

Does anyone
understand stress as well
as a turf manager does?



Perhaps.

Pennfine Perennial Ryegrass covers more ground than any other turfgrass variety in the world. This message recognizes the people who made it happen.

For your free full-size (22" x 28") poster of this ad, send your name and address to:
Pennfine Poster #1, P.O. Box 923, Minneapolis, MN 55440. (Watch for the other five ads in this series.)

Circle No. 139 on Reader Inquiry Card



The complex of \$200,000 homes abuts one edge of the course. A few of 5,000 trees planted by Hartline's crew are in the background.

eight (12 from March to November) fertilize greens and tees four to five times a year. Constant repair is needed on the turf near the cart path because of careless drivers. Weeds in the Bermudagrass greens are kept under control with Koban, usually applied five times a year.

Fairways are overseeded with common rye, tees with "Futura"

The golf course is a major selling point of the housing complex adjacent to the The Shores.

and greens with "Futura" Plus. Hartline's winter overseeding includes cutting and thinning out the greens using "Futura" and a mixture of sand and compost. Turf on the greens is 328 Tifgreen with common Bermudagrass used on the fairways, roughs and tees.

Fairways and greens are usually aerified twice a year, greens three times a year. Compost is used as the topdressing for tees and greens. Fairways, greens and tees are irrigated automatically with a Buckner system. Turbin pumps have a 1,200 gallon-a-minute capacity.

Reclaimed water from the city of Rockwall is collected in a man-made lake to provide the water source. Five roughs have quick-coupler sprinkling systems.

Hartline's affinity for his work started as a boy growing up on a Texas farm. "I've always loved farmwork," he says. He got started in his profession when his family leased a farm next to the McKinney Country Club in Texas. Gradually, he started helping out, caddying and mowing the greens, even though at the time, it was hard for him to see over the top of the mower. Eventually, he began working full-time at McKinney.

Hartline became a Class A member of the Golf Course Superintendents Association of America in 1960. He had been a superintendent five years prior to that. Since then, he's worked at a number of courses in Dallas, Brookhaven Country Club in Carrollton, TX, Eastern Hills Country Club in Garland, TX, Calabasas Country Club in Calabasas, CA, and began at The Shores in 1978. Besides the GCSAA, he is a member of the Texas Turfgrass Association.

"There's no limit to what you can do to beautify a golf course," Hartline says. "I'd like to make ev-

ery hole a conversation piece as well as a challenge to play."

Hartline knows what he has to do to make The Shores the kind of course he'd like it to be. But the biggest challenge that faces him is the one that faces every other golf course superintendent—the weather.

"My maintenance program is always geared around fighting Mother Nature."

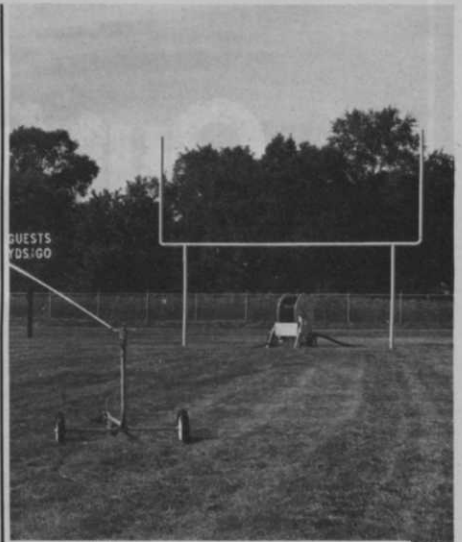
Another challenge Hartline finds is the fact that golfers as a whole are getting better and expect better-maintained courses. "We're seeing more and more golfers who

"I'd like to make every hole a conversation piece as well as a challenge to play."

expect courses to be in tip-top shape every time they play. Not getting the grass mowed because of the weather is no excuse."

With the ideas and improvements for the course Hartline has in mind, as well as the maintenance schedule he already implements, The Shores will have no trouble meeting the demands of golfers across the country. **WTT**

AG-RAIN... No. 1 in Travelers...



First with Mini-Reels for Landscape Irrigation.

Now, Ag-Rain, the leader in self-propelled agricultural traveling irrigators for over 15 years, offers the grounds manager an easy, portable way to irrigate landscaped areas.

Here are the newest travelers that are the most convenient trouble-free way to irrigate that we know of. With four models to choose from, you can irrigate less than 10 acres or up to 25 acres with just one machine.

Some of the many advantages:

- Easy to set up — you can be irrigating in minutes.
- Portable — easily moved from one area to another.
- Vandal resistant — store inside when not in use.

- No safety hazard to athletes; equipment need not be left on fields.
- Low pumping rate — 30 to 50 gallons per minute is the minimum requirement.
- Water turbine propelled — no other traveler power source required.



Choose from 4 Water-Reel models.

Tell me more about the Water-Reel Irrigators.

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WTT 2/83

Circle No. 101 on Reader Inquiry Card

Jacobsen.

Out front again with new out front mowers.

The new HF-5.

Highly maneuverable, the lightweight, compact HF-5 gives you 3, 4 and 5 gang versatility, plus the power and maintenance ease of a complete hydraulic system. Engineered to cut up to 50 acres in eight hours and help trim your budget down to size.

- Out Front Mowing** – Cuts ahead of the wheels to eliminate tracking.
- Hydraulically Driven Reels** – Cuts wet or dry grass easily. Reels can be reversed from the operator's seat. Instant backlapping.
- Hydrostatic Variable Speed Transmission** – Variable ground speed to match terrain and turf conditions. Eliminates turf damage.
- Diesel Engine** – Power, economy and longer engine life.
- Hydraulic Lift Mowers** – 84" to 106" to 133" cutting width all at the operator's fingertips.

The new Turf King II.

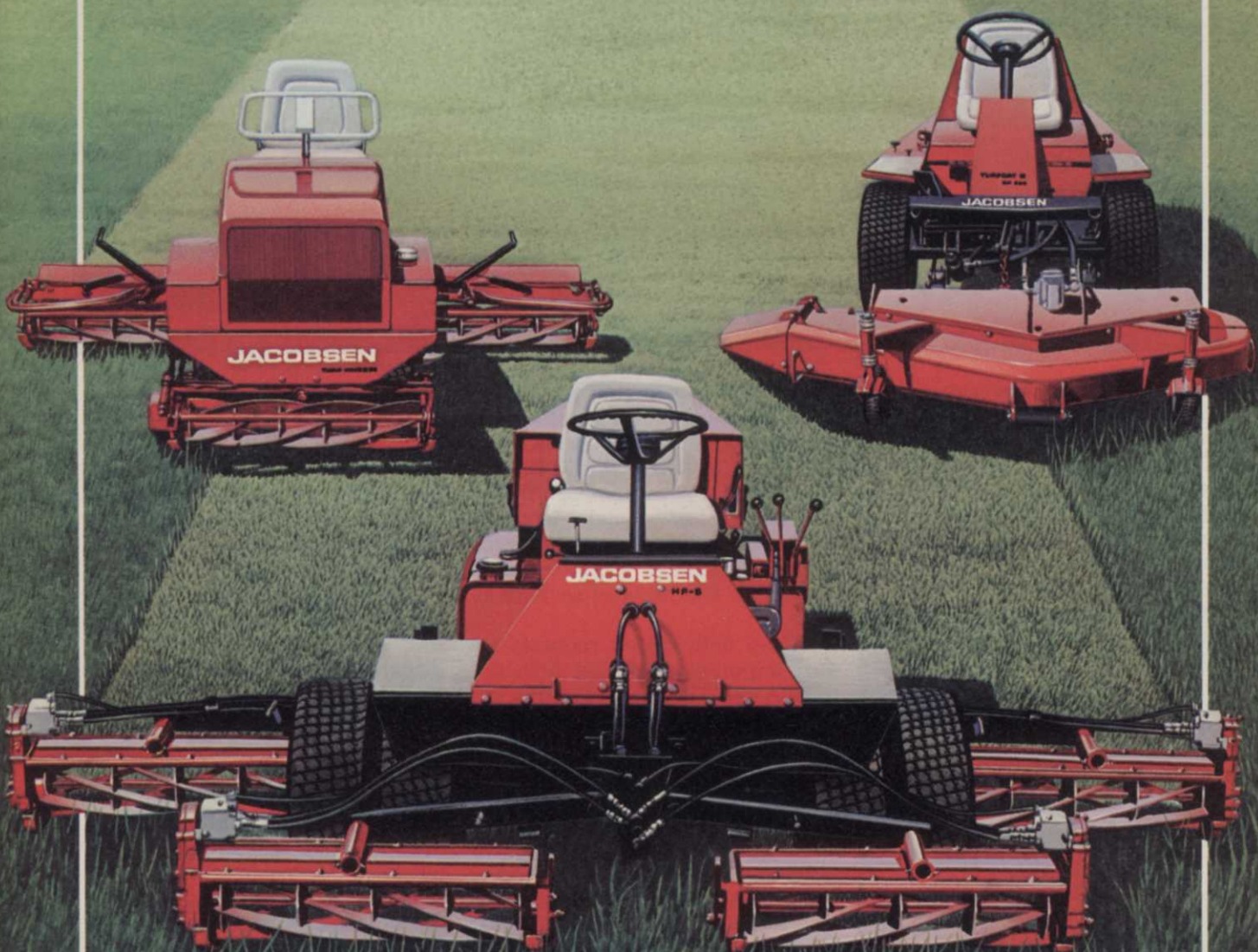
Known for its maneuverability and quality of cut, in wet grass or dry, the out front mowing Turf King II is available in both 76" and 84" cutting widths. A versatile machine designed for comfort and the economy you need from a high quality triplex mower.

- Hydrostatic Drive** – Reel speed independent of ground speed. Variable forward and reverse controlled by single pedal. No clutching.
- Out Front Mowing** – Cuts ahead of the wheels to eliminate tracking.
- Limited Slip Differential** – Better traction on slopes and soft ground.

The new Turfcat II.

A year-round out front rotary system. Available in three engine sizes in either air-cooled gasoline or water-cooled diesel with a choice of three deck sizes and implements ranging from a flail mower to a snow blower. The rugged Turfcat II does more than maneuver, climb and trim. It lasts.

- Ducted, Screened, Air-Cleaning System** – Cleaner, more efficient cooling. Longer engine life.
- Hydrostatic Drive** – Cutter speed independent of ground speed. Variable forward and reverse controlled by single pedal. No clutching.
- Two-Speed Transaxle System Implements** – Dual speeds. Low 0 to 4.6 mph. High 0 to 8.8 mph.
– The Turfcat II system includes: 50", 60" and 72" rotary decks, 50" and 60" flail mowers, rotary brooms, plow, snow thrower and grass catcher.



JACOBSEN
TEXTRON

Jacobsen Division of Textron Inc.

Jacobsen. Engineered from the ground up.

Circle No. 222 on Reader Inquiry Card

RENOVATION TUNES UP PEBBLE BEACH



Treacherous along-the-ocean holes pose at Pebble Beach a particular challenge to greens superintendent Mike Phillips

Mike Phillips, superintendent at Pebble Beach Golf Links, overhauled his maintenance program to upgrade everyday playability on one of the nation's foremost courses.



Long known as annual host to the Bing Crosby Pro-Am Tournament, Pebble Beach Golf Links also won the honor of hosting the 1982 U.S. Open. But a severe weed infestation and turf deficiencies jeopardized the quality of playability for the tournament. Pebble Beach Company had worked so hard to get.

Faced with urgent requests for turf improvements from both the USGA and TPA, Mike Phillips, superintendent at Pebble Beach Golf Links and his staff met the challenge head on. They renovated several fairways and roughs, rebuilt many sand traps and implemented a fine-tuned maintenance program.

Phillips believes the challenge was really a blessing in disguise.

"We've had a history of terrible Kikuyu grass and although we knew the only way to control it was through renovation, we put it off. The request by the USGA and the TPA prompted us to renovate sooner," he claims, adding that the USGA's maintenance require-

ments, coupled with his own program, are helping keep the course in championship shape year-round.

Kikuyu grass tends to form a thick mat (a thatch layer about two to four inches thick) causing a puffiness in the fairways.

"This puffiness caused the ball to set up high, producing flyer lies," Phillips said. "It became very difficult to mow fairways to a half-inch. With the renovation program complete, the new fairway turf was cut at a true half-inch."

Since Kikuyu grass is very prolific, reproducing by seed, rhizome and stolon, Phillips recalls that the grass spread from small, localized pockets over most of the fairways rather quickly. To keep the problem in check, he had his maintenance crews routinely hose down equipment operated in the infested areas after use to prevent seed transport. But, it still spread via wind, carts and golf shoes.

Phillips' controlled maintenance program has kept the Kikuyu grass

Continued on page 49

BETASAN®. THE NUMBER ONE ANSWER TO YOUR NUMBER ONE PROBLEM ALSO CONTROLS EIGHT OTHERS.

It's no secret that Betasan® is the best pre-emergence herbicide in the business for knocking out crabgrass before it starts. In test after test, Betasan has proven best. Year after year. Little wonder more turf care professionals choose it over any other brand.

But crabgrass isn't the only tough weed Betasan can eliminate from your course. If you use Betasan at a lesser rate, you can safely make multiple applications* and achieve near-perfect control of all the pest weeds and grasses shown here.

Especially goosegrass and poa annua.

Betasan is safe and effective on established bluegrass, fescue, bentgrass, perennial rye, Bermuda grass, Zoysia, bahia, centipede, St. Augustine and dichondra.

So to eliminate all these golf course enemies before you — or your members — ever see them, ask for Betasan. Always follow label directions carefully. Stauffer Chemical Company, Agricultural Chemical Division, Westport, CT 06881.

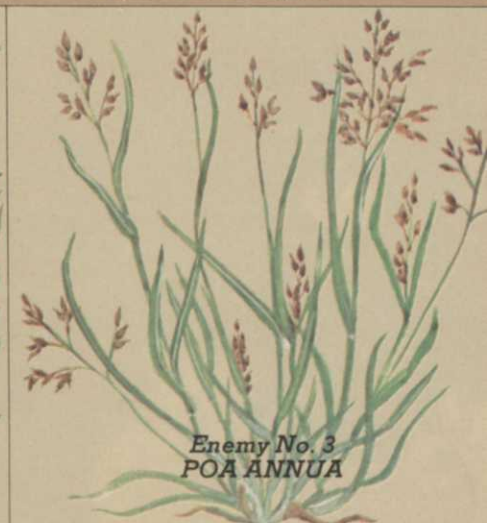
BETASAN® 
No. 1 Against Crabgrass



Enemy No. 1
CRABGRASS



Enemy No. 2
GOOSEGRASS



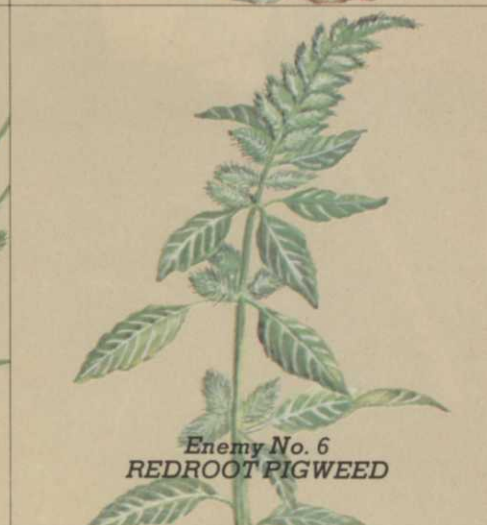
Enemy No. 3
POA ANNUA



Enemy No. 4
BARNYARDGRASS



Enemy No. 5
FOXTAIL



Enemy No. 6
REDROOT PIGWEED



Enemy No. 7
SHEPHERDSPURSE




Enemy No. 8
LAMBSQUARTERS



Enemy No. 9
DEADNETTLE

Circle No. 149 on Reader Inquiry Card

*Up to 25 pounds Active Ingredient (A.I.) per acre per year



Howard Kaerwer, Director of Turf Research at Northrup King's Research Center, stands in a laboratory. He is wearing a dark jacket over a light-colored turtleneck and glasses. Behind him is a large window or open door looking out onto a vast field of young, green grass plants arranged in neat rows. To his left is a laboratory bench with various glassware and equipment. In the foreground, a bag of Northrup King Medalist turf product is visible.

“Welcome to the South’s next great winter golf green.”

—Howard Kaerwer, Director of Turf Research at Northrup King’s Research Center

From one of these unlikely looking clumps of ryegrass will come the next improvement in Northrup King Medalist Brand® Overseeding Mixtures. The South’s most successful blends for over a decade.

Howard Kaerwer and the Northrup King research team have devoted thirty years to developing new grasses and perfecting blends. The results are products such as Medalist 7 Brand, the rugged, dependable ryegrass blend that lets *you* control transition. And new grasses like Delray, with lower nitrogen requirements and better tillering than any other ryegrass on the market.

When Howard isn’t in the lab he’s on the links talking to superintendents, conducting field experiments and collecting new grass samples to bring back for testing.

Has Howard’s hard work paid off? Ten years after the introduction of Medalist Brand, 90% of 250 original customers were still with Northrup King. And since then, the number has grown to over 400 golf courses throughout the South.

Ask your Northrup King distributor how to make your course even better with Medalist Brand, the South’s most successful winter overseeding blends.

Or write: Medalist Turf Products, Northrup King Co., P.O. Box 370, Richardson, TX 75080 or P.O. Box 959, Minneapolis, MN 55440.

Circle No. 136 on Reader Inquiry Card





Brown-out is evident around a hole sprayed with Roundup

under control and he has been able to upgrade the course for everyday play. All of the sixth and part of the tenth fairway, around the third, eighth and ninth greens and spot areas on several other fairways have been renovated.

Seeking to complete the renovation as quickly as possible, Phillips opted to use Roundup herbicide in the fall of 1979. A non-selective foliar-applied herbicide, Roundup "translocates" through the vascular system of the plant, controlling both above and below ground growth.

"We were able to spray and reseed in just two-and-a-half weeks," said Phillips.

After applying a two-percent solution of Roundup and waiting two weeks for the chemical to circulate down through the Kikuyu grass and existing turf, Phillips raked out the dead grass, applied Tupersan for annual grass and seedling control and reseeded with a ryegrass/bentgrass mix. Because regrowth from seed is an ongoing concern, a second application of Tupersan was made.

Prior to applying Roundup, Phillips, who usually mows the fairways three times a week, let the grass go uncut for a week to increase the amount of emerged vegetation exposed to the herbicide. "This insured the herbicide was translocating through almost all of the existing turf," he said.

Phillips estimates the total cost of the renovation at about \$1,000.00.

"That includes labor, seed and

Kikuyu grass spread from local spots to most fairways quickly.

herbicide," he said.

Phillips contends that by using Roundup, he was able to renovate at a lower cost without closing the course.

"Perhaps the main benefit of the renovation is that we are no longer maintaining Kikuyu grass," says Phillips. "Our bentgrass/ryegrass turf looks and plays 100 percent better. The sixth fairway is now the nicest on the course."

To strengthen the turf and create a thick stand, Phillips and his ten-member maintenance crew aerated the rough and fairways at an accelerated rate, about three to four times a year, compared to twice a year in the past. Greens were also aerified five times annually. About two weeks prior to the Open, the irrigation system was shut off to push the turf to stretch its roots in search of water. Last year, Pebble Beach completed the installation of a computerized irrigation system.

Since the U.S. Open is perhaps the nation's most prestigious golf tournament, USGA specialists made periodic checks on the maintenance program at Pebble Beach every two or three months.

"They checked to see what we were doing, see what had been renovated and generally monitored our overall maintenance program," said Phillips. "But we didn't mind. It kept us on our toes, and helped make Pebble Beach an even more beautiful and well-respected course, not to mention the site of the 1982 Open." **WTT**

ADD GOLF CAR PATHS TO YOUR MASTER PLAN

By James Martello, E-Z-Go Division of Textron, Augusta, GA



Cart paths can greatly enhance yearly revenue picture for most courses

Being in the golf car business, one of the first questions that comes to mind is . . . Why? Why car paths at all? Most of your southern courses and many Northern courses agree it is purely a matter of maximizing their golf car revenue.

In many wet situations car paths allow a course to remain open and capture a larger volume of play due to the never-ending availability of cars, which can greatly enhance your yearly revenue picture. Other important reasons for paths are to reduce soil compaction in heavily traveled areas and to standardize and direct traffic flow, thus reducing slow play problems.

Hilly courses utilize paths to minimize washout areas and soil erosion. Safety is also a factor to consider, especially in the early morning before the sun has a chance to burn off the dew.

Some of the considerations to take into account when in the planning stage of golf car path development are:

Path width: 6-10 feet with curbing or railroad ties along tee areas; with the norm being 8 feet.

Path depth: 6 inches depending on the material used and the use intended. Is it a *golf car path* or *maintenance road*? The norm has a 4 inch base consisting of stone,

gravel, sand, etc., with 2 inches of top paving. Some pregrading should be done to ready this area.

Material: LIMESTONE (traf-

TABLE 1

Cart path construction materials by percent use.

Asphalt	65
Gravel	45
Other:	17
9 mentions: Cement/concrete	
3 mentions: Dirt	
1 mention each:	
Limestone - Shells - Lava rock -	
Sand - Woodchips	
Don't have cart paths	12