NUTSEDGE (from page 52)

inch height suggesting that the nutsedge is well adapted to a close

mowing regime.

Initially, fertilization appeared to enhance nutsedge growth, but this trend was reversed by the end of four months. This was probably due to the response of Kentucky bluegrass to fertilization during late summer. Thus, the success of nutsedge as a weed in turf is apparently associated with conditions that reduce the competition from Kentucky bluegrass.

Bentazon, cyperquat and MAMA were applied for controlling yellow nutsedge on a golf course tee of Kentucky bluegrass maintained at ¾ inch cutting height. The herbicides were applied at various rates. Repeat applications and the addition of surfactant to the spray solution were also included in the test. Control estimates were made approximately three and seven weeks after initial treatment. Plugs were extracted from each plot and nutsedge tubers were separated and

Nutsedge control was best in plots receiving two applications of any of the three herbicides under evaluation. Where effective control of the nutsedge shoots was observed, tuber development was also substantially reduced. Some temporary discoloration was observed on the MAMA treated plots while no injury was evident from the bentazon or cyperquat treatments.

There was substantial variability among replications that was associated with differences in irrigation coverage. Generally better control was observed in the more intensively irrigated plots.

Based on this observation and subsequent greenhouse tests, it was concluded that frequent irrigation for a period of several weeks prior to herbicide treatment enhances control of yellow nutsedge with herbicides.

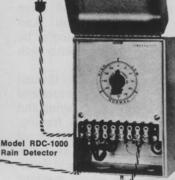
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hard pans, clay or frozen ground. . .no problem. Root-App is. . .portable, simple to operate and it's automatic. Above all, it's the fastest root feeding system available anywhere. One man can feed a 10" diameter tree in less than 3 minutes. Concentrated

liquid fertilizer is injected as deep as 16 inches with no fuss and no mess. Less holes are required with Root-App as the high pressure radial injection penetrates more soil area.

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SPRAYER (from page 44)

treating and performing all three functions on the same job. And materials must not be wasted or be contaminated by contact with each other.

High pressure capability it must have, and high volume. Pressure and volume are essential in spraying and a major key to profit in feeding. Tanks and machine should be of non-corrosive materials, as fertilizer destroys metal, and acid fertilizer is worse. The whole machine must be, in effect, a sealed package to protect the truck that carries it. And since time is a top factor in every operation, a way must be found to save the time lost in waiting for tanks to fill. A machine was needed — a very special machine. It must be efficient and highly versatile, long lasting, and time saving, a machine designed for this special

Practical limitations of size and weight made it desirable to get big capacity from small tanks. This pointed to an injector or proportioning system. The use of the injector principle of injecting a chemical stream into a water stream would also almost eliminate the waiting time for tanks to fill. Formula tanks would be quickly filled because of small size, and the water would be pumped from a tank, floatfilled through a water hose from the customer's faucet. Because venturi, or siphon injection is accurate only when flow and pressure remain constant, this simple system must be rejected. Accuracy is imperative, even though flow and pressure must vary widely.

Only a system of two pumps would do. A big pump for water, a small corrosion resistant pump for the chemical and a suitable means of control. This was the idea that met the need. This was the idea that produced a machine making horticultural service convenient and practical.

The machine that emerged did not come into the world in its fully developed state. Rather, it came as any infant comes, in need of development through years of growing up. Its new control system, a vast improvement over the original, is now four years old and new patents have just been applied for on recent improvements. Its metering system is now completely new for the fourth time in fifteen years. Metering is, of course, a necessity in feeding to give the operator an indication of gallonage. The multiple tanks have been fiberglass for many years, and for almost eleven years now, the entire system has been housed in an all fiberglass van protecting the carrying truck from corrosion.

These machines spray at eight hundred pounds pressure. Switching between formulas, and between spraying and feeding is done in an instant. One ton trucks carry them, yet their ten formula tanks have a total capacity of more than one thousand gallons. More than two thousand gallons of fluid in tree feeding or lawn treating is a good day's work. All materials for normal needs are carried on the truck, and all production is by the operator with no helper.

SLO-GRO...now more than ever the key to lower mowing and pruning costs.

If rising labor costs are keeping you from doing the kind of mowing and pruning job you know should be done, maybe the answer you're looking for is <u>Slo-Gro</u>.

<u>Slo-Gro</u> is a unique chemical growth retardant that economically controls the growth of trees, grass, shrubs and ivy. In tough-to-control areas, <u>Slo-Gro</u> can usually do the job

better, and at less expense than mechanical methods.

It's fast, systemic, safe, and produces no persistent residue. For complete details write: Uniroyal Chemical, Division of Uniroyal, Inc., Naugatuck, CT 06770.

As with any growth regulant, always follow instructions on the label.



Roadside Grass Control. Slo-Gro is recommended for use on all "commercial" turf areas that require regular maintenance, but are difficult to mow. Maintenance situations like highway medians, airfields, steep embankments, ditches, and grassed areas around fences and guard rails.

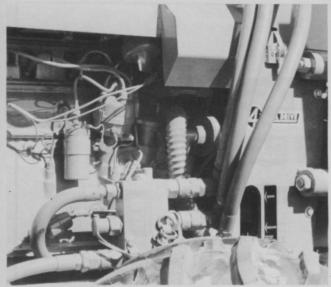


Growth Control on Trees. Slo-Gro inhibits tree growth by stopping the terminal growth of woody plants. Primary applications include control of tree size under power lines, along streets, or wherever excessive foliage is a problem.



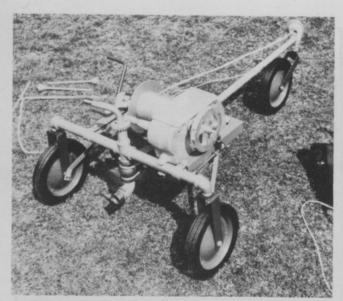
Golf Course Maintenance. While Slo-Gro is not recommended for general use on fine grass areas such as residential or commercial lawns, it has been used extensively on golf course roughs. It can also be used in conjunction with herbicides wherever weed control is required.





LIQUID-COOLED ENGINES: Charles Machine Works, Inc., Perry, Okla.

Two additional power plants are available as options for the Ditch Witch R40: liquid-cooled gasoline and diesel 192 cubic-inch engines. Both produce 40-plus hp at 2,000 rpm, and are said to lower maintenance requirements and noise level. Basic R40 vehicle uses interchangeable socket-mount work modules, including modules for trenching, restoration, vibratory plowing, backhoe work, boring, a hydraulic breaker and the Ditch Witch Combo, a combination tool which includes an offset digging assembly and vibratory plow. For more details, circle (701) on the reply card.



SPRINKLERS: Travelrain Power Sprinkler Co., Beverly Hills, Calif.

Four self-propelled sprinkler models are offered by Travelrain Power Sprinkler Co. — heavy-duty, standard, cub special and cub. Heavy Duty model waters an area of 100 by 600 feet in one setting, and features an oil-tight enclosed gearbox. These water-turbine powered sprinklers pull themselves along through winding up a steel cable, and shut off automatically. All models have semi-pneumatic tires and positive shut-off, and are said to travel straight or irregular paths including steep hills, rough ground and tall grass. For more details, circle (703) on the reply card.



SNAP-CUT TREE PRUNER: Seymour Smith & Sons, Inc., Oakville, Conn.

No. 33AT Snap-Cut tree pruner features Teflon-S coated pruning blade and saw blade. Pruners also have dual action pulley system providing compound cutting action. Telescoping aluminum poles adjust to any length between six and 12 feet. A simple, foolproof cam-lock tightens or loosens with a quarter turn of the poles. Pruner cuts branches up to 1½ inches in diameter. Curved 16-inch detachable saw has teeth especially set for cutting greenwood and large limbs. Tefloncoated blades are said to not gum up, stick, bind nor rust. For more details, circle (702) on the reply card.



PRO RAKE: York Rakes, Unadilla, N.Y.

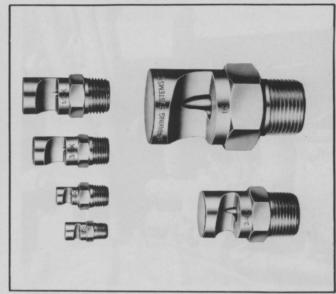
"Professional" Model PRO Rake is designed for tractors equipped with a standard three-point hitch and extra hydraulic valve control package. Rake angle is automatically adjusted using hydraulic power from the tractor. Large-diameter caster wheels equipped with pneumatic tires are first adjusted manually to desired working rake depth. Thereafter, as driver changes rake angle, caster wheels adjust automatically to new working angle and driver remains in his seat. Maximum working width of rake unit is 8 feet. Minimum width, fully angled right or left, is 6 feet, 10 inches. Rake has 48 teeth of heat-treated alloy steel, set one inch apart. For more details, circle (704) on the reply card.





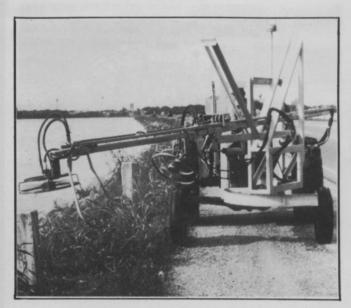
S-60, S-72 ROTARY MOWERS: BMB Company, Inc., Holton, Kan.

BMB Company has announced the addition of the Suburban 60 and 72 (60 and 72 inch cutting widths) to their line of rotary mowers. Belt driven for quiet operation, the mowers consist of three blades rotating at very high rpm, and are said to ensure a neat, "finished" appearance. Cutting height of the mowers ranges from one to six inches, depending on the drawbar lift of the tractor. The mowers are designed mainly for use with Category I tractors. S-60 weighs 570 lbs., and sells for \$642. S-72, weighing approximately 610 lbs., sells for \$698. For more details, circle (705) on the reply card.



FLOODJET NOZZLES: Spraying Systems Co., Wheaton,

Spraying Systems Co. has expanded its line of wide angle FloodJet Flat Spray Nozzles to provide complete size selection from ½ inch to 1 inch NPT inlet connection sizes. Nozzle pipe sizes are also available in a range of capacities from the ½K.50 with a capacity of .70 gallons per acre to the 1K-450 with a capacity of 315 gallons per acre — both operating at 20 psi and a tractor speed of 15 mph. FloodJet Nozzles are supplied in choice of brass or stainless steel for spraying liquid fertilizers and other chemicals. For more details, circle (706) on the reply card.



SPAN-SPRAY: Ring Around Products, Inc., Montgomery, Ala.

Span-Spray herbicide unit is designed for weed and grass control along ditches, embankments, culverts and other hard-to-reach areas. Mounting on front of any tractor, boom reaches out to cover up to 25 ft. from tractor centerline. All mechanics used are hydraulic. Will operate 3 hours per tank filling. Boom, extending to right of tractor, can be moved while tractor is in use and in motion. Will go out to 18 ft. horizontally, will raise to 70 degree angle or lower to nearly 8 ft. below road level. Boom locks forward in line with tractor for one-lane road travel. For more details, circle (707) on the reply card.



REN-O-THIN POWER RAKE: OMC-Lincoln, Neb.

Two new power rake models (4 hp and 7 hp) with optional thatch catcher, are introduced by Ryan turf care equipment. Both models have two 8-in. front wheels, two 10-in. rear wheels and floating front axle, which are said to enable units to follow land contours better. Features include: reversible handle for upmilling, enabling operator to change reel's direction to insure more effective thatch removal; spring loaded deadman clutch control on handle bar to stop reel; micrometer screw adjustment on front axle to control reel height adjustment in small increments up to 1% in. Power rakes list from \$330 to \$395. For more details, circle (708) on the reply card.

-Classifieds-

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: All classifications 50¢ per word. Box number, \$1. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment.

FOR SALE

ARPS stump cutter teeth, top quality and best price in U.S.A., D. J. Andrews, Inc., 17 Silver St., Rochester, New York 14611. Call 716 235-1230.

USED EQUIPMENT

1968 FORD dump with chip box, \$6500.00; 1966 Vermeer 1560 stump cutter, \$3500.00; 1970 F-600 Ford 52' Hi-Ranger with chip box, \$18.500.00; 1971 Woodchuck brush chipper, 4 cylinder, 12", \$2900.00; 1967 Chevy stake with 1968 John Bean 35GPM sprayer, \$6000.00; 1972 Fleco 26" tree shear, \$4500.00. Jim Green, Ohio Chipper & Equipment Company, Div. of Osborne Brothers Tree Service, Mentor, Ohio 216 951-4355.

MODEL 524-100 Jacobsen aero-blade seeder. Less than 50 hours use, \$750.00. Model MC-5C Hahn vertifier with core catcher. Less than 75 hours use, \$825.00. Professional Turf Corp., Box 2175, Gaithersburg, Maryland 20760. Phone 301 948-5252.

FOR SALE — 301T Rotomist, less than 300 hours, excellent, new bearings, shroud, tires, battery packings, warranty. Call 315 685-3756.

VERMEER STUMP CUTTER, model 10, excellent condition, new engine, \$3,500.00, Shearer Tree Surgeons, 300 Basin Rd., Trenton, New Jersey 08619. Phone 609 924-2800.

STUMP grinder log splitters, chippers, sprayers, bucket trucks, all reconditioned; let us know your needs, Essco, 5620 Old Sunrise Highway, Masspequa, New York 11758. Phone 516 799-7619.

SEEDS

SOD QUALITY Merion Seed for discriminating growers. Fylking, Delta, Park, Newport, Nugget, Adelphi, Cheri, Glade and Baron bluegrasses as well as fine fescues. Also Manhattan 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

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.

POSITION WANTED

ENTOMOLOGIST (BS 1968) 3½ years insecticide application experience seeking position in chemical or Agricultural equipment sales. Will consider related employment. Prefer east coast. Write Dave Meissner, P.O. Box 158, W. Falmounth, Mass. 02574.

GROUNDSMEN, GARDENERS, TREE TRIMMERS: Two year vocational graduates in Golf Course Management, Grounds Maintenance and Arboriculture desire positions with private and public horticultural services departments. Willing to locate nationally. For additional information, contact E. L. Viramontes, Instructor, Landscape Career Center, Box 191, Anoka, Minn. 55303 — 612 427-1586.

HORTICULTURIST: Seeking managerial or sales position, diversified experience, adaptable, challenges welcomed. Reply Box 128, Weeds, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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AUTOMATIC IRRIGATION COURSES For both superintendent and contractors. Independent coverage of theory and practice of modern irrigation with individual lessons on todays equipment, materials, installations, estimations, specifications. Straightforward practical question and answers on each lesson. Final exam and completion certificate. Send for free outlines of both courses. Larson Company, P.O. Box 4453, Santa Barbara, Calif. 93103.

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By day, week, or month, for spring spraying with one of our employees, 1973 truck, with 600-gallon tank, 45 GPM pump, 1—500-ft. ½" hose on electric reel, 1—100-ft. ¾" hose with 12-ft. tree gun for tall trees. This unit isn't booked for this spring — we need to put it to work.

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4600 Main—Parsons, Kansas 67357 Phone: 316/421-0868

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, 12 Lakeview Ave., Milltown, New Jersey 08850.

PUGET SOUND TREE SERVICE, INC., 1111 No. 98th St., Seattle, Washington 98103, Stump Chipper Teeth and pockets for the Northwest. Phone 206 523-2240.

SEWAGE (from page 43)

320 ppm lead. These levels are low compared with most other metropolitan areas, and can be further reduced by eliminating industrial effluents of these heavy metals.

Pathogen Destruction

Numerous studies have shown that temperatures generated in properly conducted composting processes are capable of killing the cysts of amoebic dysentery-causing protozoans, the ova of parasitic worms and most pathogenic bacteria. Killing temperatures are not reached, however, throughout all parts of the compost at any one

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time. All the material will be eventually subjected to the higher interior temperatures when the compost windrows are turned a number of times during the course of several weeks. Salmonellosis (food poisoning) is capable of growing in the cooler parts of the compost. When the compost is turned, the sterile interior materials become inoculated.

Survival of these organisms in sufficient quantities to constitute a health hazard seems unlikely for two reasons: (1) as composting continues, the material appears to become increasingly less capable of supporting their growth, and (2) storage for 30 days in the largest compost piles, wherein heating continues, should reduce their numbers to insignificant quantities.

-Trimmings-

An entomology seminar scheduled for March 3, 4, and 5 in Denver, Colorado was recently finalized by the International Pesticide Applicators Assoc. The seminar consists of 21 hours of classroom training and testing headed by Dr. Dean Jamieson, vector control specialist, Santa Clara City Health Department. Certificates of completion will be issued to each successful participant. Interested persons should contact Dave Dixon, 620 S. Dallia St., Denver, Colo. 80222, telephone 303-399-2301.

Ah, for the days when a dollar was worth a dollar said the residents of West Hollywood, Calif. when they saw the bill for a recent street tree planting project. What began as a modest project ended up costing Los Angeles County taxpayers about \$180,000 or \$1,144.51 per tree. The money bought 157 magnolia, palm and laurel trees. Sidewalks were torn up, subsurface pipelines and wiring systems had to be dealt with and an underground irrigation system was installed for the trees. Individual cost of the trees ranged between \$90 and \$138 each, but an administrative decision to give them each an automatic watering system increased the cost of each tree tenfold. The original estimate for the watering system was \$18,000 — a 1971 estimate. Inflation and numerous problems encountered with underground utility pipes, vaults and wiring systems kept multiplying the cost.

Hormone weed killers are about to get a boost in England as the agricultural division of Burts and Harvey initiates an expansion program aimed at doubling production of monochlopropionic acid. The acid is vital to the production of hormone weed killers. Company officials estimate a large percentage of the increased production will be exported in the form of technical material for final formulation in overseas countries.

Helping nature with science are researchers looking into synthetic substitutes for the pyrethrum plant, considered one of the world's safest and least toxic insecticides to man and animals. The new synthesized substitutes, while more effective against target insects, may be even less hazardous to people and animals than the natural product. Research conducted by USDA Agricultural Research Service (ARS) has proven the insecticide lethal to a wide range of insect pests.

It isn't nice to fool mother nature but researchers at Weyerhauser Co. are out to show that they can do her one better in the tree growing business. "Skipping the seed" and growing trees right from living cells is just one of the possibilities being explored. "Tissue culture will be the next big breakthrough in forestry," said Jess D. Daniels, a forest geneticist at Weverhauser's Forest Research Center, Centralia, Wa. "Commercial growing of trees with tissue culture is only about five years away." Other ideas under investigation include suspension cultures, a batch of tissue that grows like yeast, and taking live cells from a seed to grow trees. "We can get 20 to 40 seedlings from one seed by doing this," said Jack Winjum, a forest regeneration research manager. Sex and the single tree, as one scientist described the research, holds the promise of major forestry breakthrough.

1975 Golf Course Market Study

There's little doubt that the cost of materials and labor is climbing at an alarming rate. And this is as true for the maintenance budget of the golf course as it is for everything else.

The 1975 Golf Course Market Study just completed by WEEDS TREES AND TURF shows just how much this striking trend in higher costs and larger budgets has progressed.

Net growth in dollar expenditures for the 18-hole golf course, for example, has increased more than 67 percent since 1969. Average budget for the 18-hole course is over \$96,000. This figure compared to the 1969 results of \$65,000 indicates an increase of \$31,000.

Tabulated returns from the course superintendents fell into three categories of courses; private, public and semi-private — the largest percentage, 67 percent, falling into the 18-hole category. This size course, in any of the three categories, showed the greatest percentage gain in gross dollar outlay for chemicals, fertilizer, equipment and labor.

Broken down, the new average budget for an 18-hole course, includes yearly outlays of \$4,440 for chemicals, \$6,323 for fertilizer, \$57,155 for labor and \$10,-279 for equipment. Compared to 1969 results of \$3,000 for chemicals, \$4,700 for fertilizer, \$6,862

for equipment and \$32,200 for labor, the new budgets represent a substantial increase in each of the market areas.

A chart of yearly budgets for all size courses shows 20 percent of the respondents operating within the \$25,000 - \$34,900 category, 18 percent within \$100,000 - \$124,000 and 16 percent in the \$75,000 - \$99,900 range. The majority of the superintendents spent their yearly budgets operating 9- and 18-hole courses but others ranged to 81 holes.

Most owned items on the list of equipment include aerators, chemical applicators, mowers, dethatchers, chain saws and tractors. The superintendents indicated that flail, gang, reel, rotary and sickle bar mowers headed their equipment list at a rate of 12.3 mowers each. Aerators represented 55 percent ownership while gasoline carts edged out electric carts by a slim margin. However, over 50 percent of the respondents indicated owning either type of cart.

The biggest ticket item on the chemical and fertilizer budget is fertilizer at \$5,900, followed by fungicides, both contact and systemic, for a total of \$3,900 and preemergent crabgrass herbicides at \$1,200. The new averages represent at least 100 percent increases from the 1969 survey in all three categories.



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Just what you need for carting, for hauling, for getting personnel from one work area to another

Ray McMicken (with B. Hayman Company in Santa Fe Springs, California) is one of us 74 Jacobsen Distributors who can tell you all about these new hauling vehicles.

Take the big, one-ton capacity UV4 shown up front. It lets you haul dirt, sand, fertilizers or chemicals to anywhere you want to put it. And that means anywhere because it's an articulated 4-wheel drive

vehicle.

Also, it features a hydraulic dump, a rugged torque converter transmission with two forward and one reverse speed including 20 MPH transport, and powerful

hydraulic brakes. It even has an hour meter, along with other things you should know about, like top and bottom tailgate hinges. For smaller loads like tools, equipment and personnel, the Cruiser 2 has a payload of 1/2 ton. It seats two and goes between work areas as fast as 12.5 MPH.

It also has a torque converter
transmission with two forward and one
reverse speed, hydraulic brakes, plus a
ground-hugging design for safety.
Ask your Jacobsen Distributor for a
demonstration at your place. He'll show
you vehicles that have real get-up-and-go.
If you're not convinced, he'll get up

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