



insects are hiding picture?

cutworms, sod webworms and armyworms. Plus it takes care of nuisance pests like ants, fleas and chiggers.

We've mentioned 8 species on the label but that's not even half.

Keep counting. And when you place your next insecticide order, ask your supplier for the biggest label in the business—D·z·n Diazinon.

PS: You'll find the answer below.

CIBA—GEIGY

rainfall is greatest in the Midwest and East. The area around home plate, the bases and base paths and the infield present major problems because of the heavy traffic. If no tile was laid at construction time, one can dig and lay a periphery tile on the outside of the skinned area or one must depend primarily on surface drainage. A combination of both is desirable. For tiling to be effective, one must make sure that water reaches the tile by percolation through the compacted soil or by other means. Harper (2) comments that compaction seals the surface and prevents normal movement of air and water into and through the soil. He indicates

the outfield grass at the edge of the skinned area which prevented water from escaping into the outfield and player positions were easily identifiable by puddles of water. Old, leaky canvases did not help much and could not be left on continuously because of heat, sun exclusion and lack of labor, especially over weekends, holidays and when the team (the canvas crew) was out of town.

After surveying and closely checking the field, several solutions were considered including the following: completely removing infield sod, working in calcined clay to a four inch depth and replacing with new sod and com-

west edges.

4. Fill the trench to within three to four inches of the top with creek-run gravel, tamp and top with four inches of a sand/soil mixture (approximates a French drain).

5. Grade skinned area to slope toward the trench and fill the low areas.

6. Resod over the trenches being careful to center a strip of sod over the trench and alternate sod ends.

7. Remove two sod strips from along outsides of 1st and 3rd base paths, remove two to three inches of soil and replace with new sod.

8. Work calcined clay (Turface) into the base paths and skinned area to a depth of two to three inches and relevel with a slope from the infield grass to the outer edges of the base paths and to French drain and outfield grass.

The results were good. Rain and irrigation water surface-drained from grass infield to French drain and then to underground tile. In general, as long as it wasn't raining on the day of a game, they were able to play ball. By 1978, there again was a buildup on the outer edge of infield grass and edge of outfield grass due to soil/calcined clay migration, and fielding positions were obvious in the skinned area. Stripping, lowering of stripped area, releveling of infield and resodding were repeated. This process will be repeated in 1983 or 1984 and whenever needed.

Heavy wear and compacted areas around the pitcher's mound and home plate are routinely resodded, usually every other year in the fall.

Renovation of the SIUC woman's softball field was accomplished in 1980. This field was almost devoid of perennial turf-grasses but had numerous grassy and broadleaf weeds. The renovation steps were:

1. Elimination of weedy species with 2,4-D/dicamba on areas with some desirable perennial grasses and glyphosate (Roundup) on the remaining area including the infield.

2. Use of several implements for research purposes including a roto-tiller/seeder combination (Turf Shaper), a flex-harrow

continued on page 34



Turf Shaper was one of three implements tested for overseeding with tall fescue at 7 lbs./1000 sq. ft.

that tiling of the entire playing area may be of little value because of surface compaction which impedes water movement into the tile lines.

Using SIUC's Abe Martin Field as a case study, we found that tile had been laid on a 30 ft. grid. About a foot of gravel had been used to cover the tile, silty clay topsoil and subsoil was used to fill the remaining 1½ to 2 feet. In addition, in ten years, a two-inch compacted layer of silt and clay had developed about one-inch below the surface, preventing percolation of water downward and to the tile. The field was unplayable for one to three days after even moderate spring rains.

Also, a ridge had developed in

pletely reworking the skinned area and incorporating calcined clay; uncovering the tile lines, adding calcined clay or gravel/sand to near surface and resodding and releveling skinned area plus more careful surface raking of skinned area in the future.

Steps finally recommended for use in fall 1975 were:

1. Remove three sod strips (three feet) along inner edge of outfield.

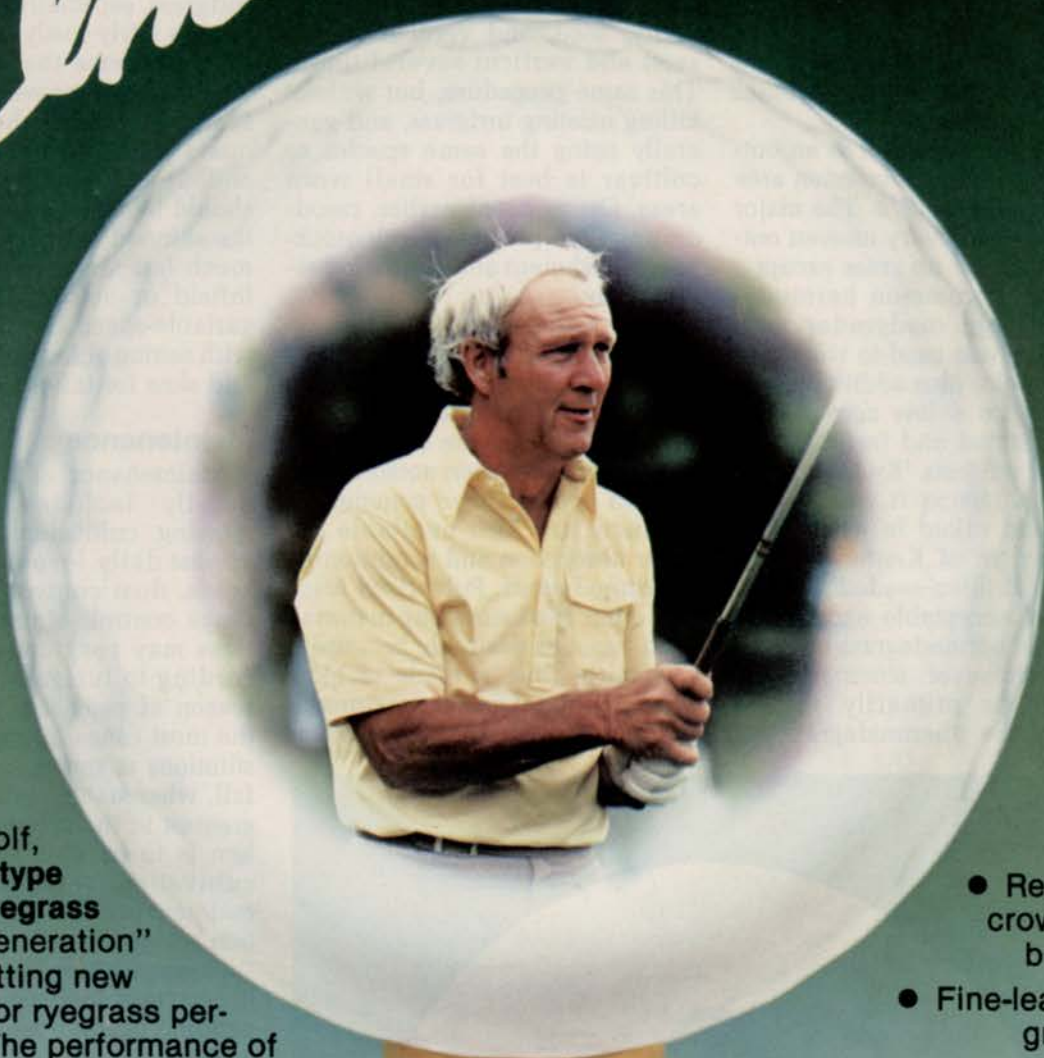
2. Remove additional soil and deposited infield material with sod cutter to a depth of two to four inches.

3. Trench the whole circle from right to left baselines crossing existing tile. Connect short slit trenches and low area behind 1st base to drain tile along east and

Palmer

Turf-Type Perennial Ryegrass

the beginning of a second legend



As Arnold Palmer is a legend of golf, **Palmer turf-type perennial ryegrass** is a "new generation" ryegrass setting new standards for ryegrass performance. The performance of those varieties popular only a few years ago, is being challenged.

Palmer turf-type perennial ryegrass has a lot to offer in improved ryegrass performance:

- Improved mowability
- Attractive dark green color
- Excellent heat and drought tolerance

- Good winter hardiness
- Resistance to crown rust and brown patch
- Fine-leaved, dense growth habit

Palmer was developed by Lofts Seed Inc. in cooperation with the New Jersey Agricultural Experiment Station at Rutgers University, under the direction of Dr. C.R. Funk. Another improvement through research. **Palmer**, named for a professional . . . by the professionals.



Lofts Seed Inc.

Bound Brook, NJ 08805
(201) 356-8700 ● (800) 526-3890

Palmer turf-type perennial ryegrass is a product of Lofts Seed Inc. and Great Western Seed Co., Inc.

Available Fall 1982 Circle No. 116 on Reader Inquiry Card

Great Western Seed Co., Inc.
Albany, OR 97321
(503) 926-5892

Lofts/New England
Arlington, MA 02174
(617) 548-7550

Sunbelt Seeds, Inc.
Tucker, GA 30084
(404) 491-1311

Lofts/Maryland
Beltsville, MD 20705
(301) 937-9292

Lofts/New York
Cambridge, NY 12816
(518) 677-8808

(Fuerst) and a large verticutter (modified Grounds Groomer). For both latter implements seed was broadcast before flex-harrowing or verticutting. 'Ky 31' tall fescue was used at a 7 lbs/1000 sq. ft. rate.

3. The entire area (except infield and base paths) was then seeded with a 1/2 lb/1000 sq. ft. blend of Kentucky bluegrass ('Baron' and 'Parade') and rolled with a Brillion seeder/roller.

Results were excellent with two passes of the Grounds Groomer giving the best results.

A third baseball field at an outlying city park and recreation area was renovated in 1976. The major problems were a very uneven outfield and almost no grass except a few spots of common bermudagrass. A large roadgrader with front spikes was used to work and level the field, plus additional soil was added to a low corner. The field was limed and fertilized according to soil tests. 'Ky 31' tall fescue at 7 lbs/1000 sq. ft. was cyclone seeded and raked in. One-third lb/1000 sq. ft. of Kentucky bluegrass was Brillion-seeded. Results were most acceptable except that the areas of bermudagrass have increased. However, since play on this field is primarily in the summer, the bermudagrass is

green and very wear-tolerant so it is not objectionable. Since the infield is not sodded in either the woman's softball or the park's field, good surface drainage is sufficient.

Reseeding or resodding of worn areas is an almost continual renovation practice. If species or cultivar changes are wanted, one can completely kill with glyphosate, aerify, seed, and verticut or just seed and verticut several times. This same procedure, but without killing existing turfgrass, and generally using the same species or cultivar is best for small worn areas. Or, as noted earlier, resodding is often practiced with quicker establishment and almost immediate play.

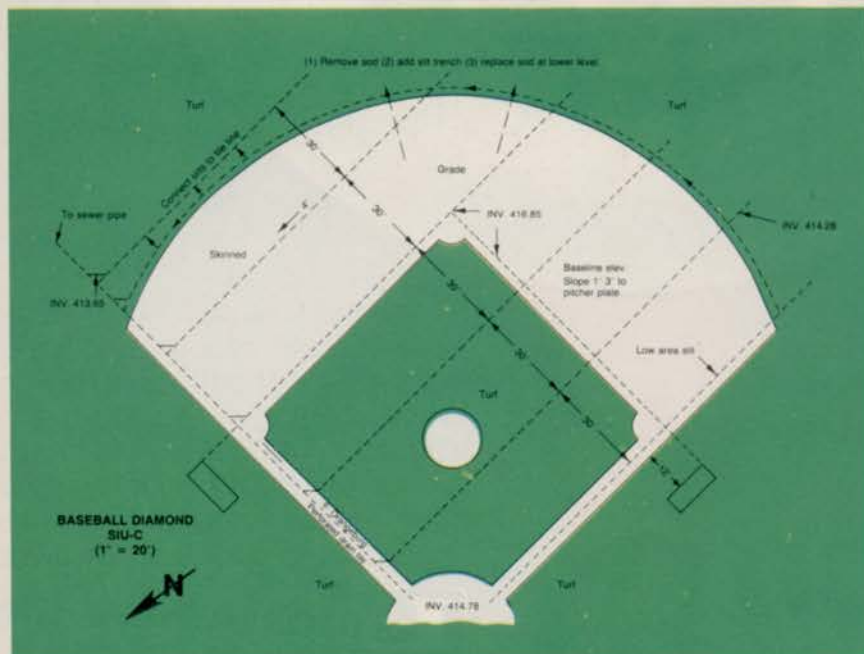
Only soil surface modification will be discussed here since full soil modification entails complete reestablishment rather than just renovation. The use of calcined clay has already been noted for the skinned areas. Other commercial products are also available for water absorption and conditioning of skinned areas. Pulverized brick is another good surfacing material. Sand is not as desirable because if it is fairly fine, it tends to blow when dry and if coarser-textured it is often too sharp or loose for

players and the ball. Sand also has no water-absorbing capacity.

One increasing practice is the installation of an irrigation system. Most often it only occupies the infield and perhaps one line of sprinkler heads is located around the short outfield, although some total irrigation systems are used. This provides better quality turfgrass, especially in the summer but is a fairly costly renovation and does increase the maintenance. Two precautions with an irrigation system: 1) there should be adequate surface drainage and tiling and, 2) one or two lines of heads should be installed to syringe only the skinned area. This area needs much less water than the grassed infield or outfield. Alternatively, variable-speed heads can be used with setting of fast for skinned area and slow for infield/outfield.

Maintenance

Maintenance of baseball fields usually includes fertilization, mowing, cultivation, pest control, almost daily leveling of skinned areas, dust control, and traffic/usage control. Maintenance practices may vary considerably according to turfgrass species and season of peak use. For example, the most usage for educational institutions is spring and sometimes fall, whereas recreational usage is greatest in the summer. The problem is to be able to "get in" the cultivation, reseeding, or other maintenance or renovation operation while practice and games are "in season." Also, species selection in the transition zone varies depending on the heavy use period; universities and high schools with early to late spring play should use cool season grasses such as tall fescue (outfield) Kentucky bluegrass (infield) and occasionally perennial ryegrass as a temporary filler in the Midwest and sometimes as a major component in the mixture in the East. For recreational ball fields, Bermudagrass or zoysiagrass will stand the summer use best. I will briefly refer to recommendations for the transition zone



Slit trenches spaced 30 ft. apart move water to the perforated drain tile along the third base line.

continued on page 54A

OUR NEW 62. WE PICKED ITS ENGINE APART.

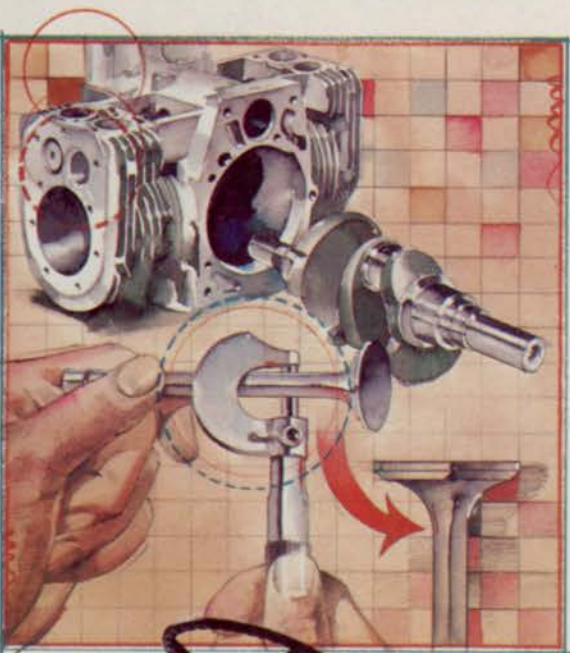
BECAUSE WE'RE PICKY ABOUT POWER.

When Toro introduces a new riding rotary mower, you can be sure it's engineered to keep you cutting.

Because, for one thing, we never forget that engineering begins with engine. Picking exactly the right power to match width of cut and kinds of attachments.

Too much power wastes fuel and is inefficient. Too little power stunts productivity and works the engine to death.

So we've powered our new Toro Groundsmaster® 62 with an Onan 20 hp, twin cylinder engine. But only after considering 10 excellent candidates, narrowing them



down to 3 for testing, then literally picking apart our final choice.

We tested it on a dynamometer to verify its power rating. We tore it down and inspected it part by part for durability. We tested it for noise. We tested it for vibration. We tested it for fuel economy. Then, we ran it hard for 1,000 hours to make sure it was up to going to work for our new 62. And you.

And, to keep you cutting, we evaluated its serviceability, too. Made sure its routine maintenance points and replaceable oil filter are easy to get to.

Call your Toro distributor. He'll tell you more about our new Groundsmaster 62. The high capacity 62" professional now teamed with our Groundsmaster 52 and gas and diesel Groundsmaster 72s to offer you a complete line of riding rotaries.



TORO

THE PROFESSIONALS THAT KEEP YOU CUTTING.

"Toro" is a registered trademark of The Toro Company, 8111 Lyndale Ave. So., Minneapolis, Minnesota 55420.



This slope was cleared with Roundup—then planted with a ground cover.

ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR ROUNDUP.
Roundup® is a registered trademark of Monsanto Company. © Monsanto Company 1983. RUP-SP3-103

“ROUNDUP® SAVED ME ABOUT 6 DAYS ON THIS RENOVATION.”



“WITH ROUNDUP, I NOT ONLY SAVE TIME, I CAN ALSO DO A BETTER JOB. BIG JOBS OR SMALL ONES. EXTENSIVE RENOVATIONS—OR JUST AN AREA UPGRADE. THE FACT OF THE MATTER IS, I COULDN'T BE AS COMPETITIVE WITHOUT ROUNDUP!”

CARL SCHIEFER
OF CARL'S LANDSCAPING, INC., LAGUNA HILLS, CALIFORNIA

Carl Schiefer runs an award-winning landscaping business in Orange county, California. In that part of the country bermudagrass is an extremely tough perennial weed problem in lawn and shrub areas. Carl solves that problem with Roundup® herbicide.

“We spray Roundup, and 7 days later we can plant. That's because Roundup has no residual

soil activity. With conventional methods, we'd have to spend days digging up the rhizomes. In some areas, that means going down at least 12 inches if you're going to do an honest job. With Roundup, we can destroy the weeds, roots and all. On this particular site, I figure I saved about 6 days with Roundup.”

When you renovate a lawn or slope with Roundup you won't have to dig, disc or use a sod cutter. Just apply Roundup when the old lawn is actively growing and at the proper stage of growth. Then come back 7 or more days later to

power rake, till or slice—then plant. Your customers will like Roundup too, because the work site can hold up to light foot traffic during renovation.

Roundup can help make your workforce more efficient and your bidding more competitive. When you add it all up, that's the kind of edge you need to be successful today. Just ask Carl.

FOR MORE INFORMATION ABOUT MAKING LAWN RENOVATION MORE PROFITABLE WITH ROUNDUP, CALL 1-800-621-5800 TOLL FREE. IN ILLINOIS, CALL 1-800-972-5858.

Round up was also used for trimming and edging around new plantings, as well as follow-up maintenance.



Monsanto

PARKS S-T-R-E-T-C-H TO MEET FIELD DEMAND

Park superintendents add fields while budgets and staff stay the same. Utility turf programs and old equipment may not be enough to keep fields in play.

By Bruce F. Shank, Executive Editor

Park superintendents are stretching resources to keep up with demand for playing fields according to the latest *Weeds Trees & Turf Landscape Management* survey. Meanwhile, budgets remain the same and equipment is doctored to keep it in use.

More than two-thirds of the respondents in the survey indicated their equipment budgets were not enough to buy the equipment needed to keep up with increased field use. Seventy percent said they had increased the number of fields to meet the demand for fields by sports leagues and taxpayers. Despite this, only 18 percent have had a budget increase and 27 percent have had to cut maintenance budgets. Staff size has stayed the same in two-thirds of the cases and decreased in 27 percent.

Stretching resources may be an understatement. The increased use of existing fields is exceeding the protection provided by utility turf management programs standard for parks.

The typical annual regimen of park sports field care is spring and fall fertilizer applications of 50-100 lbs. N/acre, aerification twice a year, overseeding worn areas in the fall, and a single application of a postemergence broadleaf herbicide in late spring. Mowing at 2½-inches on an eight-day cycle is common.

Dr. William Daniel of Purdue University terms 2 lbs. N/1,000 sq. ft./year (87 lbs./acre) a minimum diet for turf. Considering the wear sports fields receive, and that overseeding mixtures are often perennial ryegrass and Kentucky bluegrass, a minimum turf diet

might be impairing the ability of park turf to recover from injury. Daniel terms 4 lbs. N/1,000 sq. ft./year (174 lbs./acre/year) adequate for cool season lawns.

Tall fescues have a lower nutrient requirement than other turfgrasses and establish slower than ryegrass but faster than Kentucky bluegrass. Fertilization programs should match the turf species. Overseeding may alter the primary turfgrass on northern fields.

Park superintendents see the pressure from adult sports leagues as the leading factor in increased field use. Soccer and children's sports leagues tied for second. Women's sports was a close third.

League officials do perform some maintenance according to 40 percent of the park superintendents, but league fees do not encourage them to build more fields. Only ten percent said league fees help pay maintenance costs.

Despite the fact that the amount of work has increased and park staffs are staying the same or decreasing, less than ten percent of the park superintendents use outside contractors to perform some maintenance services. Daniel believes, however, that firms specializing in athletic field maintenance will be accepted by public agencies in the future as an alternative with the special knowledge and equipment required to maintain quality athletic fields.

Artificial turf is currently viewed by the park superintendents as a possible option to counteract extensive field use in certain cases. Nearly half thought it may be necessary if field use exceeds the ability of the turfgrass to recover. They

continued on page 66



Economy Athletic Field Care

- Fertilize in early fall with 60 lbs. of nitrogen per field. Slow-release nitrogen formulation of 16-4-8 preferred.
- Water as needed with traveling irrigation equipment.
- Mow often at 2-inches.
- Overseed lightly before games with 5 lbs. seed per field.
- Mulch thin areas immediately after the last game of the season.
- Fertilize lightly in late winter or early spring with soluble nitrogen source.
- Apply preemergence herbicides after first mowing in spring.
- Apply postemergence herbicide to kill broadleaf weeds before mid-June.
- Increase cutting height in summer.

MERIT

*If they held
an **Olympics**
for Bluegrass,
Merit would
win the **Gold***

That's because this low maintenance variety so often outperforms the biggest names in Kentucky Bluegrass.

The record shows that Merit is consistently rated high in turf quality and color as well as disease-resistance, including good resistance to leaf and dollar spot.

A variety that is praised for its excellent spring color, Merit also holds its own when subjected to minimum irrigation and fertilization.

Look at the record. In 1972 NE-57 trials, in a five-year New Jersey test, in a New York trial, at an eight-year Purdue study, a three-year Ohio trial and in a four-year Missouri test, Merit often outperformed such bluegrasses as Baron, Nugget, Fylking, Adelphi, Glade and Bonnieblue.

Merit...it's a Kentucky Bluegrass worth looking into

FULL CIRCLE, INC.

P.O. Box 49 Madras, Oregon 97741 (503) 475-3877

CENEX A Subsidiary of Cenex



LANDSCAPE MANAGEMENT



BEFORE:

The Orange Bowl

Dale Sandin keeps Miami landmark a step ahead with innovation, determination

By Maureen Hrehocik
Associate Editor

AFTER: The Miami Dolphins, New York Jets playoff game

