

The Best of Two Worlds
continued from page 9

one that contained a bit more soluble nitrogen rather than a full-blown slow-release product.

"It's young field," reminds Chapman, "and as in sand-based situations, the microbiological activity needed for breakdown of slow-release materials isn't there yet. So we're using more of quick-release fertilizer for now. They'll be able to use a blend of nitrogen that has more slow-release as the field ages.

Optimum playing height for SportsGrass is one-and-one-half inches.

[Reproduced from *Landscape Management*, October, 1995, pp 8G &G]

Reel Grinding for Turf Health, Beauty

by Don Lindenfesler
John Deere Ltd., Golf & Turf Division

Reel mowers are precision machines that need daily maintenance to retain the turfgrass's well-groomed appearance. The scissor-like shearing action of a reel mower is only possible if the reel and bedknife are sharp and the proper reel-to-bedknife clearance is maintained.

Cutting action begins as the bedknife positions the grass to be cut at the cutting edge. The reel then pulls the grass toward the bedknife where it is sheared by the cutting edges as they pass one another.

For the grass to be cut at the proper height, it must contact a bedknife with the proper angle at the cutting edge, so you should grind a 5 percent relief angle on the front face of the bedknife. Without a relief angle, the blade of grass will contact the lower edge of the bedknife and bend over at too much of an angle prior to being cut. When mowing greens, where very small cuts are being taken, an improperly aligned bedknife may not capture the grass at all, and no grass will be cut.

Close examination of the reel-to-bedknife relationship reveals two square edges passing one another with approximately .002 of an inch clearance. This clearance is necessary because:

- If the reel contacts the bedknife, the square (sharp) edge of the reel and bedknife will roll over, becoming dull.
- Contact between the reel and bedknife gener-

ates heat which can distort the shape of the bedknife, and cause the bedknife to draw closer to the reel, resulting in the cutting surfaces rolling over more, and more heat being generated in the bedknife.

- Drag produced by an improperly adjusted cutting unit may result in an unacceptable clip ratio, undue strain on drive mechanism and premature wear of the cutting unit.

Reel and bedknife grinding - Reel and bedknife grinding are used to:

- restore the cylindrical shape of a reel that has become cone-shaped due to improper adjustment of the reel-to-bedknife clearance or due to worn reel bearings;
- restore the edge when the grass is not being cut across the entire length of the bedknife due to nicked blades;
- restore the edge when the lack of frequent backlapping allowed the edge to be rounded beyond the capability of the backlapping procedure to restore the edge; and
- restore the edge when the reel-to-bedknife clearance has been improperly adjusted allowing the reel to contact the bedknife.

Relief grinding - Relief grinding restores the factory relief angle to prolong cutting unit life and promote fast between grind sharpening (lapping). To grind a cutting unit without relief is doing half the job, and maintenance costs will increase due to the constant metal-to-metal contact of the "flat" ground reel blade.



17525 Jane St.
R.R. #1 Kettleby
Ontario L0G 1J0

Toronto (416) 364-5700
Aurora (905) 727-2100
Fax (905) 727-8546



FAIRLAWN SOD
FAIRLAWN SOD NURSERY LIMITED
GROWERS AND SUPPLIERS OF PREMIUM TURF

W.L. (BILL) CAMPBELL, B.S.A., M.S.A.
PRESIDENT

Tel: 519-647-3481
519-651-0112
FAX: 519-647-2182

HEAD OFFICE
R.R. #2, LYNDEN



TURF CARE TOM FISCHER
Commercial Sales Manager

TORO® - new and used turf equipment
PAR EX® - fertilizers
E-Z-GO® - new and used golf cars & utility vehicles

Turf Care Products Canada Ltd.
200 Pony Drive
Newmarket, Ontario L3Y 7B6
Phone: (905) 836-0988



Turf Equipment Rentals
Member S.T.A., O.G.S.A., O.P.A.

GORD DOL
President

R.R. #2 Beeton, Ontario L0G 1A0
Phone: (905) 729-2012 • Fax: (905) 729-2364

John Deere recommends relief grinding the reels before spin-grinding to:

- Reduce the blade contact area, resulting in less friction, thus requiring less horsepower to drive the reel;
- Ensure longer wear life;
- Cut time required to backlap;
- Reduce pulling and tearing of the grass as the unit becomes dull from use;
- Provide an area for backlapping compound to be trapped to backlap reels more effectively;
- Remove metal from the trailing edge of the blade forming an angle (the relief angle) to reduce the contact area of the cutting edge; and
- allow the operator to true a reel (make it round), when backlapping, if a blade is .001 inch to .002 inch too high.

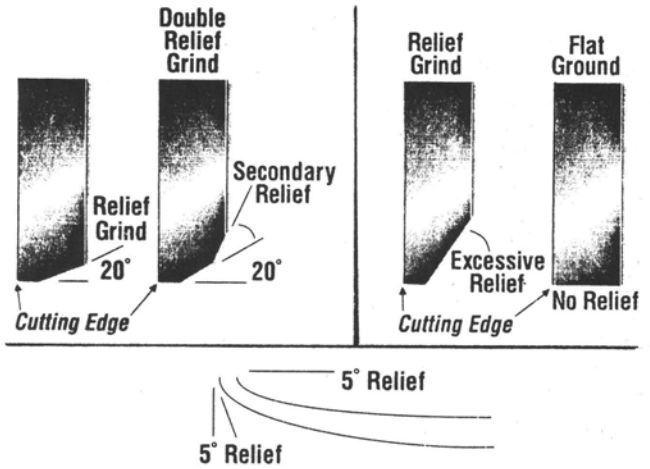
Backlapping - Backlapping is used to sharpen the cutting edges when grinding is not necessary. Backlapping, as compared to grinding, removes a very small amount of metal and requires less time.

The backlapping procedure is accomplished by spinning the reel backwards while applying special abrasive compounds to the reel. Usually, coarse compounds are used initially, followed by a finer abrasive for final honing.

John Deere recommends backlapping after spin grinding to remove burrs and rough edges left from the spin grinding procedure. Backlapping produces a honed edge that will cut the grass evenly and leave the tops of the grass with clean, straight edges.

The cutting unit should be inspected, backlapped, adjusted and checked daily for a uniform cut along the complete length of the bedknife. The adjustment should allow the reel to turn freely without dragging against the bedknife. Metal-to-metal contact will generate heat, causing the reel to expand, intensify the dragging and produce more heat. This vicious cycle will quickly "shut-down" the mower.

Reel and bedknife sharpening - Sharpening is necessary when the grass is not being cut cleanly due to dull bedknife and/or reel blade edges, or when turf streaking is apparent, caused by the bedknife and reel not cutting the full width of the blade due to nicks, bends or uneven wear.



Lap when the relief angle remains and edges are rounded only slightly. Grind when no, or very little, relief angle remains on the reel blade and/or the bedknife relief angle is minimal or non-existent.

Precision grinders - Many grinders on the market today provide an acceptable quality reel and bedknife grind, but this is not equivalent to a "factory" precision grind. At the John Deere, Horicon, Wis., factory, the reels and bedknives are ground on very precise industrial grinders that are mounted to an independent concrete bed over 12 feet deep to eliminate vibration. Though a grinder of this quality is too expensive for most golf course budgets, superintendents are demanding as close to a "factory grind" as possible to provide the highest quality turf for their players. Therefore, it's important the reel and bedknife grinders be set up properly!

The grinders should be kept as clean as possible to prevent premature wear and maintain their precision design. A separate grinding room in the equipment maintenance building helps to protect the reel and bedknife grinder. Level the grinder on a flat concrete floor and bolt it down securely.



SAND TRAP PUMP

- removes standing water from sand traps, dirt infields and ditches.
- tough ABS construction - only 7 lbs.
- easily pumps 15 gpm through 1 1/2" hose.
- also deep model for cemetery use.

Rittenhouse
SPRAYERS

St. Catharines, Ontario
Call 1-800-461-1041 now to get
our '95 catalog

ISK BIOSCIENCES™

*Daconil 2787® fungicide...for the control of
summer and winter turf diseases such as
dollar spot, brown patch, leaf spot and snow mould.*

ISK Biosciences Limited
Suite 102, 931 Commissioners Rd. E.
London, Ontario N5Z 3H9 1-800-668-0956



Paul Turner
Sales Representative
Cellular: (416) 565-1641

1184 PLAINS ROAD EAST, BURLINGTON, ONTARIO L7S 1W6
Burlington (905) 637-5216 Toronto (905) 338-2404
Fax: (905) 637-2009

Rothwell Seeds Limited
P.O. Box 511, LINDSAY, ONTARIO, CANADA K9V 4S5
(705) 324-9591 FAX (705) 324-0882

*Turfgrass Specialists
in Establishing and Maintaining Turf for all Purposes*

Norman Rothwell, President

The capability of the reel grinder to perform relief and spin grinding operations is paramount to provide the highest quality cut and longest possible interval between grinding periods. Look for a precision grinder that has coolant to prevent overheating the metal, which could cause brittleness. The coolant also reduces the grinding dust. Among other key features to consider are plexiglass shields, machine "shutdown" capabilities, and cutting unit lift attachments.

To provide the best possible quality of turf, it's imperative that reel and bedknife maintenance operations be performed routinely with well maintained precision equipment and highly skilled operators. With tolerances of .001 to .002 of an inch between the reel and the bedknife, precision is a must.

Reel Grinding tips

- 1) "Dress" the grinding stone (per the manufacturer's recommendation) and replace it regularly to ensure precision grinding.
- 2) Make sure the grinding stone is entering from the back side of the reel blades to obtain the proper grind.
- 3) Inspect and/or replace the reel bearings and seals before grinding.
- 4) Perform the relief grinding operation first and then spin grind. Follow the manufacturer's specifications when performing these grinds. John Deere recommends 20 degrees relief on the reel blades and 5 degrees relief on the bedknives' top face and front edge.
- 5) Avoid rapid, quick grinding as this procedure may not provide a sharp edge (square corner).
- 6) If the metal becomes discoloured as you are grinding, too much material is being removed at one time.
- 7) After grinding, wash the cutting unit reel thoroughly to remove the grinding dust. It's essential the grinding dust be removed in the reel bearing journal areas to prevent premature reel bearing wear.

[Reproduced from *Landscape Management*, May, 1995, pp 36, 38.]

SPORTS TURF MANAGER
is the official publication of the SPORTS
TURF ASSOCIATION OF ONTARIO.

It is published quarterly by the Association for free distribution to its membership. An annual subscription may be obtained at a rate of \$25.00 per year. Calling card size advertisement space is available.

For further information contact:
The Sports Turf Association,
328 Victoria Road S.,
GUELPH, ON. N1H 6H8
(519) 763-9431
FAX: 519-766-1704

EDITOR: Dr. R.W. Sheard, P.Ag.
DESIGN & GRAPHICS: Willustration
PRINTING: Moffitt Print Craft
ISSN 1201-3763

1995 Board of Directors

PRESIDENT
Christopher Mark
VICE-PRESIDENT
Jim Galbraith
PAST-PRESIDENT
Peter Kleschnitski
EXECUTIVE SECRETARY
Mrs. Sonja Schneider
TREASURER
Don Bridgman
DIRECTORS
Roy Forfar
Paul C. Gillen
John L. Hopkins
Everett Nieuwkoop
Jane Rivers
David C. Smith
Bob Sheard

Last Words:

Gossip:
the only thing that
travels
faster than
e-mail.

-Angie
Papadakis

Equipment for professional turf management

Bannerman 41 Kelfield Street,
Rexdale, Ontario M9W 5A3

The home of Sportsturf Magic

George Bannerman
Ian M. Clark

Telephone 416-247-7875 • Fax 416-247-6540



CORPORATION



Rob Field

Technical Sales Representative

P.O. Box 1148, Hwy. #59 S., Woodstock, Ontario N4S 8P6
Customer Service 1-800-268-2806 Car (905)541-8872
Fax (905)632-2158

Harry Shapko - Central Ont.
Bill Carnochan - West Ont.
Dave Telfer - East Ont.
Chuck Demers - North Ont.



Oseco

INC. "The turfseed specialists"

P.O. Box 219, Brampton, Ontario L6V 2L2
Phone 905-846-5080 Fax 905-846-6909
Phone 800-668-5080

DOL

GORD DOL
President

Member S.T.A., O.G.S.A., O.P.A

TURF RESTORATION
SPORTS TURF SPECIALISTS
RR2 BEETON, ONT. L0G 1A0

Tel. (905) 729-2012
Fax (905) 729-2364
Mobile (905) 713-5433

par ex
THE EX STANDS FOR EXCELLENCE

Quality Fertilizer Blends for Sports
Fields & Lawn Bowling Greens



Daisy Moore
Phone: 800 268 2076 • Fax: 519 846 2449
Distributed by Turf Care: 905 836 0988

