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takes abuse even
under shady growing
conditions.

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▪ **Wear Tolerance . . .**

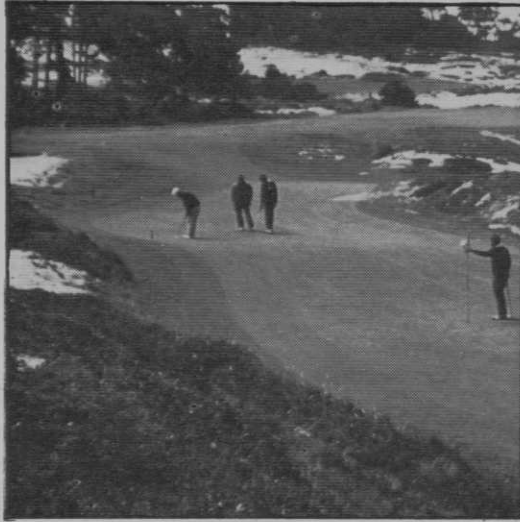
Tests at Michigan State University, using both a wheel and sled, rated Manhattan best for wear tolerance over the other fine leafed perennial ryegrasses tested.

▪ **Cold Tolerance . . .**

Michigan State cold tolerance tests ranked Manhattan as one of the most cold tolerant of all the new turf type perennial ryegrasses tested.

▪ **Cutability . . .**

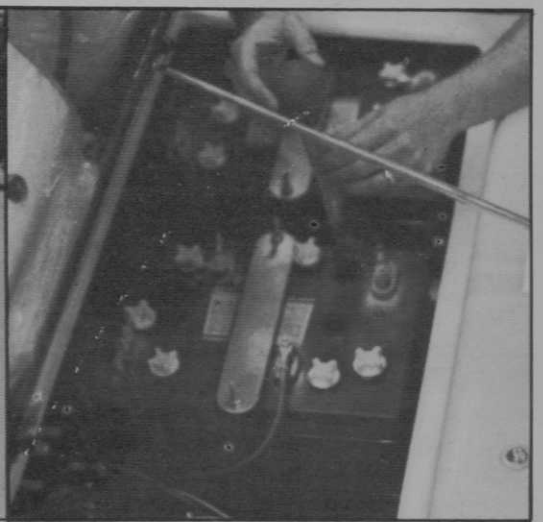
Cutability tests at the University of California, Davis, placed Manhattan number one in cutability of the popular varieties of fine leafed perennial ryegrasses tested.



The effects of *Poa annua*/p. 11



Skiing on the golf course/p. 12



Golf car batteries/p. 17

golf business/september

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FRONT COVER:

Photos taken years apart show graphically how time and *Poa annua* changed the appearance of this hole at Spyglass Hill.

VOLUME 52 NUMBER 9

Idea file 5

News 9

Clippings 9

FEATURES

Evolution of a golf hole: the effects of *Poa annua*

Golf course architect Ron Fream explains what our cover shows—how a golf course ages and its appearance changes as bentgrass and perennial bluegrass give way to annual bluegrass 11

Winter moneymaker for golf courses: cross-country skiing

Most northern golf courses go out of business every winter, but cross-country skiing can make use of the course when it's covered by snow. Here's what some owners have done 12

Selection and care of golf car batteries

A majority of the nation's golf courses own or lease electric golf cars. Here several experts tell how to read battery specs, what to look for when buying batteries, and how to maintain them for the longest possible life 17

Products 20

Information service 24

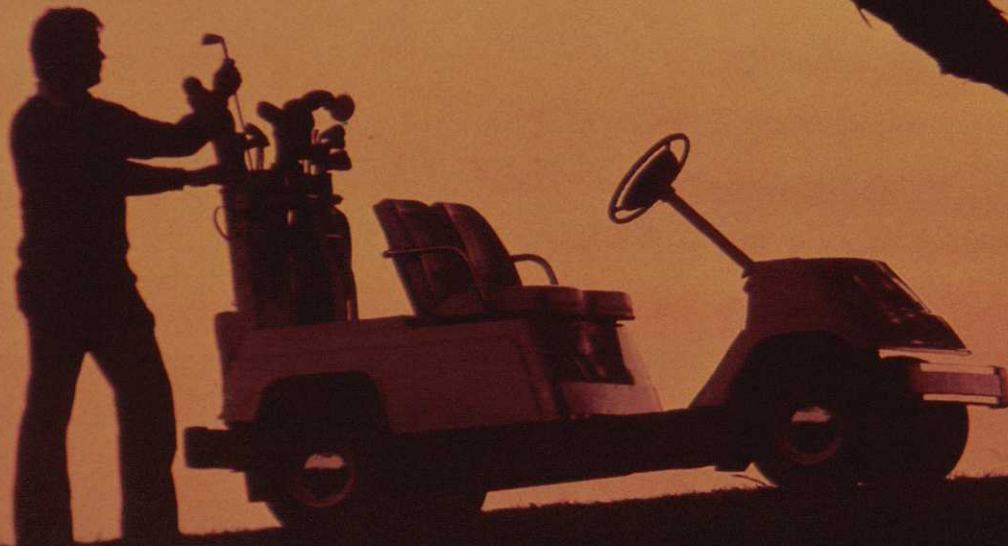
Classified 25

Viewpoint 26



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News

TURFGRASS SEED

Record year for ryegrass

The 1977-78 fiscal year which ended June 30 was a recordbreaker for ryegrass seed producers, as 268,141,136 pounds of ryegrass seed moved into the marketplace, according to Oregon Ryegrass Commission statistics. That figure far surpassed the previous record of 251 million pounds set in FY 1972-73.

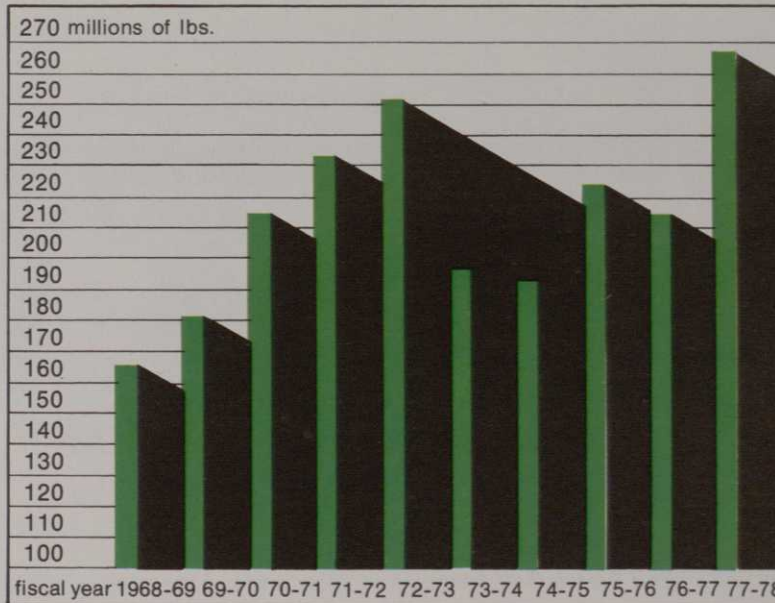
The 1977-78 figure shows a substantial increase over that of the previous year, which was 218,570,928 pounds of seed. The average for the "modern era" of ryegrass production in the 1970's, according to commission spokesman Wally Hunter, is about 217 million pounds per year. (All of these figures represent a combined total for perennial and annual varieties of ryegrass.)

"Most significant to golf course superintendents," Hunter told GOLF BUSINESS, "is the impact that the fine-bladed ryegrasses are having. About 8 years ago, a superintendent could choose from only three or four fine-bladed ryegrasses, and those were mostly in the development stage. But now there are Pennfine, Derby, Yorktown II, Loretta, Citation, and others.

"The superintendent now has a choice of fine-bladed varieties. He previously had little choice, and then only of unproven varieties with little production available. Now he can upgrade the quality of his turf by winter overseeding and get fast germination and establishment combined with good color. When transition comes in the spring, the ryegrass fades fairly rapidly and doesn't compete too vigorously with the bermudagrass."

Hunter added that the main reason for the large increase in product movement was that "use of ryegrass is broader than it once was. One person uses it and is pleased, then tells another. A superintendent especially will listen to another superintendent. So use begets use."

The product movement figure for ryegrass seed for the fourth quarter of FY 1977-78 was 46,843,615 pounds.



Ryegrass seed product movement graph shows great leap to a record year in FY 1977-78. Source: Oregon Ryegrass Commission

OSHA

Workers gain access to injury/illness logs

The U.S. Department of Labor's Occupational Safety and Health Administration recently announced revised rules that will give employees, former employees, and their representatives access to *The Log and Summary of Occupational Injuries and Illnesses* which all employers with 11 or more employees are required by OSHA to maintain.

The new rule was scheduled to become effective 30 days after its publication in the Federal Register on July 21. Assistant Secretary of Labor Eula Bingham said that under the new final rule, "Employees will be more fully alerted to actual and possible hazards in the workplace and thus would be significantly assisted in their efforts to protect themselves from hazards."

Although the main thrust of the revision was towards tracing the effects of toxic substances, such as in manufacturing plants, it will also

enable workers in other kinds of businesses to check the accuracy of log entries and to identify patterns of injuries or illnesses requiring further investigation.

Prior to the revision, regular access to the log was limited to OSHA safety and health officers, representatives of the Bureau of Labor Statistics, the Secretary of HEW, and states under OSHA-approved state plans. Employees had access only to an annual statistical summary.

PESTICIDES

FIFRA accord ready for vote

State inspectors, in states with approved U.S. Environmental Protection Agency plans, would be the primary enforcers of the Federal Insecticide, Fungicide and Rodenticide Act under an agreement reached in a House-Senate conference committee.

State primacy and other compromise measures reached in

the committee must still be approved by both houses and signed by the president before becoming law. Congressional sources said the conference committee's report probably would be adopted after Labor Day without much opposition.

Under the terms of the compromise, the 30 states with approved pesticide use plans would be given primary enforcement powers. EPA will review other states' plans to see if they comply with FIFRA. States without approved plans would be subject to EPA inspections.

EPA could intervene in states with approved plans when:

1) a state does not act within 30 days on a pesticide-use complaint or other information sent to them by EPA,

2) the EPA administrator determines that the state does not or cannot carry out its responsibilities under FIFRA,

3) an emergency arises requiring federal intervention.

"It is clear that EPA has to show good cause before taking away enforcement authority," a Senate committee staffer said. The conference report also includes an agreement for use inconsistent with the label. Although it would still be illegal to use a pesticide in a manner not permitted by labeling, exceptions to this would provide some freedom of choice. They include:

- using a pesticide at less than label concentration or dosage
- applying a pesticide against target pests not listed on the label, providing the application is to a labeled crop, animal, or site and the label does not specify use against only target pests
- using a method of application not listed on the label
- and mixing the pesticide with fertilizer if not specifically prohibited by the label.

(more news on next page)

NATIONAL GOLF FOUNDATION BOX SCORE					
January-July 1978		REGULATION COURSES	EXECUTIVE COURSES	PAR 3 COURSES	TOTAL
OPENED FOR PLAY	New	30	8	2	74
	Additions	28	6	0	
STARTED CONSTRUCTION	New	32	3	2	64
	Additions	23	2	2	
PROSPECTIVE		64	8	4	76

IRRIGATION

Toro and Texas A&M launch 4-year study

The Toro Co., manufacturer of turf maintenance and irrigation equipment, has entered into a contract with Texas A&M University to help finance a 4-year study of water use rates for turfgrasses.

David T. McLaughlin, Toro's chairman and chief executive officer, said his company will contribute approximately \$17,000 to the study, the principal objective of which is to develop a method for predicting water requirements for turfgrasses under a wide range of growth conditions.

The university will contribute about \$29,000 to the project, mostly for special instrumentation including leaf and soil psychrometers, dewpoint recorders, infrared thermometers, and a multiple point potentiometric recorder. The school also is building a water stress simulation chamber and a high light intensity preconditioning growth chamber especially for the study.

The study was designed by Don Johns, a graduate student; Dr. James B. Beard, well-known authority on turfgrass culture and a turf specialist at the university's Texas Agricultural Experiment Station; and Dr. James R. Watson, Toro vice president and chief agronomist. Beard will direct the study.

Watson said the information gained from the study would be valuable to golf course superintendents seeking grass species with lower water requirements, as well as for determining overall water



Golf architect Robert Trent Jones, Jr. (center) points out design features of the future Keystone Ranch Golf Course to Sandy Tatum (left) and Will F. Nicholson, Jr., president and vice president of the United States Golf Association. Now under construction at the Keystone resort 72 miles west of Denver, the course will be the highest in the United States. Opening is planned for spring or early summer in 1980.

requirements of a particular region. For Toro, he said, "It will help to make it possible to design irrigation systems capable of delivering the precise precipitation requirements anticipated under varying environmental conditions" — to design irrigation systems which will utilize water with maximum efficiency.

More data needed on use of effluent

As was first reported in the July issue of GOLF BUSINESS, a statistical study on the use of effluent water for irrigation is being conducted jointly by the American Society of Golf Course Architects Foundation, the National Golf Foundation, and the United States

Golf Association's Green Section. As of mid-August, about 50 persons had filled in and returned the questionnaire printed in the July issue, according to Al Radko, national director of the USGA Green Section, but further data is needed to make the study meaningful.

There are probably 75 or more golf courses in the United States now irrigating with recycled water, Radko said, "but the numbers are clouded by the fact that most of these haven't wanted to advertise that they are using effluent water." Once the practice becomes more widely known and accepted, he added, more courses will come forward to volunteer information about their operations.

If your golf course uses effluent water for irrigation and you did not return the questionnaire in the July GOLF BUSINESS, please

contribute to this important survey by filling out and mailing the form below. The data will be used only in combination with that of others; replies of individual golf courses will be kept completely confidential.

GOVERNMENT GOLF

Is beer necessary for course success?

Brighton (Colo.) District Judge Abraham Bowling recently granted a preliminary injunction against the Colorado Department of Revenue, enabling the sale of beer to continue at a golf course at the Adams County Regional Park complex in Henderson.

The Revenue department had denied the transfer of a 3.2 percent beer license to Adams County Golf Inc., a nonprofit corporation formed by county commissioners to operate the beer concession at the county owned and operated golf course. Beer had been sold at the course under an agreement with license-holder and former golf pro Jim Bailey, and the facility was reported to be operating in the black for the first time in 4 years. The revenue's denial of the transfer was based on the reasoning that because the county is the local licensing authority as well as the principal of the nonprofit corporation, it would in effect be regulating itself.

Judge Bowling found, however, that the loss of the right to sell beer at the golf course would cause "irreparable injury" to the county because of a reduction in the number of rounds played at the facility and, therefore, loss of revenue. Here's to the judge.

PLEASE RETURN QUESTIONNAIRE TO:

Mr. Al Radko
National Director
USGA Green Section
P.O. Box 1237
Highland Park, NJ 08904

- 1) Do you presently use recycled water on your turfgrass?
Yes No
- 2) Are you considering recycled water as a possibility?
Near future Distant future No
- 3) What is your source of recycled water? Industrial
Military installation Municipal Housing
development Other (specify) _____
- 4) Number of acres irrigated with recycled water:
Greens _____ Tees _____ Fairways _____ Rough _____
Other _____

- 5) Type of facility: Private Daily fee _____
Municipal Military Other (specify) _____

Size: Regulation Executive Par 3

- 6) Do you know of any other golf facility using recycled water? No Yes Type of course _____
Location _____
(If more than one facility, please attach list.)
- 7) If you use well, city, or pond water for irrigation, how many gallons do you use annually? _____

Form filled out by: (optional)

Name _____
Title _____
Golf course _____
City and state _____



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Clippings

Brief bits of news from in and around the golf business. . . .

A free pocket-size guide called **Helpful Tips for Golf Course and Park Maintenance** details proven methods of handling common problems—such as breaking up soil cores after aerification—in fairways, rough, wooded areas, and sand traps using the Fuerst F-l-e-x-b-l-e tine harrow. Write to Fuerst Brothers, Inc., Rhinebeck, NY 12572.

Although many pro shop operators these days are leaving the golf course to move "downtown," there's one man in northeastern Ohio who has bucked the trend. Jim Maruna, owner of the Flog Shop, successful golf specialty shop in a suburb east of Cleveland, heads a group of investors who recently purchased **Hemlock Springs Golf Course** near Geneva. Other members of the owners group include Maruna's partner in the Flog Shop, Ted Brunst, and Maruna's brother Joseph, a former schoolteacher. Joe Maruna will operate the 6,847-yard, 18-hole layout, which was built in 1965 by former owners Mr. and Mrs. Charles Vanis. The Vanis family has retired to a ranch in Texas.

Jonathan's Landing, a residential community currently under construction near Jupiter, Fla., will include an 18-hole, par 71 **golf course designed by Tom and George Fazio**. Because the property includes more than 125 acres of winding waterways, the course will incorporate many challenging water hazards.

When the course at Jonathan's Landing opens December 1, its director of golf will be **Frank Cardi**, who has been the golf pro at Apawamus Club in Rye, N.Y., as well as national secretary of the Professional Golfers' Association. Cardi will probably become president of the PGA this December.

Construction of another new course will be begun next year, this one by **Kurt Kressin** and his father on their property in Mountain Home, Ark. The course has been laid out by **Cecil Hollingsworth**, superintendent at Singing Hills Country Club and Lodge, El Cajon, Calif. The younger Kressin is currently assistant superintendent at Green Valley Country Club, Tucson, Ariz.

After 22 years as a golf course superintendent, **Terry Pfothenauer, CGCS**, left the Country Club of Indianapolis on August 1 to go into business for himself. This October would have marked his 17th year at CCI.

The Rocky Mountain Golf Course Superintendents Association recently named **Herb Lockwood** an honorary lifetime member. Lockwood worked in golf course maintenance for nearly 50 years; he took over as superintendent at Kissing Camels Golf Course in Colorado Springs in 1959 and stayed there until his retirement last year. He also served at one time as president of the RMGCSA.

Dr. Jerry L. Purswell has been appointed director of safety standards programs for the

U.S. Department of Labor's Occupational Safety and Health Administration. He said he plans to establish an overall plan and set priorities for the "critical need of updating and simplifying safety standards." Purswell's background includes three degrees in engineering; teaching ergonomics, human factors in engineering, and industrial safety; research in consumer product safety, work physiology, and occupational biomechanics; and management and consulting with major industrial firms.

Dr. Terrance Riordan has joined the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln as associate professor of horticulture. According to university turfgrass specialist Robert C. Shearman, Riordan's research "will involve developing turfgrasses, specifically Kentucky bluegrass, tall fescue, and buffalograss species for the Plains states and transition zone." Riordan's degrees are from Purdue University; his most recent job was breeding cool season grasses for O. M. Scott & Sons.

E-Z-Go Textron has named **Drummond L. Kurtz** vice president of operations, responsible for manufacturing operations at the division's golf car facility in Augusta, Ga. He had been production control manager and manager of materials. . . . Polaris E-Z-Go, a Textron division headquartered in Minneapolis, Minn., has appointed **Lindsay Willis** marketing assistant. She will be responsible for market analysis and research as well as various projects in product development, advertising, and promotion of golf cars and other products.



Riordan

Kurtz

Gilchrist

Thomas R. Gilchrist has been promoted to vice president of Norton Corp.'s Irrigation Division in Phoenix, Ariz. The company distributes Toro, Ryan, Echo, Green Machine, and Giant Vac equipment in Arizona and parts of Nevada, Utah, and California. Gilchrist had been sales manager and was responsible for development of golf course irrigation systems markets in Arizona.

Pat Pinkerton recently joined Foster-Gardner, Inc. as field representative for San Diego, Orange, and Riverside counties in California. The company is a major supplier of professional turf products; all of its representatives are licensed pest control advisors.

Rain Bird Sprinkler Mfg. Corp. recently named two full-line franchised turf distributors for the sale of irrigation equipment in Florida: Florida Irrigation Supply Co. in Ft. Meyers, and Boynton Pump & Supply Co. in Boynton Beach.

Rept. Guy Vander Jagt (R-MI), chairman of the Republican Congressional Committee,

will address the 1978 **annual convention of the National Club Association** on Saturday morning, October 14. He will be followed by concurrent educational seminars, including "Get the Best from Your Best" with representatives from the CMAA, PGA, and GCSAA analyzing employment contracts, authority relationships, and functional responsibilities. The convention runs from October 12 to 15 at Doral Country Club in Miami, Fla.

Idea file

Molybdenum grease keeps gang mowers mowing

Ed Worthington, well-known New York State supplier of golf course maintenance products, says that Texas Refinery Corp.'s Double 00 mower grease with molybdenum does a great job of lubricating places where metal-to-metal contact occurs. The secret is the molybdenum.

Jim Strain, golf superintendent at Binghamton (N.Y.) Country Club, introduced Worthington to the product. Worthington reports: "Jim and his mechanic tell me their experience has shown that this grease does not leak past the mower seals and will not cause channeling in cold weather in the fall. As a result, we have this grease in stock in 35-gallon pails with a dispenser, if needed."

Use RR ties to line creeks or channels

Confronted with a major flooding problem on one of his fairways at Hyde Park Country Club in Cincinnati, Ohio, Superintendent David Stang sought and received a recommendation from a consultant. He was told that an open creek would provide the necessary drainage.

But because of the cost of installing retaining walls of rock or cement, Stang used railroad ties to line the creek.

A backhoe dug the new creek and channeled out the existing ones to increase the flow of water (fast running water stays cleaner). Stang reported in the Greater Cincinnati GCSA's "Green Breeze" newsletter that the creek is 8 feet wide and 3 feet deep — the depth at which they struck bed rock, which "made excellent footing for the railroad tie wall."

Nailed together with ½-inch reinforcing rods 12 inches long, the wall was further strengthened by placing "dead men" every 10 to 15 feet. A trencher dug slots for the dead men to anchor them in stable ground.

The result? Says Stang: "Even with the excess snowfall runoff this spring, the creek handled all the water, the fairway dried better than usual and was ready for play with the other fairways."

"Every kid should have the chance to grow up on a golf course."

Youngsters have never faced as many temptations and frustrations as they do today. And that's why I think it's particularly valuable for boys and girls to get involved in a sport like golf. It not only gives them a chance for self-expression, but it's a great teacher of self-reliance and self-discipline.

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NATIONAL GOLF FOUNDATION

Jack Spinkans



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| <input type="checkbox"/> Turf management | <input type="checkbox"/> Associate club membership program |
| <input type="checkbox"/> Golf course planning and development | <input type="checkbox"/> Fiscal club management |

Name _____

Address _____

City _____ State _____ Zip _____

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