1-54
Experienced personnel

Key to the leadership status of ProTurf are the dedicated experts who work with golf course superintendents to achieve vigorous, high quality turf . . . the 54 ProTurf Tech Reps. Each is thoroughly trained in agronomy; turf management; grass, weed, insect and disease identification and the features and benefits of Scotts® professional products and services. Because of this background, the Tech Reps can help a superintendent develop a turf program that not only meets his course's needs, but also gives the most return for every maintenance dollar spent.

55
Full product line

More than 5,000 golf courses depend on ProTurf products specifically designed and research-tested for golf course usage: fertilizers, including specialty nutrient and regional products; fungicides; combinations of fertilizers and pesticides; seed, and application equipment.

56
Research expertise

Every ProTurf product is backed by more than 55 years of Scotts turfgrass experience. And, that knowledge is constantly being expanded by more than 120 full-time research specialists at the headquarters research center and five research stations across the country. They use more than 300 acres of test plots and 40 golf courses to study everything from plant pathology to equipment design and application. All, so you can have the most economical, convenient and effective turf products.

57
Seminars & tours

Each year, approximately 2,200 golf course superintendents take advantage of the 38 seminars conducted by the ProTurf Technical Institute. Attendees receive the latest information on a variety of subjects to aid the professional turf manager in solving problems fast. Special attention focuses on understanding fertilizers and new products, plus the identification, prevention and control of insects and disease. When seminars are conducted in Marysville, the groups also tour Scotts research labs and test plots.

58
Technical communications

Although the Tech Rep is the key communication channel, ProTurf keeps its clients up to date by other means, too. ProTurf publishes two free magazines to circulate information to the industry: "ProTurf," directed to improving golf course turf management; "Turf & Grounds Manager," directed to turf managers of companies, apartments, athletic fields, parks and lawn service firms. Additional data are included in technical bulletins, product guides and general materials.

59
Special services

ProTurf maintains one of the most comprehensive soil testing programs in the industry. Each **soil analysis** includes results and recommendations on the soil's *physical characteristics* (soil profile, water and air movement and thatch depth) and *chemical characteristics* (nutrient availability, nutrient deficiencies and chemical toxicities) in an easy-to-understand manner. During a year, more than 16,500 samples are received and tested.

Because irrigation water can have strong impact on turf growth and vigor, ProTurf also offers water quality testing. Each **water analysis** measures electrical conductivity, pH levels, sodium absorption and the amounts of chlorides, boron or bicarbonates.

No matter which test is done, your ProTurf Tech Rep will help you understand the results and proposed recommendations.

60
Budget planning

As a golf course superintendent, you face the challenge of maintaining your course within a given budget. Your Tech Rep will be happy to discuss your course's needs and make sound recommendations based upon your soil and water analysis results. He'll also help you decide what to do about drainage problems, nutrient and pesticide requirements and other turf-related subjects. Then, together, you can set up a maintenance program that exactly meets both your turf and budget needs.

61
A reputation of quality

ProTurf is the professional division of the O.M. Scott & Sons Company, *the* turfgrass industry leader.

Scotts ProTurf.

Circle No. 150 on Reader Inquiry Card

WT&T

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: *Is it true that turf under trees will benefit if trees are deep root fertilized rather than surface fertilized? (Pennsylvania)*

A: Turfgrass growing under shade has a lower nitrogen requirement than the same species in sunlight. Excessive nitrogen produces succulent growth that is more susceptible to injury from disease and wear. This is particularly true for shade-tolerant species such as red fescue which does not tolerate excessive fertilization.

Q: *We have about 50% Poa annua in our bluegrass fairways and bentgrass greens. Water is applied for the greens only. When the poa goes out in the summer, silver crabgrass comes in to replace the poa. The problem gets worse with more silver crabgrass each summer. What program can we start in order to solve these problems? (Virginia)*

A: As you are no doubt aware, *Poa annua* is difficult, if not impossible, to eradicate once it has become established. In many cases, the most practical solution is to give up control attempts and direct your management practices toward maintaining the annual bluegrass.

To discourage *Poa annua*, avoid cold weather applications of nitrogen, mow at the highest practical setting for each turfgrass species, reduce shade, correct acid soils, relieve compaction and apply phosphorus only when indicated by a soil test. Clipping removal during seedhead formation also has reduced the incidence of *Poa annua*. Unfortunately, none of the currently labeled herbicides provide satisfactory control.

To control goosegrass (silver crabgrass) in Kentucky bluegrass, oxadiazon is reportedly more effective than the other labeled herbicides but may cause temporary discoloration. In bentgrass, the recommended preemergent herbicides are benefin, bensulide and DCPA. Postemergent herbicides such as DSMA or MSMA are most effective when applied to crabgrass in the juvenile stage.

Reseed the areas where heavy crabgrass infestations were controlled with compatible Kentucky bluegrass or bentgrass in late summer. Depending on the herbicide used and the time interval between its application and the reseeding process, activated charcoal may be necessary to allow adequate germination.

Q: *How can you tell the difference between leaf distortion and yellowing on shrubs caused by sucking insects and that caused by lawn herbicides? (Ohio)*

A: If insects are involved, you generally can find the insect or evidence of its presence such as cast skins or honeydew, especially if a 10X hand lens is used. Other factors such as temperature extremes and foliar diseases can also cause growth distortions and discoloration and should be considered when diagnosing a problem.

Q: *A client would like us to plant several apple trees and use the fruit for both eating and cooking. Can you recommend a variety that will grow in our area. We need the information in time for planting this spring. (Ohio)*

A: The following chart, compiled by Dr. Richard Miller, Extension Entomologist at Ohio State University, and published in *Bug Dope* in 1977, should be helpful in selecting varieties suitable to the needs of the home owner planning to plant apple trees.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.

Cultivar	Approx. Harvest	Eating	Salad	Sauce	Baking	Freezing
Wealthy	9/1	Fair	Fair^{c}	Good	Fair^{t}	Fair^{ct}
Jonamac	9/10	Excellent		No Information		
McIntosh	9/12	Good	Good^{c}	Fair^{ct}	Fair^{t}	Poor^{ct}
Spartan	9/28	Excellent	Good^{c}	Fair^{ct}	No inf.	Fair^{ct}
Cortland	9/28	Excellent	Excellent	Fair^{ct}	Good	Fair^{ct}
Macoun	10/6	Excellent	Good^{c}	Fair^{ct}	Poor^{ct}	Poor^{ct}
R.I. Greening	10/3	Poor	Fair^{c}	Good	Good	Good
Jonathan	10/6	Excellent	Excellent	Excellent	Good	Good
Twenty Ounce	10/6	Fair	Good	Excellent	Good	Good
Empire	10/6	Excellent	Good	Fair^{c}	?	Good
Northern Spy	10/8	Excellent	Good	Excellent	Excellent	Excellent
Red Delicious	10/9	Good	Fair^{ft}	Poor^{cft}	Poor^{ft}	Poor^{cft}
Jonagold	10/12	Excellent	Excellent	Good	Good	Good
Golden Delicious	10/15	Excellent	Excellent	Excellent	Good	Good
Idared	10/15	Fair	Excellent	Good	Excellent	Good
Rome	10/22	Poor	Good^{f}	Good^{c}	Good	Good
Mutsu	10/22	Excellent	Good	Excellent	Excellent	Excellent

The letter c = color, f = flavor, and t = texture.

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Circle No. 145 on Reader Inquiry Card

LETTERS

Catalpa caterpillars

In reference to Mr. Douglas J. Chapman's article on "The Forgotten Trees" which appeared in the November issue I would like to make the following comments.

I agree that the Catalpa (Catalpa speciosa) is a forgotten tree in the landscape but it can be quite interesting. However, I had never pictured it in a landscape plan.

Growing up in the South, I saw it quite frequently, mostly out in the county on farms just as a misplaced tree. However, the tree serves another purpose in an unusual way.

The Catalpa Sphinx moth caterpillar (Ceratomia catalpae) enjoys the green leaves during the early summer months. These creatures, I have been told make excellent fish bait for farm ponds, creeks and streams. Some people actually harvest them for sale. To my knowledge they do not attack anything else.

Anyone considering this tree for a place in the landscape should remember that they do have a disadvantage or maybe you could call it an advantage.

Arthur B. Clark
Georgia Southwestern College

Nursery research

The nursery industry shows its traditional positive response to overcome problems noted in the field. During the past several years, we have discussed tree types and cultivars used in the landscape to improve the quality of the landscape while reducing maintenance costs. Not only at Dow Gardens have we been evaluating trees with maintenance considerations but also the Ohio Research and Development Center; Lester Nichols, Penn State (crab apple varieties); new propagation techniques worked on at Rutgers; Bill Collins, Amfac Cole Nursery; and Frank Santamore of the National Arboretum, to mention a few. The results of good communication between institutions, the nursery industry, arborists, and universities are appearing in the trade. Although space is limited, I would like to highlight three areas of cooperation and response. Further, I would like to stress that these are only examples—many others exist.

In 1979 we discussed "Results of Crab Apple Varieties Showing Resistance to Apple Scab and Fireblight in Central Michigan." But even before our work, Dr. Lester Nichols at Penn State had been looking at a similar response for his area and L.C. Chadwick and E.M. Smith at Ohio State did a similar work for their area. The result is becoming evident. One of several specific examples I would like to mention is Frank Schmidt and Son Nursery, Boring, Oregon—recent offering of crab apple. (Note that the crab apples available, e.g. "Mary Potter," "Professor Sprenger," and "Snowdrift," to mention a few, are all varieties reported highly resistant to apple scab and/or fireblight.) Another example is Simpson Nursery, Vincennes, Indiana—development of disease resistant cultivars, e.g. "Centurian," "Indian Summer," and "Sentinel."

Graft incompatibility with Red Maple was first noted by Dr. Harold Davidson at Michigan State University. In the ensuing years, others noted graft problems with "Bloodgood" London Planetree, "Sovereign" Pin Oak, and "Autumn Purple" White Ash. It had been postulated that propagation by cuttage and/or tissue culture would eliminate this provenance-induced incompatibility, i.e. the grafted varieties native to one part of the country grafted on a seedling root stock native to a different area, with the result—incompatibility or, to quote Dr. Davidson, "incongeniality." The first reported propagation of *Acer rubrum* cultivars by cuttage was by Orton at Rutgers in 1978 at I.P.P.S. I reported research from Dow Gardens on "Propagation of *Acer campestre, A. platanoides, A. rubrum,* and *A. ginnala* by Cuttings" in 1979 at I.P.P.S. Further, in 1981, reports at the International Plant Propagators Annual Meeting included a paper given by Joerg Leiss, Sheridan Nurseries, Ontario, discussing, "Propagation of *Syringa reticulata* by Cuttage," and work by Chapman and Hoover on "Propagation of Shade Trees by Softwood Cuttings." It is exciting to now see cultivars of *Acer rubrum* propagated by cuttage being offered by some nurseries, e.g. William Moller of Gresham, Oregon.

Provenance is a key consideration that must be part of introducing new cultivars. It is particularly important that regional cultivars be introduced. Several examples of nurseries offering regional cultivars are Weston Nurseries, Hopkinton, Massachusetts and Frank Schmidt and Son Nursery of Oregon. These nurseries are trying to either develop and/or propagate locally-adapted cultivars for their region (Weston—*Pinus rigida* "Sherman Eddy," *P. strobus* "White Mountain," and *Chamaecyparis thyoides* "Hopkinton"), or using cultivars developed by other institutions, e.g. the University of Minnesota—"Northwood's variety of *Acer rubrum*, being offered by Frank Schmidt and Son Nursery. Responses of this type by the nursery industry show clearly the desire of many plantsmen to offer for sale the highest quality of plant material available. Finally, if a problem is noted, develop a positive response which results in a more beautiful-healthy landscape.

Douglas Chapman
Horticulturist, Dow Gardens

Gypsy moth wind-down

I read with interest the article entitled "Gypsy Moth Invasion Runs Arborists Ragged" in the September, 1981 issue of *Weeds Trees & Turf*. I thought it presented an excellent representation of the situation as it is.

It occurred to me that a follow-up article that might be of interest to your readers in the near future could deal with preparing arborists to wind down from gypsy moth problems. Many of us who were in the business in the 40s and 50s (when previous outbreaks of gypsy moth placed a severe burden on our companies) know how important it was for us to learn how to shift gears quickly when the problem began to dissipate; and to find other uses for our equipment in order to receive a reasonable return on our capital investment.

Some unique situations have developed in the past few years that are different from some of the problems we faced in past years. In the old days, many of us could shift into the area of Dutch Elm disease control using DDT with our equipment. This is no longer possible. Spray personnel with certain characteristics making them eminently suitable for work in the spray department but not for other work in the arborist field have to be handled in a manner that maintains production. There are many points that could be covered that would assist arborists in shifting into a more realistic concept of insect control for the future.

I hope you agree with me and that such an article will be published when time permits.

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Circle No. 160 on Reader Inquiry Card

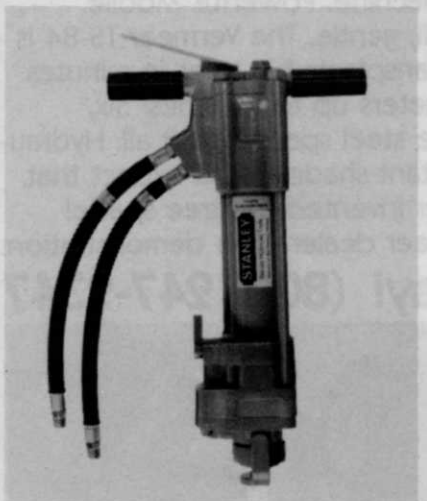
PRODUCTS

John Deere has introduced a new compact utility tractor that provides 18 hp at the PTO. Powered by a 3-cylinder, water-cooled 78.2 cubic-inch diesel engine. The 750 features a sliding gear

transmission with eight forward and two reverse speeds, and a ground clearance of 15 inches. Power steering and mechanical front-wheel drive are optional.

Circle No. 165 on Reader Inquiry Card

The HD45 Hammer Drill from Stanley Hydraulic Tools can drill 1-in. to 2-in. diameter holes up to 30 inches deep. Features include adjustable bit rotation



(either forward or reverse) which allows the operator to choose BPM/RPM ratios. The HD45 is available in either open-center or closed-center models.

Circle No. 166 on Reader Inquiry Card

Great Plains Industries, Inc., has developed a new herbicide pump and meter to handle a variety of bulk chemicals either alone or in combination. The GPI pump and meter features seals that are designed to extend unit life and

are compatible with most popular bulk herbicides, a spin collar for easy installation, and a nozzle dust cover.

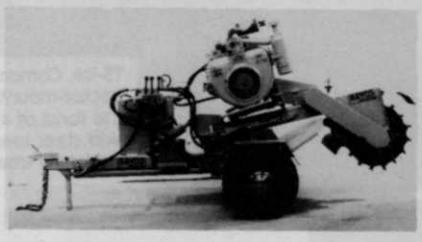
Circle No. 167 on Reader Inquiry Card

Simonsen Manufacturing Co.'s turf-fertilizer spreaders were designed for accuracy, maneuverability, versatility and minimum soil compaction.

Spreading from 90 to 1,000 lbs. per acre can be dialed on the featured Spread-Rate selector. The model's single axle design is intended to eliminate the tearing of turf, especially on sharp corners.

Circle No. 168 on Reader Inquiry Card

Rayco Manufacturing Inc. has introduced its model RG 1635 heavy duty stump cutter. The compact, low silhouette design has a 35-hp Wisconsin engine, hydraulic controls, and a 22½-in. cutting wheel to chew out stumps up to



14-in. deep. Other features include an electrically welded square tubular frame, and a 14 gallon capacity fuel tank.

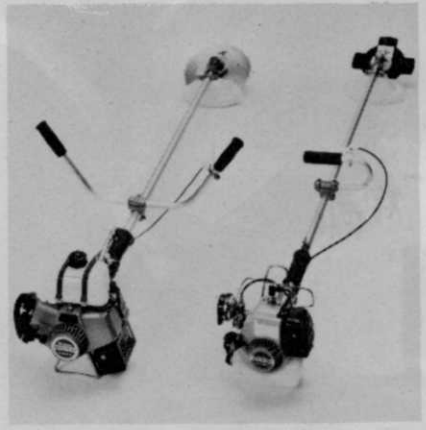
Circle No. 169 on Reader Inquiry Card

Lakos Separators have introduced a new in-line series of solids-from-liquids separators. The line differs from the carbon steel units in that th

are manufactured entirely from lightweight ABS plastic. Individual models are available for flow rates from four to 105 U.S. gpm, with other models capable of handling rates up to 525 gpm.

Circle No. 170 on Reader Inquiry Card

Lanco's lightweight brush cutters are now available in three models, each with a range of interchangeable blades and nylon trimmer attachments. The line of Robin Brush Cutters are powered by 15.4 through 37.7 cc engines,

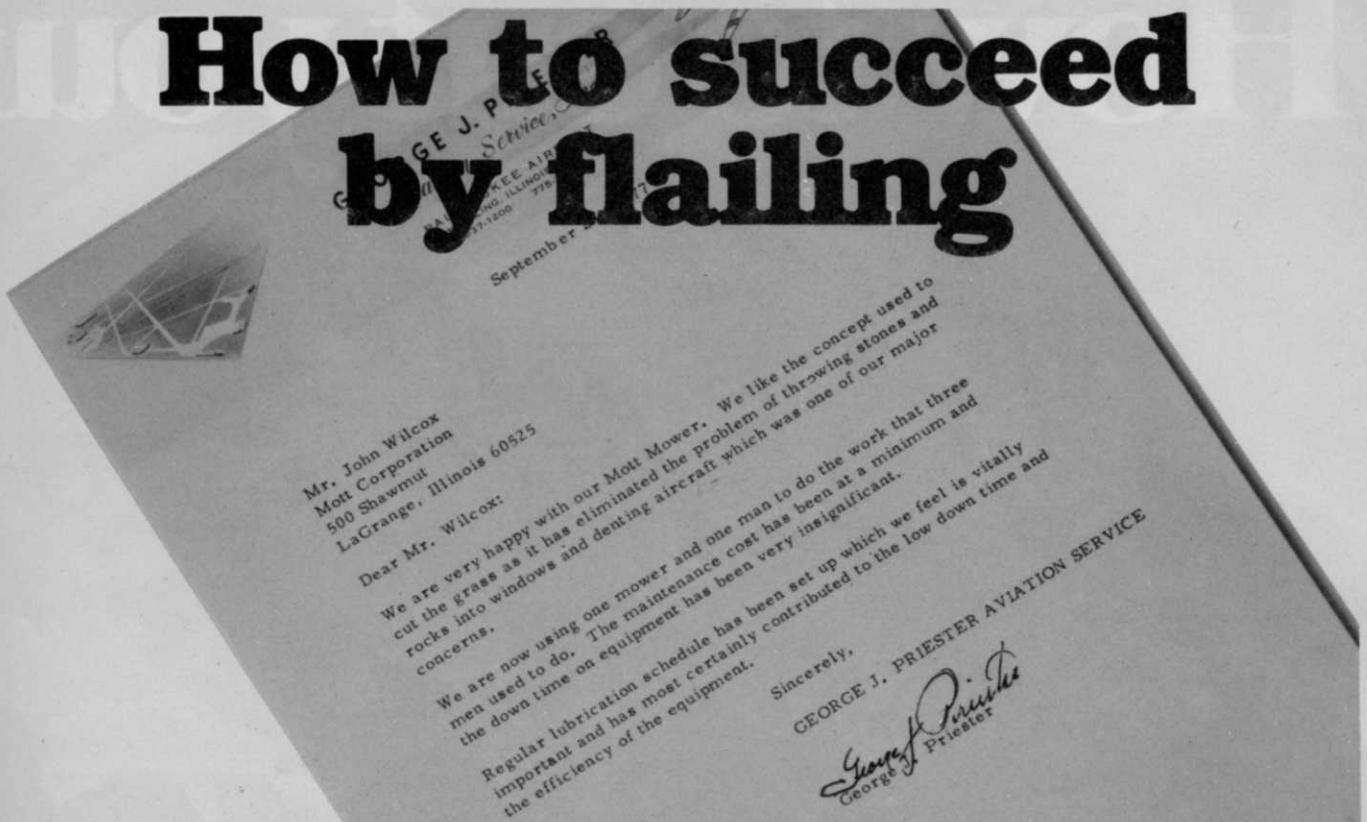


featuring diaphragm carburetors, recoil starters, and automatic centrifugal clutches.

Circle No. 171 on Reader Inquiry Card

Continues on page 82

How to succeed by flailing



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September

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Sincerely,

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George J. Priester

GJP:e

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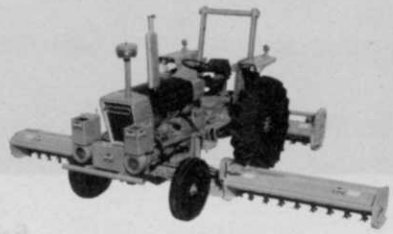

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Circle No. 136 on Reader Inquiry Card

How to cut your

Long-lasting Chipco® 26019 fungicide is as good for your budget as it is for your turf.

Because it gives you the longest residual activity, you'll need fewer treatments on greens and tees with Chipco 26019. And fewer treatments on fairways, where it controls diseases longer...from 21 to 28 days. So for every treatment you eliminate thanks to Chipco 26019, you'll save up to $10 an acre in fuel and labor!

And Chipco 26019 is strong medicine. No other fungicide gives better control of the major turf diseases. Chipco 26019 is effective on Helminthosporium