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)
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 broadleafs 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 allowing 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.
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WATER (from page 30)

Ways have been found to add water at a moment's notice to anyplace on a golf course. No longer are we completely dependent on nature's rain for the moisture that's needed.

We run 1,000 pound golf cars over the turf and the golf traffic has doubled and redoubled. Now in the '70's, we hear of "turf failure," "It's too hot or too wet to grow grass here," "can't stand the traffic," "Poa annua has invaded and the turf fails every year."

We have all become product-oriented through advertising. When we see weeds invade the turf, we know from advertising that the solution is applying a selective herbicide. If disease attacks the turf, we know the solution is applying a specific or a broad spectrum fungicide. I do not suggest that turf managers do not need the herbicides and fungicides as tools and I sincerely believe that most of the herbicides and fungicides as tools and I sincerely believe that most of the herbicides and fungicides manufacturers do not promote their products as "cure-alls." But, did you ever wonder why the weeds or disease took over? Is there some agronomic practice that we might utilize to improve the health of the turf overcome some of these problems in addition to the herbicides and the fungicides?

We are accustomed to hearing about Labor Budgets, Capital Improvement Budgets and Maintenance Budgets. How many turf managers use "Water Budgets"? Do you anticipate that inch rain? Plan to have excess water run directly into surface drops and not soak into the soil. Have you left room in the root zone for a half inch rain to be absorbed and not saturate the soil?

I agree with John Morley that air in the soil is more important than water during hot weather; with Dr. Daniel, that the condition of the top inch is critical to successful turf growth; with O. J. Noer, that a mismanaged water budget causes turf failure; and with Dr. Beard, for he was looking in the right place for the answers to successful turf growth. "If you can't grow roots, you won't grow grass." The water and air relationship in the root zone is probably the most important relationship to understand in successful turf management. I hope you have gained a renewed understanding of turf and the micro-climate and the role which water plays.

NOVEMBER 1974
International Merges Equipment Lines

A merger of International Harvester's construction equipment and industrial equipment divisions was announced recently at a national press conference at Lake Geneva, Wisconsin. The new division was christened Pay Line.

The new division places both lines of equipment into one marketing organization under a single divisional structure, said Ben H. Warren, International Harvester group vice president.

"It gives International the broadest, most comprehensive line covering the important construction and industrial equipment markets," Warren said.

The Pay Line division includes such varied products as a small 25 HP utility tractor and a 495 HP twin-engine scraper, plus excavators, all-wheel-drive off-highway rear-dump haulers; twin engine and single engine, open bowl and elevating scrapers; crawler loaders; forklifts; industrial and automotive diesel and carbureted engines; and airplanes-towing movers.

Cushman/Ryan Grant Aids Turf Grooming Study

Aided by a grant from Cushman and Ryan turf care equipment, a 22-year-old Tacoma, Wash., student is working towards a master's degree at Purdue University, Lafayette, Ind.

John Roberts, who received an undergraduate degree from Washington State University, is in the first year of a two-year program to earn an M.S. in agriculture from Purdue. His thesis subject is cultivation and grooming of turf.

In working towards his degree, Roberts will study and report on the effects of Cushman and Ryan turf care equipment on putting greens, tee-boxes and golf course fairways. He also will test the equipment on residential lawns.

The Future

The concept becomes reality. Six fields are installed. The national license, Prescription Athletic Turf, Inc., of Lansing, Mich., has garnered experience and established contacts. The corporation is equipped to promote, design, coordinate, install and guarantee.

Interest in the system has developed regarding Kennedy Stadium in Washington, D.C., the New York Giants' home-to-be in New Jersey, the Mile High Stadium in Denver, the Lansing, Mich., school system, Notre Dame University, Ferris College in Michigan and others.

Uniform suction transmitted to the surface from pumps, collectors, drains, sand and topmix is the key. Without mud and slippage, natural turf can take more wear. Meanwhile maintenance is standard and offers more freedom in actual timing turf operations.

A new line of equipment and improvements was featured at John Deere's dealer-oriented product show in Waterloo, Iowa. The 1975 models included tractors, mowers, chain saws and complementary equipment. The new units ranged from home lawn and garden tractors to heavy-duty riding mowers, some with commercial applications. Deere also briefly introduced forklifts and front-end loaders along with the complete line of consumer work and leisure products.
YORKTOWN: Lofts Pedigreed Seed, Inc., Bound Brook, N.J.

Yorktown, Loft's new turf type perennial ryegrass, will soon be available to professional turf managers. The new variety is said to be an extremely rugged perennial ryegrass that can take unusual stress. One outstanding feature, according to manufacturer, is its excellent mowing characteristics. When independently tested against 15 other varieties of perennial ryegrass, Yorktown is said to have scored highest for overall quality and coloring. Seed for testing purpose is currently available. For more details, circle (701) on the reply card.

STUMPRAZOR: Hesston Corporation, Indianapolis, Ind.

Hesston's new StumpRazor features six individual cutting teeth on a rotating head which shave stumps down to 6 inches below the ground. Safety shields protect operator from debris. This one-man method for removing any size tree stump less than 5 inches above the ground eliminates chopping, sawing and digging. Powered by an 8 hp Briggs & Stratton engine, StumpRazor features welded box frame construction. Replaceable cutting teeth are made of a tungsten-carbide alloy. For more details, circle (702) on the reply card.

HYDRAULIC PISTOL GRIP SAW: Limb Lopper, Santa Fe Springs, Calif.

Limb Lopper has introduced a new hydraulic pistol grip saw to its line of power tools. The Mark II Model PGH saw weighs under six pounds. It features a comfortable pistol grip and a sturdy stabilizing handle. Several bar lengths are available: 12-inch, 15-inch, and 18-inch. The four horsepower vanetype motor puts out 4,300 rpm and will work on either open or closed hydraulic systems. For more details, circle (703) on the reply card.


Designed for weed spraying, these reels have lightweight permanent molded 20-inch diam. aluminum heads and cast aluminum frames. Capable of handling up to 200 ft. x 1 inch hose, reels weigh about 37 lbs. Feature bronze swing joints of 1/4, 3/8, or 1 inch, with Viton o-rings and are pressure tested to 3,000 lbs. Available in hand, electric or air motor rewind. For more details, circle (704) on the reply card.
SELF PRIMING 360 GPH PUMPS: Proven Pumps Corporation, Los Angeles, Calif.

Available in AC Series, models 3MPUB-115 (solid brass) and 3MPUP-115 (high density polyethylene) move up to 360 gallons per hour, yet weigh only 5½ lbs. Both are available in battery-powered 12-volt versions. DC units are ideal for field application where AC power is unavailable. Impellers are made of Nitrile, compounded for long flow life, and resistant to oil, water and abrasion. Full circle cam eliminates body wear. AC unit has continuous duty series type motor with stainless steel shaft. DC unit has enclosed permanent magnet motor. For more details, circle (705) on the reply card.


An optional propane fuel system for Bucky rough terrain forklift truck is now available from Badger Dynamics, Inc. Bucky is designed for applications in material handling for construction, industry, agriculture and commercial markets. Manufacturer says new 33 lb. propane tank provides Bucky with three to five hours of operation before refueling. Capacity for propane machine remains the same as the gasoline-powered counterpart — 2500 lbs., with roller type mast reaching to 14 feet as standard. Low profile mast is optional. For more details, circle (707) on the reply card.

MODEL MF FLAT-BED TRAILER: Clark Equipment Company, Michigan City, Ind.

Clark has introduced a flat-bed mini-trailer for pick-up trucks that can decrease equipment investment and increase operating flexibility for light, bulky hauling by freeing costly truck tractors for heavy loads, according to manufacturer. Inverted fifth wheel mounted under the "gooseneck" couples to a 2-inch SAE kingpin that folds into the pickup floor when not in use. Model MF is available in 22- and 30-foot lengths and features optional side rails for the drop deck area. For more details, circle (706) on the reply card.


Mini-Haul, with its low profile, compact width, short overall length and power articulated steering provides easy maneuverability, according to manufacturer. Traveling on 12-inch-wide flotation turf tires, it is said to cause no rutting or damage to turf. Several bucket designs are available, and dump angle of 110 degrees facilitates dumping. Mini-Haul is provided with 4-wheel hydrostatic drive and a 4 cyl. 46 hp ohv gasoline engine, and has a travel speed of up to 12 mph. All weather cab is available. For more details, circle (708) on the reply card.
FOR SALE


USED EQUIPMENT

FOR SALE: Sprayers: used and new; hydraulic and mist, all makes; Royal 20, 35, and 55 pumps. Used atomizer parts, big discount! Phone 313 665-5338 or 313 994-3110. Write: Ralph McFarland, 209 Pleasant Place, Ann Arbor, Michigan 48103.

SOD FARM EQUIPMENT, 4 row sod planter, 8 row sod planter, 2 sod wagons, 6' weed chopper (Devil Catcher), 10' Howard Rotovator, 2 fork lifts. 400 gallon Hudson spray wagon, and more. W. B. Cowart, Belle Glade, Fla. 33430. Phone 305 996-3652.

FOR SALE: 2 Ryan heavy duty sod cutters with automatic cut-offs and roller attachments. Used one (1) year. Good condition. $1250.00 each. Complete inventory of parts also for sale. Maricopa Turf, Inc., P.O. Box 1062, Casa Grande, Arizona 85222. Phone (602) 836-8246.

1969 1/2 TON CHIPPER TRUCK in perfect condition with walk through tool box, real sharp. Easterner, 518 Chestnut, Elmwood, Kansas City, Missouri 64127. Phone 417 483-3490.

SEEDS

SOD QUALITY Merion Seed for discriminating growers. Fylking, Delta, Park, Cheri, Glade and Baron bluegrasses as well as fine fescues. Also Manchester fine leaved rye grass. We will custom mix to your specifications. Michigan State Seed Co., Div. of Vaughan-Jacklin Corp., Grand Ledge, Michigan 48837. Phone No. 517 627-2164.

HELP WANTED

TREE CARE SALES REPRESENTATIVES: The Davey Tree Expert Company has openings for Sales Representative in the southeast and mid-Atlantic Coast area. Must have Jr. College or four year degree and/or four to six years of sales experience in tree care or allied fields such as nursery, landscaping, forestry and retail garden stores. Will be on salary. Later salary plus bonus arrangement with unlimited earnings for those who can sell our quality service. Write letter of application with resume to R. J. McCafferty, The Davey Tree Expert Co., 117 S. Walter, Kent, Ohio 44340. An equal opportunity employer.

DISTRIBUTORS for D. J. Andrews, Inc. stump cutter teeth, pockets and bolts. Best wholesale and retail price in U.S.A. Add to this exclusive area, local advertising at our expense, etc., and you have our story. D. J. Andrews, Inc., 17 Silver St., Rochester, N.Y. 14611. Call 716 235-1230, or 716 436-1515.

INDUSTRIAL WEED CONTROL — Immediate opening for an industrial weed control sales-service representative. Duties: sell weed control contracts during the winter months; service the same accounts during the balance of the year. A knowledge of soils, weed species and herbicides would be desirable. Salary based upon experience. Excellent fringe benefits. Send resume to: Dave Basler, Eastern Soil Management, 1048 Route No. 22, Mountainside, New Jersey 07092.

IRRIGATION TECHNICIAN Sales, service, design of irrigation systems and pumping plants. Prefer individual with at least basic background in electronics. Salary commensurate with experience. Please contact H. G. Burkhardt, Lakeshore Equipment & Supply Co., 10237 Berea Rd., Cleveland, Ohio 44102.

WANTED: Tree Trimmer, with three years minimum experience in trimming around electrical distribution lines. Salary: Open. Apply to: City of Miami, Utilities Superintendent's Office, 129 5th Ave., N.W., Miami, Florida 33134.

MISCELLANEOUS

TREE APPRAISALS, Surveys, loss evaluations and expert consultation services. For names of members of the American Society of Consulting Arborists, Inc., throughout the country, contact: Executive Director ASCA, Assn. of America, 2806 Main St., Santa Barbara, California 93101. With more than three and one-half months of production still to come, Walbro Corporation of Cass. City, Mich. produced its 1,000,000th chain saw carburetor of the year in early September. There to give his team a hearty "well done" was Walbro President Walter E. Walpole (center), accompanied by C. Clark Boylan, vice-president, carburetor sales (right) and James Peyerl, final assembly foreman.

advertisers

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If you thought puberty was rough . . .

an insect theory that larva hibernation is caused by the juvenile hormone is the subject of research conducted by a University of Missouri-Columbia's Agricultural Research Station entomologist. Dr. G. M. Chippendale, who developed the theory, was recipient of a National Science Foundation two-year grant of $51,800. He explained that the hormone is secreted from a gland inside the insects' head and prevents them from maturing. This hormonal function could be exploited in future insect control practices, he said.

South of the border, PS Construcciones SA has been appointed Toro distributor in Mexico. The company, headquartered in Mexico City, will handle all Toro products and maintain a parts warehouse and service facility. According to a company official, this is Toro’s first full-line distributor in Mexico.

Market Facts, Inc.’s Center for Quantitative Sciences was awarded a government contract for development of a consumer safety education program for outdoor power equipment including power mowers, garden tractors, snow throwers, chain saws and hedgetrimmers. U. S. Consumer Product Safety Commission awarded the grant.

The second volume of a 5-volume series of the metric system dealing with legislation and regulatory controls is now available from the J. J. Keller and Assoc., Inc. METRIC SYSTEM GUIDE — VOLUME II can be obtained, from the publisher, for $59.00 each. For more information contact J. J. Keller, 145 W. Wisconsin Ave., Neenah, Wisconsin 54959.

New housing starts have shown a sharp drop this year due to scarcity of mortgage money, high interest rates and other inflationary problems. “There is a strong correlation between housing starts and sales of industrial tractors,” said John E. Mitchell, executive vice president, Americas for Massey-Ferguson. “When housing starts to go up or down, sales of industrial tractors re-

Now we’ve heard it all. Floratam, a somewhat misleading name for a new variety of St. Augustine grass, appears not only to resist chinch bugs but actually fights back by killing many of the bugs that attack it. The new variety is being released jointly by the University of Florida and Texas A & M University. “The chinch bug resistance is really a fringe benefit. Floratam is the result of efforts to find an improved variety of St. Augustine grass to combat SAD (St. Augustine Decline), a virus disease which has destroyed lawns in Texas and is now spreading into other areas,” explained Dr. Albert Dudeck, associate professor with the Institute of Food and Agricultural Sciences at Florida. In confined tests more than half the chinch bugs that fed on Floratam died, but it is not known what makes the grass unpalatable to the pest. It is thought, however, that the grass interferes with the life processes of the bugs in some way.

Not a kit but a new brochure, detailing steps for community-built golf facilities has been published by the American Society of Golf Course Architects. It includes information on research, costs, site selection, financing and other important aspects of planning and building a municipal course. For a copy of the brochure, write American Society of Golf Course Architects, 221 N. LaSalle St., Chicago, Ill. 60601.