

Marines Use Effective New Weapon

Fewer Weeds, Better Drift Control

By ROBERT E. EDDY

IF YOU'RE in charge of grounds maintenance for a 5,000-acre U.S. Marine air station, there are lots of reasons why you don't want the place to become overrun by weeds.

But being the general foreman of public works, General Services Branch at El Toro Marine Air Station, El Toro, Calif., I have some special reasons.

For one thing, we have a terrible problem with Russian Thistle — commonly known as tumbleweed. In the past, with the heavy prevailing winds we have here, we've had them stack up against the heavy hurricane fence that surrounds the bases and simply push it over.

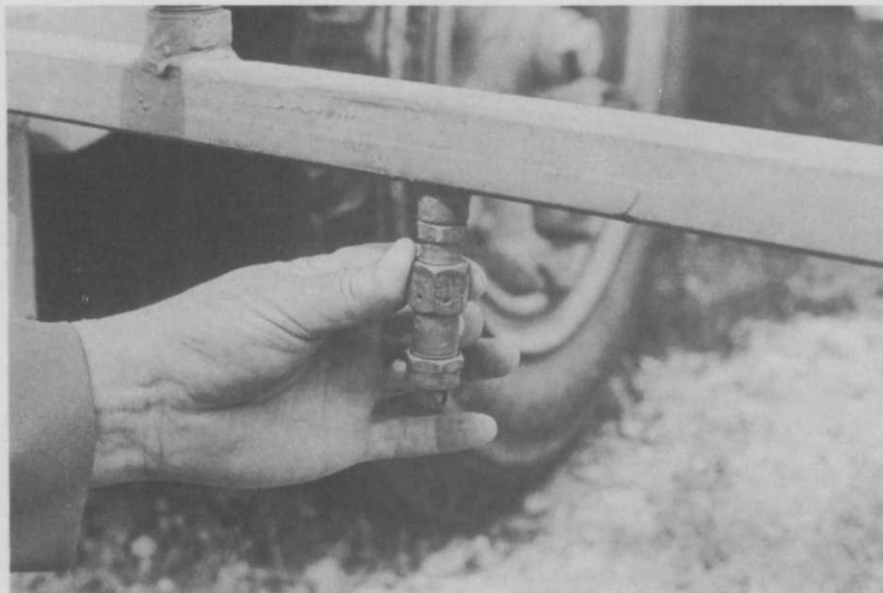
Also, weeds kill off the oats and barley we've planted to help prevent erosion. We're on a gentle, four percent grade here, and we have lots of asphalt runways and aprons from which there's a great deal of run-off during and after rains. We have to maintain good, thick ground cover to prevent serious gullying, which would be a terrible hazard in the

case of force landings — both to the airplane and emergency vehicles.

If we didn't have a good weed control program here, including

spraying and mowing, the weeds would be shoulder high in no time. And this would bring another

(continued)



Close-up of an Accutrol nozzle shows the unit's size compared to the man's hand.



This sprayer is operating along a roadway bordering the air base in El Toro, Calif. Across the road, behind the chain-link fence, is a field belonging to a large nursery. Prevailing winds blow from the base towards the field, thus making spraying

with 2,4-D a tricky operation. The foamy mixture on the gravel next to the roadway is evidence of the foaming action of the Accutrol nozzle.

problem — forced-down pilots being hit by emergency vehicles after bailing out successfully.

It might sound simple — just mow and spray at will, as needed. But there are a couple of “flies in the ointment.”

Mowing is quite expensive, particularly with breakdowns and regular equipment maintenance, but that's not the most serious problem we've been faced with. What really confounded us here for a time was spraying with 2,4-D and other chemicals, when we're almost completely surrounded by nurseries specializing in ornamental trees and plants, as well as truck gardens full of oranges, tomatoes, strawberries,

peppers, grapes, cabbages, lettuce and beans, to name a few.

Up until now, spraying has been a real problem because of the problem of drift. Everything around us is sensitive to 2,4-D, so we've had to start spraying at the break of dawn and quit before 9 a.m., before the prevailing winds get too strong. We couldn't cover much ground and had to resort to slower, more costly mowing procedures.

My crews and I have recently found at least a partial solution to the drift problem in switching to a new nozzle developed by the Velsicol Chemical Corp., Chicago, Ill. Called Accutrol, the nozzle mixes air and a sticky adjuvant solution

with the herbicide mixture, resulting in a fan-shaped pattern of large droplets rather than a fine mist, which is susceptible to drift.

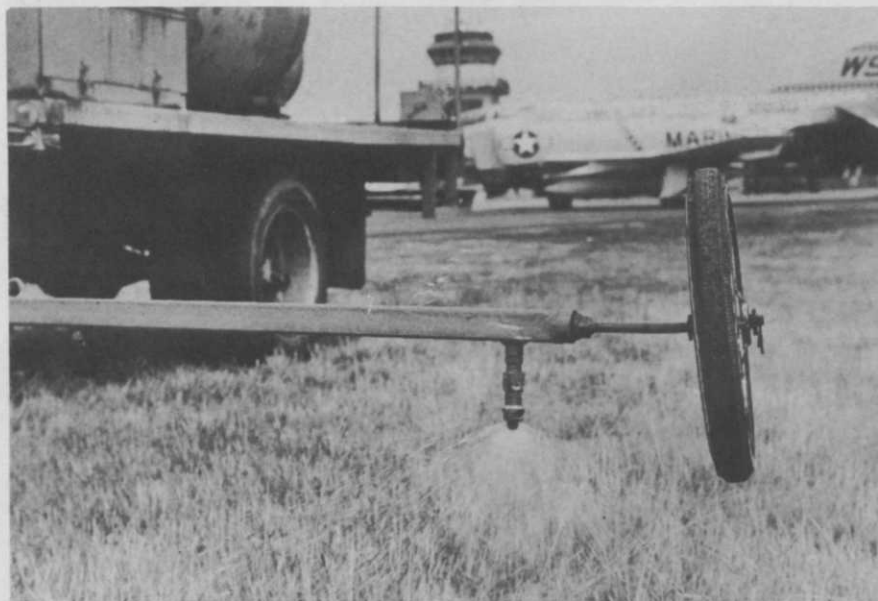
Now we're able to spray from early morning until at least noon. This has allowed us to mow at least one less cycle per year, which saves on labor and all the other attendant costs of mowing. Labor savings alone amount to about \$3,600 a year.

Other savings have accrued from the Accutrol spray system itself. Since so little is wasted through drift, my crews estimate we're saving as much as 500 gallons of herbicide solution a day — and that adds up to a lot of dollars saved, and lots more weeds controlled.

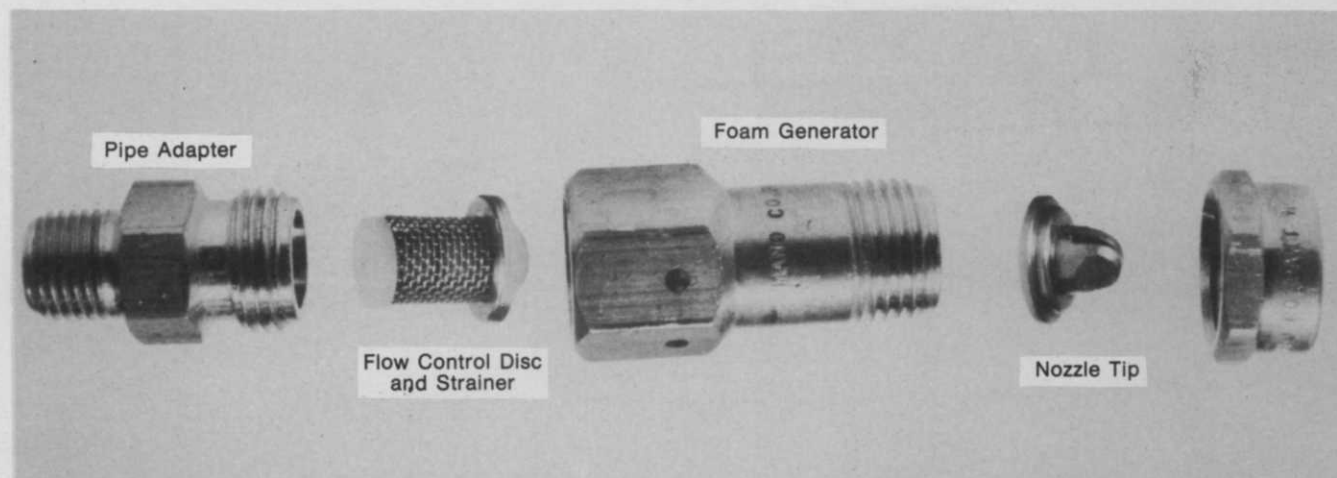
We've achieved very good control of our most serious weed problems using the new nozzle. This includes all the common broadleaves such as pigweed, as well as the tumbleweed, tumbling mustard, puncture vine and yellow star thistle.

Out of the 5,000 acres which comprise the air base grounds, my department sprays about 1,500-plus acres. We use a mixture of 2,4-D plus Doluran plus four pounds Amino.

I have a staff of four who handle the spraying and mowing operations. Their equipment includes four 15-ft. rotary mowers, a 1,000-gallon water truck with 20-ft. boom and a 150-gallon sprayer for small, irregular areas. The large truck boom has 15 nozzles, but the spray pattern of the Accutrol nozzles requires only seven of these be used at 48-inch sprayings.



A close-up of the Accutrol nozzle in use shows the fan-shaped pattern made by large droplets as they spray from the unit's tip.



This “exploded” view shows the components of an Accutrol nozzle used by El Toro Marine Air Station. From left to right: the pipe adapter, by which the nozzle is connected to the boom; the flow control disc and strainer, which increases velocity of the spray, thereby decreasing pressure and allow-

ing air to be pulled in through air intake holes in the next component — the foam generator. In the foam generator, air and chemical solution is mixed into a frothy “air emulsion.” The nozzle tip and nozzle nut are shown at the far right.