

At Colleges.

College is truly a "growing experience" for Pennfine, but while the students grow smart, Pennfine grows dense.

For Backyards.

If the grass is always greener in the other fella's yard, the other fella's probably using Pennfine, in a premium grass seed mixture.



For Athletic Fields.

You can run all over Pennfine — it has the speedy emergence and resiliency that make it a good sport.

At Resorts.

Pennfine mows so smooth and clean, that working on the grounds is almost as much fun as playing on them!

In Dry Soil.

With its deep-lying roots, Pennfine holds up under low-moisture conditions and in sandy soil. It's the best thing to pop up through dry ground since the last oil well came in.

Around Hospitals.

Naturally Pennfine does well around hospitals. It's very disease-resistant!

Along Highways.

Yep, that's Pennfine along many major state thruways. Leave it to Pennfine to make the quickest route the scenic route.

At National Monuments.

During the Bicentennial, Pennfine's durability made history at Independence Hall. It likes crowds, and vice versa.

On Cemetery Grounds.

What more could anyone ask for? Pennfine germinates quickly and mows smooth and clean.

In The Shade.

Willows never weep over Pennfine. It does as well in shade as in direct sunlight.

On Golf Courses.

Pennfine's quick germination makes it ideal for overseeding at many of America's most prestigious golf courses. About the only place you won't see Pennfine growing is in the cup.





The seed that's changing the face of America.

Pennfine Perennial Ryegrass

The biggest breakthrough in the greening of America began in 1970. That's when turfgrass specialists at Pennsylvania State University completed development of a remarkable fine-leaved perennial ryegrass with all the advantages of ryegrass. And none of the drawbacks. They called it Pennfine.

Now, just six years later, the success of their undertaking is evident. On golf courses and athletic fields. In parks and cemeteries. And on public grounds across the country.

Proven in tests. Among the nine perennial ryegrasses tested over a five-year period at University Park, Pennsylvania, Pennfine ranked finest in texture. Most resistant to disease. First in density and decumbency (low growth).

The University Park test results were only the beginning. Over 5,000 test kits with seed samples were distributed over the entire country in answer to requests from turf professionals wanting to test Pennfine. The results confirmed the University Park findings.

Most importantly, Pennfine established a new standard of mowability. Some other perennial ryegrasses, cut with the same mower, left ragged, fibrous tops that quickly turned brown. Pennfine's softer fibers cut smooth and clean.

Proven from coast to coast, from North to South. Pennfine's durable beauty has been demonstrated at prestigious sites all over America. From the lawns at an historic national landmark to the greens at a nationally-renowned golf course.

Besides possessing the ability to stand up under heavy traffic, Pennfine germinates rapidly. That makes it ideal for winter overseeding in the South. And, its non-competitiveness allows a smooth spring transition to bermudagrass.

Proven quality control under the Plant Variety Protection Act. You can be sure that all Pennfine Perennial Ryegrass meets the same high standards, because Pennfine is covered by the Plant Variety Protection Act.

That means every pound of Pennfine is certified. You are assured, by law, that it's produced exactly as intended by the original variety breeder.

Prove it to yourself. To learn more about how Pennfine is changing the face of America — and how it can work for you — write: Pennfine, P.O. Box 923, Minneapolis, MN 55440.

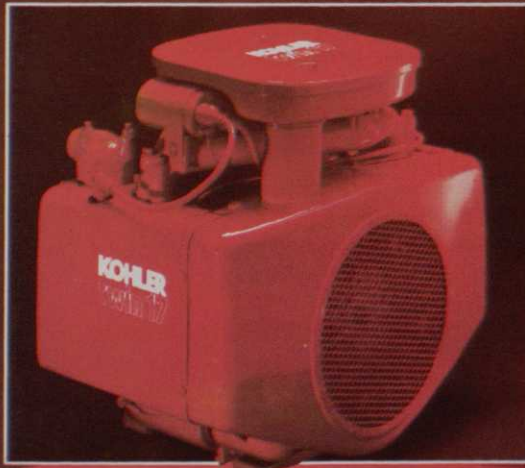


The best thing growing.

Circle 102 on free information card

Kohler's new twin 17.

The difference is seventeen horsepower.
The difference is cast iron endurance.



Seventeen horsepower. It's the difference between Kohler and all the others.

Cast iron endurance. It's the difference between a durable engine and all the others. And nowhere does that difference count more than on your equipment. It means a quieter, smoother running, longer lasting, more powerful engine that adds value to your equipment. Value that will keep your customers happy and keep them coming back to you for more of the same.

So build yourself a cast iron reputation for quality and value. Specify Kohler's new twin 17 — or any one of Kohler's full line of 4-cycle engines — singles and twins from 4 to 23 horsepower.

It'll make a difference.

For more information, contact:
ENGINE DIVISION
KOHLER CO. KOHLER, WISCONSIN 53044

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twin 17



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Turf in shade/p. 20



Computerized irrigation/p. 23

golf business/october

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FRONT COVER:

An Armco metal building provides room to store and work on maintenance equipment at Weatherwax Golf Course, Middletown, Ohio.

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♦ For ad on preceding page circle 113 on free information card

“I could sure use a rugged mid-sized rotary that really maneuvers.”



A lot of our customers have been wanting a mid-sized mower that's built tough to take it, and that's highly maneuverable at the same time.

So our engineers came up with the amazing Turfcut 50/60.

It's amazing because it's absolutely packed with features that helps you get your medium-sized mowing jobs done faster and better than ever.

First, you have a choice of a 50" or 60" deck. (They're interchangeable.) Fully articulated, they closely follow ground contours so you get a smooth, even cut with practically no scalping.

Deck design lets you trim close, and also gives super clipping dispersion. The deck raises and lowers hydraulically for curb climbing and transport. And you can adjust cutting height from 1" to 4".

Then, the three-wheel, wide track design gives it great stability on slopes. And the foot-operated hydrostatic drive lets you steer and maneuver while changing speeds or going from forward to reverse.

How about hill climbing? It's a breeze with the power delivered by the husky 18-HP Kohler overhead valve engine. And you can expect a long engine life filled with good fuel economy,

Plus, it's quiet. All controls are within easy reach. And it might very well be the most comfortable riding rotary in the world.

Ask your Jacobsen distributor for a demonstration. And have him explain about the many fine features that customers want.

The more you listen to what he has to say, the more you'll know we've been listening.

We hear you.

JACOBSEN
TEXTRON

Jacobsen Division of Textron Inc.

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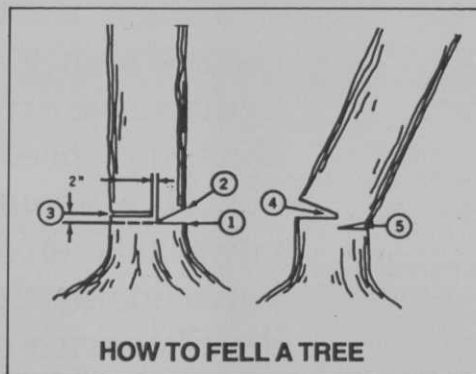
Idea file

Save on distilled water for golf car batteries

Electric golf cars can consume great quantities of distilled water — which you should use in their batteries if you want the batteries to last. A large fleet — say, 100 cars — reportedly could consume 40 gallons of water in a week. If you buy distilled water for an average price of \$2.50 for a 5-gallon container, that can get expensive.

Corning Science Products, however, sells a line of stills that produce from 1/3 gallon to 3 gallons of distilled water per hour from ordinary tap water at a cost as low as 11¢ per gallon. Prices for the stills begin at \$425.

For further details, contact Corning Science Products, Corning Glass Works, Corning, NY 14830 (phone 607/974-9000).



HOW TO FELL A TREE

John Deere

Leaflets combat slow play on Canadian public course

Jack Bell, president of Greenacres Golf Course, reports, "We are one of the busiest golf courses in British Columbia, with 350 golfers a day as a fairly frequent occurrence.

"We use course marshalls all through the summer, who are most effective in keeping the play steady. In addition, we distribute two pamphlets to new golfers, and this too has its effect."

Both leaflets are pocket-size, inexpensively done. The longer one is 6 pages, "for golfers to read at leisure," and spells out standard suggestions for playing more quickly — plus expanding upon the idea outlined on the shorter, single-page piece: the "play when ready rule."

This rule suggests that on the tee, whoever is ready first should hit first, regardless of whose "honour" it may be. On the fairway and the green, a player should hit or putt as soon as ready, as long as he or she will not interfere with another player.

If a group still falls behind, each player should, as soon as he putts out on one hole, walk to the next tee and hit his drive. "Do this for two or three holes," the leaflet suggests, "and you'll be caught right up."



golf course signs

- 14 X 9 HEAVY STEEL
- HIGH QUALITY EMBOSSING
- BAKED ENAMEL FINISH
- STRONG STEEL STAKES
- OVER 100 TITLES IN STOCK



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THE DIRECTION FOR EFFICIENT COURSE MARKING

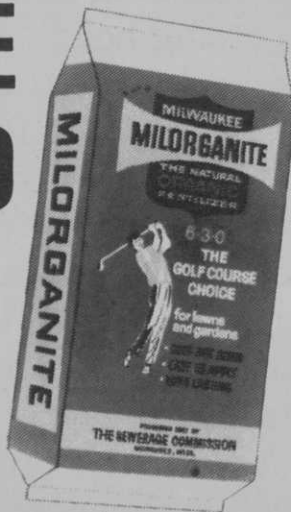
Efficient signage protects the results of good golf course maintenance.

DATONO provides an easy economical and concise information system in an attractive green on white color.

Write or call for a complete sign listing.

Circle 135 on free information card

WHAT DO WE ADD TO



NOTHING!

Everything's Already There — Naturally

The Sewerage Commission, 8500 S. 5th Ave., Oak Creek, Wis. 53154

Circle 106 on free information card

News

FERTILIZER

Canadian firm to raise urea output

Canadian Industries Ltd., London, Ontario-based manufacturer of CIL sulphur-coated urea, reported recently that it will spend \$18 million (Canadian) to double the production of urea at its Lambton Works plant. The new facility is scheduled to be in operation early in 1980 in order to meet projected demand for high-nitrogen fertilizer.

TURFGRASS SEED

Figures updated for record ryegrass year

Poundage of ryegrass seed on which assessments were collected set a record in fiscal year 1977-78, as reported in GOLF BUSINESS last month. Last-minute additions to the tabulations, however, made after we went to press, have now brought the record total up to 268,772,086 pounds.

Assessments of 7¢ per 100 pounds of cleaned seed are collected on ryegrass as the seed moves from the grower to the first handler of the seed. These funds pay for advertising and promotional programs designed to increase markets and usage of ryegrass. According to Oregon Ryegrass Commission Promotional and Advertising Director Wally Hunter, "While [assessment collection] is not an exact measurement of usage, it does fairly represent the amount of seed which entered the marketplace during the year."

RESEARCH

Golf courses surveyed on pesticide use

Drs. Philip O. Larsen, David P. Martin, and Richard L. Miller from the departments of plant pathology, agronomy, and entomology (respectively) at the Ohio Agricultural Research and Development Center have initiated a program to assess pesticide use

on Ohio golf courses.

The project is funded by the federal government through the Pesticide Impact Assessment Program. Questionnaires were sent in early August to all golf courses in Ohio, asking pertinent questions to determine the type and quantity of pesticides used. Budgetary information was also requested, in order to determine how financial restrictions influence pesticide use.

Dr. Martin told GOLF BUSINESS in mid-September that the researchers had received almost 100 completed questionnaires at that point, and that final tabulations would probably be done sometime this month.

The tabulated information will be summarized and submitted to the federal Environmental Protection Agency to express the importance or need of various pesticides being scrutinized through the Rebuttable Presumption Against Registration process.

EPA's RPAR program is supposed to weigh the benefits of using currently registered pesticides against possible environmental damage that may occur through their application, but EPA emphasis is usually on the latter. According to Martin, pesticides used in Ohio and now being investigated include Tersan 1991, Tersan LSR, Fore, Sevin, and Nemagon. If use of these products is important to you, it is vital to let EPA know, through this survey and the Pesticide Impact Assessment Program.

When the EPA has finished reviewing the pesticides, one of several things may happen to them:

1. The pesticide would be returned to registration.
2. It would be registered, but have some restricted uses.
3. It would be severely restricted in its uses.
4. It would be taken off the market and all its uses cancelled.

SEED PRODUCTION

Fine fescue crop down in Oregon, Canada

Rain at the wrong time and hot weather at the wrong time combined to reduce the fine fescue crop in Oregon this summer, according to the Oregon Fine Fescue Commission.

Fred Kaser, chairman of the commission, said weather conditions in Canada have also diminished the crop of Canadian red fescue. He said the shortage in the two production areas could bring on higher prices for the 1978 crop and encouraged buyers to order now if they plan to have fine fescue for their mixes or for straight plantings.

Kaser said this is the first time in his memory that the fine fescue production areas were hit so hard by weather conditions. Ordinarily if one production area is down, the other has a fair crop.

This year production in Oregon's Willamette Valley, where much of the fine fescue is grown, is in the area of a half crop. Oregon production — which ordinarily runs about 14 million pounds — is being estimated at 6 to 8 million pounds. Canadian production, which has reached as much as 20 million pounds in recent years, is also estimated at 6 to 8 million pounds.

FOUNDATIONS

OTF donates \$16,500 for turf research

President John Fitzgerald of the Ohio Turf Foundation recently announced the 1978 donation of \$16,500 to fund turfgrass research in agronomy, entomology, and plant pathology at Ohio State

University and the Ohio Agricultural Research and Development Center.

Most of the funds will be channeled to research projects directed by Drs. Keith Karnok, Philip Larsen, and Harry Niemczyk. Results will be shared with the turfgrass industry.

This marks the ninth consecutive year that OTF donations have exceeded \$13,000 and brings total research donations to more than \$170,000 since 1968.

TURFGRASS VARIETIES

Penn State releases seeded bentgrass

After 20 years of development work, Dr. Joseph M. Duich of Penn State University has released a new creeping bentgrass which can be planted on golf greens from seed rather than vegetatively.

Designated as PBCB during development (see "New grasses for golf courses," GOLF BUSINESS, March 1978), the new creeping



Duich: 20 years' work

bent has been named Penneagle. It is being grown by the Penncross Bentgrass Growers Association and will be marketed by Tee-2-Green Corp.

Penneagle's attributes are listed as a tighter, more upright growing

NATIONAL GOLF FOUNDATION BOX SCORE					
January-August 1978		REGULATION COURSES	EXECUTIVE COURSES	PAR 3 COURSES	TOTAL
OPENED FOR PLAY	New	30	8	2	74
	Additions	28	6	0	
STARTED CONSTRUCTION	New	31	3	2	63
	Additions	23	2	2	
PROSPECTIVE		64	8	4	76

habit; finer leaves; and a broad genetic base for greater disease resistance under varied climatic conditions. Dr. Duich said the new variety will grow "a little less vigorously" than *Pennecross*, but will still be competitive with *Poa annua*. Courses which have planted *Penneagle* report it has excellent putting and playing qualities.

Development of the new bentgrass began in 1958 with 156 vegetatively propagated bents, according to Dr. Duich. From that broad base, 21 plants were selected for turf performance. These were selected in combinations of threes and through turf screening and other testing, were narrowed down to four parents. Dr. Duich reports that more than a ton of seed was involved in the testing program. *Penneagle* has been tested in Canada and in a seven-state area with broad climatic conditions.

GOLF CARS

E-Z-Go predicts "banner year" in '79

Distributors of E-Z-Go golf cars placed record-breaking orders for the new 1979 models introduced at the company's annual three-day sales convention held in August in Minneapolis, headquarters city for the division of Textron Inc.

Some 55 distributors from 36 states and U.S. territories viewed three- and four-wheeled gas and electric golf cars with a completely redesigned front end. Said E-Z-Go President David F. (Fritz) Myers, "The most visible benefit to our customers is an improved, more comfortable ride and long-term reliability."

He added, "The streamlined suspension that led to the weight loss also paves the way for easier servicing and maintenance, in addition to extending battery life and improving efficiency in the electric models." The 1979 gasoline-powered golf cars weigh 50 to 77 pounds less than their 1978 counterparts, the three-wheel electric model shows a 55-pound weight difference, and the four-wheel electric shed a whopping 100 pounds.

With the introduction of the 1979 line, the golf car firm celebrates its 25th year in the industry.

EDUCATION

Daily fee workshop scheduled by NGF

The National Golf Foundation has scheduled its fourth annual daily fee workshop for November 20-22, 1978, at the Marriott Inn in Orlando, Fla. All owners, operators, and employees of daily fee golf courses are invited to attend.

According to P.J. Boatwright III, assistant director of information services for the NGF, "The seminar's format allows participants to ask all their questions and discuss all their problems. They learn how to make their golf courses more profitable and more enjoyable for customers through question-and-answers sessions, panel discussions, the success stories of other operators, guest lectures, and the like."

Programs scheduled include: "Profit Motive Course Operations," "Estate Planning," "Selling Your Golf Course," "Records, Systems & Procedures," "Seasonal Memberships: Pro & Con," "Wage & Hour Laws: Their Implications," "Taking Care of Your Golfers," "Finding, Training & Motivating Your Employees," "Golf Schools Develop New Players," and "Player Development: NGF Can Help!"

In addition, Arnold Palmer has accepted an invitation from NGF Executive Director Don Rossi to attend a dinner in Palmer's honor on the night of Tuesday, November 21.

Cost is \$125 for members of the NGF or the National Association of Public Golf Courses; \$185 for nonmembers (but includes 1979 NGF associate membership); and \$75 for additional persons from same facility. Register by November 1.

Contact: National Golf Foundation, 200 Castlewood Dr., North Palm Beach, FL 33408 (phone 305/844-2500).

RESEARCH

Automatic sprayer eliminates pouring

United States Department of Agriculture researchers are developing an experimental sprayer designed to avoid most handling risks for spray equipment operators.

The work is being done by

Donald L. Reichard at the Ohio Agricultural Research and Development Center, Wooster.

"On our sprayer all liquid flows are controlled from the control panel by the operator," he said. "Metering pumps draw the chemicals from their containers and mix them with water in a small mixing chamber on the way to the spray nozzles."

This system eliminated the dangerous pesticide-pouring operation as well as the disposal of left-over tank mixtures, he said. Also, the operator can flush the containers from the control panel.

TURF

Wastewater irrigation symposium planned

Leaders in industry, government, universities and the business of golf will participate in a two-day symposium on wastewater irrigation of recreational turf Nov. 12-14 at the Arlington Park Hilton, Arlington Heights, Ill.

National authorities on the subject who are scheduled to speak include:

Dr. Ian Pepper, University of Arizona; Dr. Dennis Keeney, University of Wisconsin; Dr. Vic Younger, University of California; Dr. A.E. Dudeck, University of Florida; Stephen Poloncsik, federal Environmental Protection Agency, based in Chicago; and Dr. Boyd G. Ellis, authority on chemical properties of soil and water.

Also, Dr. James Watson and James Adams of Toro Co.; John Brewer of Johns-Manville Co.; Phil Wogan, Richard Nugent, Marvin H. Ferguson and David Gill of the American Society of Golf Course Architects; and Charles Wilson of the Milwaukee Sewerage Commission.

The conference is a joint effort of the USGA Green Section, the American Society of Golf Course Architects Foundation, and the National Golf Foundation.

The event is open to the public. For further information, contact any one of the following: Al Radko, national director, USGA Green Section, P.O. Box 1237, Highland Park, NJ 08904, 201/572-0456; E. Larry Packard, ASGCA, 11 S. LaGrange Rd., LaGrange, IL 60525, 312/352-2113; Don A. Rossi, executive director, National Golf Foundation, 200 Castlewood Dr., N. Palm Beach, FL 33408, 305/844-2500.

MANUFACTURERS

Toro on NYSE; plans \$10 million expansion

Trading of Toro Co. stock began last month on the New York Stock Exchange big board with the company symbol TTC.

The Minneapolis-based company also announced plans for a new manufacturing facility in Fairmont, Minn., a second manufacturing plant in Riverside, Calif., and plant expansion in Hudson, Wis.

David T. McLaughlin, Toro's chairman and chief executive officer, said the three projects are part of a \$10 million capital spending program planned for fiscal year 1979, which began August 1. This is the largest capital budget in company history.

McLaughlin also reports that estimated sales for the fiscal year ended July 31 would be between \$225 and \$227 million, an increase of more than 40 percent over last year's sales. He said the expected earnings for the year would be almost double earnings of \$2.08 per share for fiscal year 1977.

TOURNAMENTS

San Diego LPGA event cancelled by floods

The Ladies Professional Golf Association event scheduled this month in San Diego has been cancelled due to flood damage to the Whispering Palms Country Club, Rancho Santa Fe, Calif.

Course superintendent Larry Jones told GOLF BUSINESS at the end of September that 18 holes had been closed for about a month and 9 holes for about 2 months because of flood damage. Play on the courses is now "as close to normal as you could expect," Jones said, but just how to repair the more extensive erosion-damaged portions has yet to be decided. He indicated, however, that further damage is possible yet this year due to the erosion.

Initial repair work consisted mainly of cleaning up 1½ feet of sand deposited over four or five holes. "We made mounds of the sand," Jones reported, "then seeded it in with bermudagrass and some ryegrass for quick germination."

Tournament officials have said there is a very good likelihood the tournament will be rescheduled next year.