last year brush was about half that height. Still I believe we obtained

better coverage with fewer gallons of spray mix per acre."

The Accutrol nozzle is simple in design. It consists basically of four parts: nozzle tip, foam generator, flow control disc and strainer, and pipe adapter. The nozzle works much like the aspirator on the kitchen sink faucet. A vacuum is created in the small chamber in the upper end of the nozzle and air is drawn in through small holes. The product is a mixture of air and water, referred to as the air emulsion. The ratio of air to water in the emulsion is about four to one.

The nozzle tip has large holes which permit the air emulsion to pass. Unlike a conventional system, flow is controlled by the flow control disc; pattern is created by the air emulsion itself with no mechanical part to interfere. This means the tip can be used indefinitely without affecting the spray pattern.

Bob Cloud, district superintendent, Harris County Flood Control District, Houston, Tex., cites another advantage that has sold him on Accutrol. "Foam is being generated at the nozzle," he says. "You can pump the Accutrol a long way, whereas with other systems, about

(continued on page 60)



Accutrol droplets remain visible on the leaf surface from 5 to 30 minutes so that the applicator can easily monitor the application.

ACCUTROL (from page 53)

50 feet is as far as you can pump.

"In our work we often have to spray from one street intersection to half a block, then move around to the next cross street and work back. Sometimes we pull as much as 500

feet of hose," he says. "The extra throw is a big help."

Cloud sprays primarily for blood weeds, Johnsongrass and willows. "We try to remove the weeds and grasses and end up with a bermuda turf. We are a public agency, working primarily in a metropolitan area.

If the wind is blowing much over 10 mph, we shut down, even with the foam," he notes. The drift control features of Accutrol help but don't necessarily change a spraying operation much.

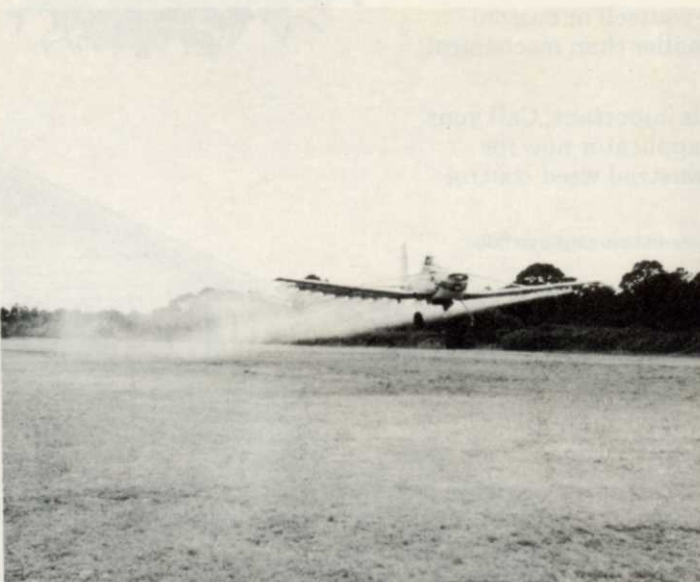
Monroe Otto, a Texas ranch owner near Needville, has brush as tall as 12 feet. Basal spraying in the past has not worked because "you don't get enough on the root system. Lately we have hit upon the right spray mix and equipment," he says.

His pull-type spray rig stands eight or nine feet tall. Otto positions a man on each side of the rig and equips them with Accutrol nozzles. He mixes Banvel and Accutrol adjuvant in the tank.

"Now we get the coverage," he says. "The Accutrol helps the chemical to penetrate better. We have close to 100 percent control."

Velsicol says the Accutrol nozzles can be used in aerial spraying as well. The exterior geometry of an aerial nozzle is different than those used with ground equipment. This is to compensate for drift control and coverage requirements. The Aerial Fine nozzle produces droplets that are small and close together for the most complete coverage. Maximum drift control can be achieved with coarse droplets from the Aerial Medium nozzles combine coverage and drift control ideal for many spraying applications.

The interest in Accutrol system is sufficient to warrant much use this year by the Green Industry. Velsicol believes that the system brings a new dimension to precision spraying, and possibly economies not yet experienced by spray applicators.



Three types of Accutrol aerial nozzles are available: Aerial Fine, Aerial Medium and Aerial Coarse.



John Leighton, Eastern Maine Electric, Calais, Me., inspects a utility rights-of-way sprayed with Accutrol.