

PennLinks at  
OGA Members Club

Sylvie,  
goose  
chaser

Zoe,  
goose  
spotter

Kirk Kundrick, Superintendent  
on 14th green  
OGA Members Course at Tukwila  
Woodburn, Oregon  
July, 2001  
William G. Robinson, Architect

# A lot of things can happen in seven years—but *Poa annua* in my PennLinks is not one of them.

“For one, I was a younger man when I was grow-in superintendent at the OGA Members Course at Tukwila. Now, I’m married, have two dogs, a cast on my foot, our course has a beautiful new clubhouse, and we’ve had more than 300,000 rounds played on our PennLinks greens since we opened in August, 1994.

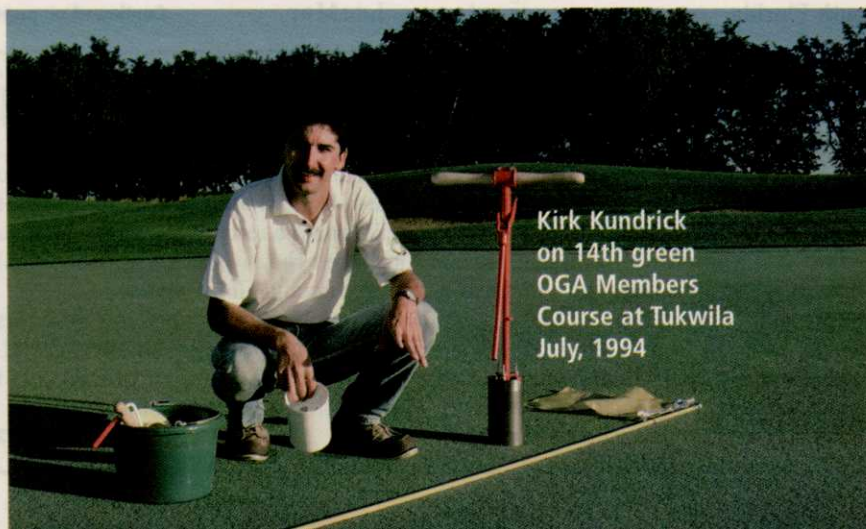
Our crew has managed to control *Poa annua* in our greens even though our public course is surrounded with hazelnut orchards where annual bluegrass thrives under the canopy of trees. To start with, PennLinks is a strong variety with good recovery from daily scars and wounds. When managed consistently with a balanced fertility program, and by aerifying in late May and mid-September—after *Poa annua* backs off the seeding stage—we can keep the nuisance grass in check. We’ve observed that alternative spikes don’t disturb the putting surface, thus providing an ideal seedbed like steel spikes will. When *Poa annua* does occur in our greens, crew members

remove the individual plants with tools we’ve adapted for the job; like a sharpened screwdriver, weed cutter, and a plugger for stubborn plants. Collars are the buffer between the surrounds and the greens, and have some *Poa annua* growing in them. I plan to re-sod the collars this year to start afresh and stop the threat of encroachment.

We’re open year ’round, and have consistently posted more than 44,000 rounds per year for the last seven years. Our PennLinks greens are cut at 0.110 to 0.115" in the summer, and raised to 0.135" in the winter. We strive to maintain country club standards with less than a country club budget.

I may not look as young as I did seven years ago, but our PennLinks greens do. Now if I could get rid of this cast and control those geese, all would be well.”

**Kirk Kundrick** CGCS, Supt.



Kirk Kundrick  
on 14th green  
OGA Members  
Course at Tukwila  
July, 1994

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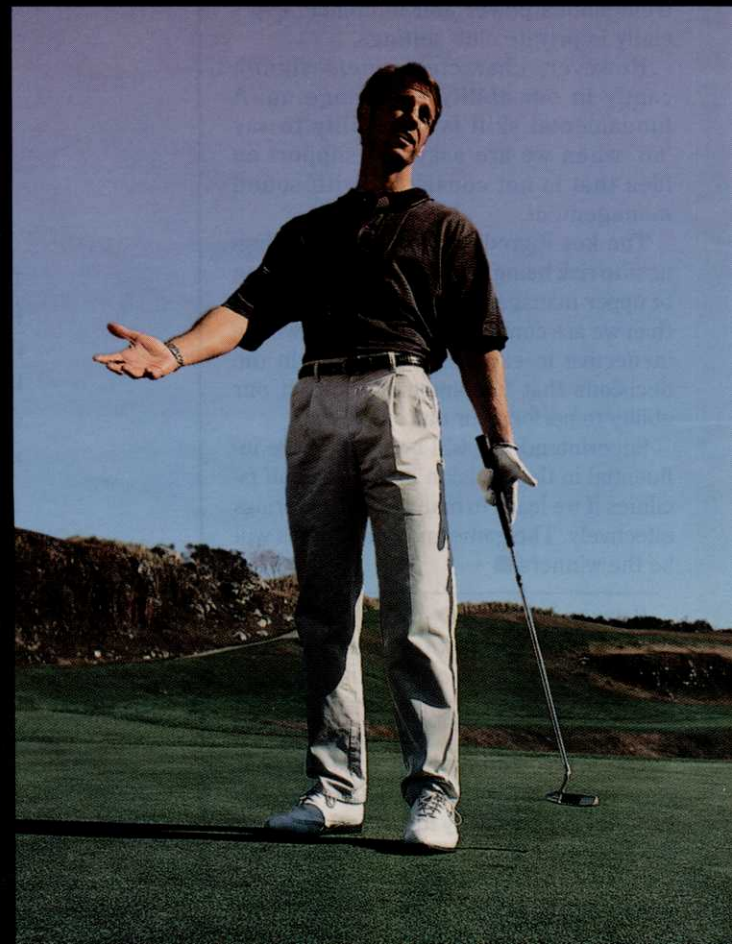
**There are thousands of reasons golfers miss putts. (One less if you use Greens Grade.)**

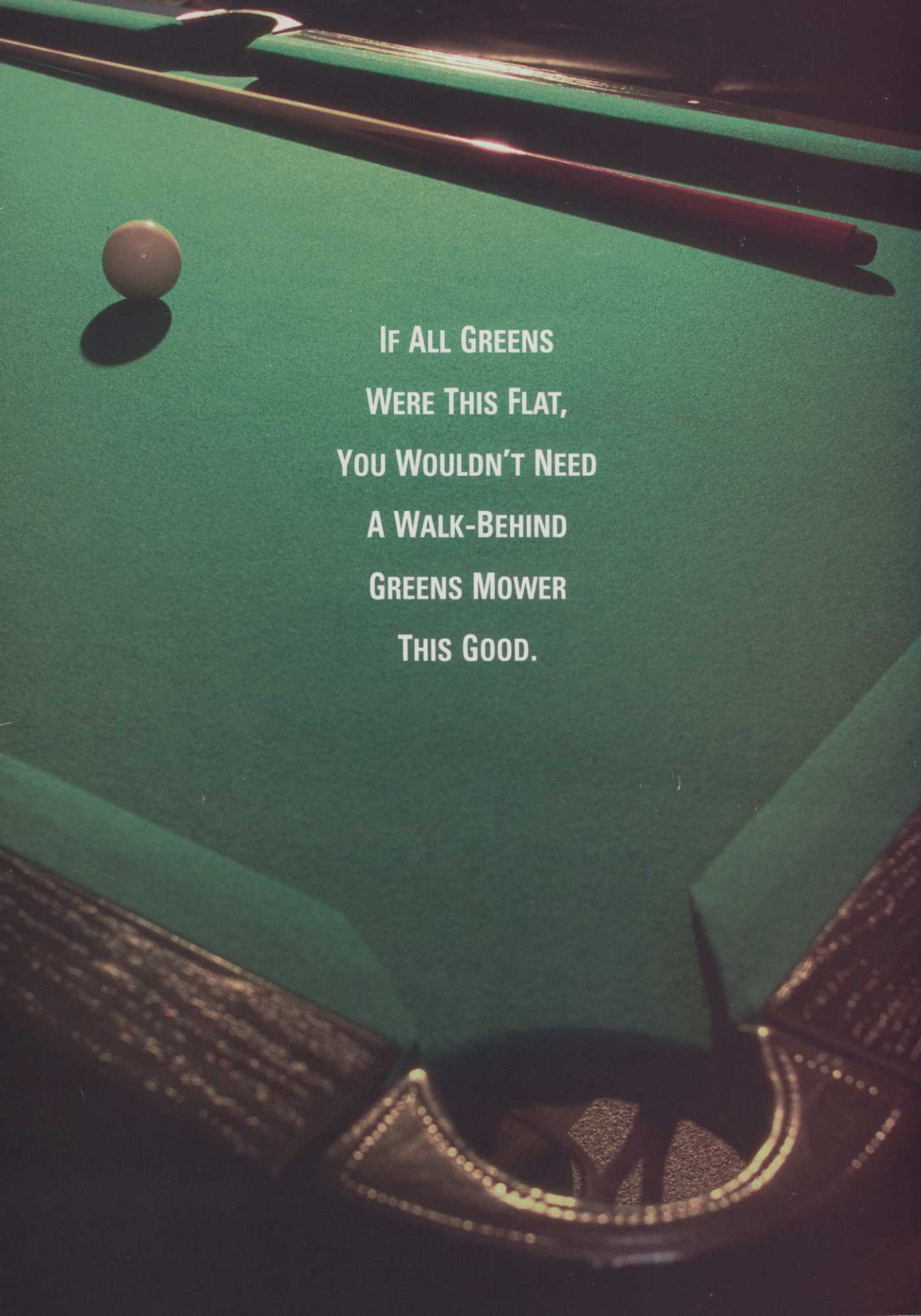


*Milorganite Greens Grade offers all the benefits of an organic fertilizer – a nonburning formula with slow-release nitrogen – only in smaller particles. Which means it won't disrupt putts after it's applied. It settles into the turf canopy virtually unnoticed.*

*But the results won't be. As for three or four putts? Who or what is blamed is anyone's guess. But it certainly won't be the fertilizer.*

*For more details, visit [milorganite.com](http://milorganite.com) or call 1-800-287-9645.*



A high-angle, close-up photograph of a pool table. The green felt is the dominant color. A cue stick lies diagonally across the top right. A single white ball is positioned on the left side. The lighting is dramatic, with strong highlights and deep shadows, creating a moody atmosphere. The text is centered in the middle of the frame.

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WERE THIS FLAT,  
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GREENS MOWER  
THIS GOOD.

# INTRODUCING THE NEW JOHN DEERE B-SERIES WALK-BEHIND MOWERS.

## THE MORE WEIGHT WE TOOK OFF, THE MORE FEATURES WE PUT ON.

Improved design between handlebar and safety bail reduces bail "flopping" during transport.

We decreased the distance between the safety bail and handlebar for improved performance.

Larger diameter tubing on handlebar for increased strength.

Quick adjust handlebar fits operators of all sizes.

New oil drain funnel allows for quick and neat oil changes.

Forward mounting pivot point reduces operator influence over cutting plane of the mower.

Larger muffler reduces noise.

New high impact resistant polymer chain covers are rust and dent proof and significantly reduce noise.

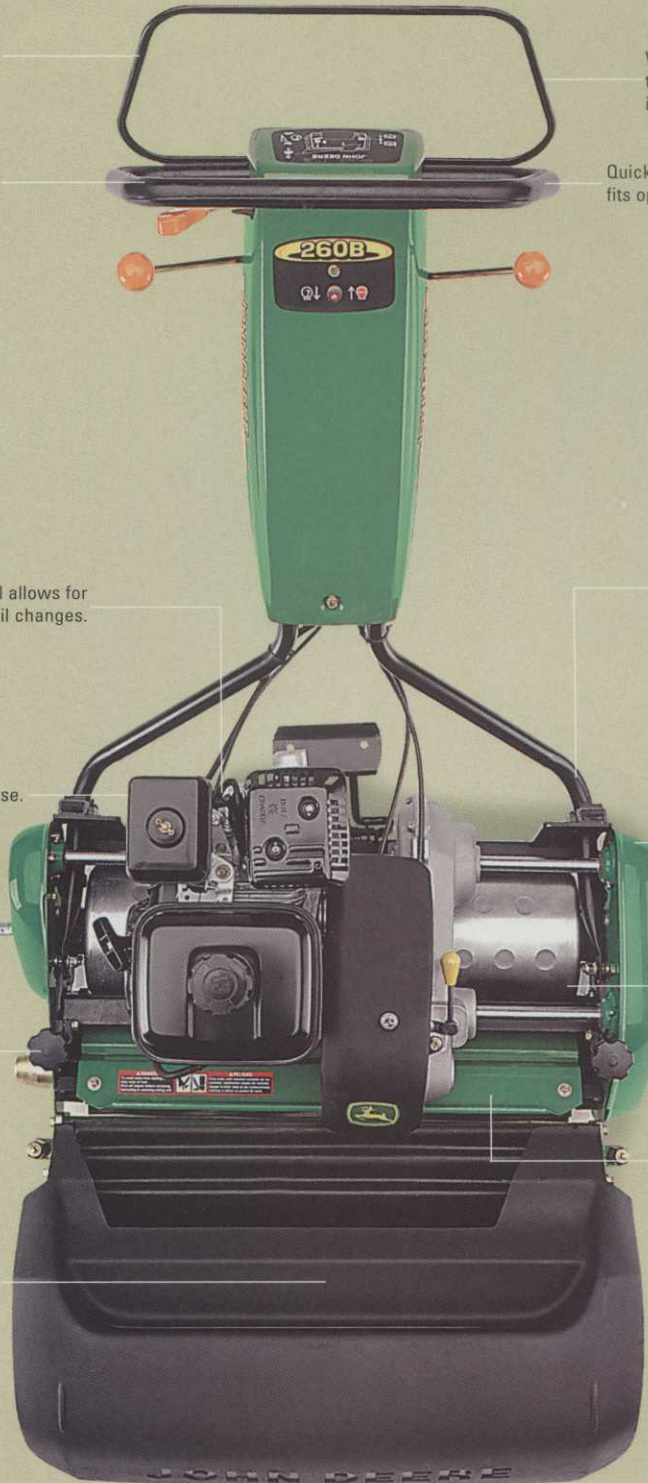
Optional transport wheels are easier to remove and install.

New drum drives have a more efficient design, requiring less maintenance.

New hand adjustment knobs allow for easy and fine adjustment of bedknife-to-reel. And less noise.

True 18, 22, and 26 inch frames, allowing the operator to follow cut lines and overlap with more accuracy.

New grass catcher design improves grass catching ability, operator vision, and improved cut line marking.



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All photos taken at Tobacco Road G.C., Sanford, North Carolina

Our new (and true) 18-, 22-, and 26-inch walk-behind greensmowers have two things going for them: They are the lightest greens mowers made today. And they are the best. A simple scale told us the first statement was true. And 16,000 hours of testing proved the second one. Now here's why they'll win you and your operators over as well:

- We improved the handlebar design. All operators are not the same. We realize that. And that's why we installed a handlebar height adjustment to fit every operator. We also put in a forward mounting pivot point to minimize the effect of the operator over the cutting plane of the mower.
- We made them quieter. Our new walks feature a smaller pitched chain and new chain adjusters, which decrease noise significantly. A larger muffler, along with new high impact resistant polymer chain covers, also put the damper on sound levels.
- We made a better grass catcher. Not only does this one do a better job of collecting clippings, it also gives your operator a better visual of the mowing path. And it improves the cut line marker for less overlap and fewer misses.
- We made them easier to adjust and service. The new bedknife-to-reel knobs allow for easy adjusting. And a new oil drain funnel makes changing oil quick and neat.

We did all of this and more to ensure one thing: to give you and your operators a cut pattern that is straight and superior. We can talk all day about these mowers. But what we really want to do is demonstrate their performance in person. For a demo, please call your local John Deere Golf & Turf Distributor. Or dial toll-free 1-800-537-8233.



260B



220B



180B

# SPECIFICATIONS


**180B**
**260B**
**220B**
**Engine:**

Type	Honda, Air cooled GX120	Honda, Air cooled GX120	Honda, Air cooled GX120
Cycle	4	4	4
Bore and Stroke	2.36-1.73 in. (60 mm x 44 mm)	2.36-1.73 in. (60 mm x 44 mm)	2.36-1.73 in. (60 mm x 44 mm)
Piston Displacement	7.2 cu. in. (118 cm <sup>3</sup> )	7.2 cu. in. (118 cm <sup>3</sup> )	7.2 cu. in. (118 cm <sup>3</sup> )
Compression Ratio	8.5:1	8.5:1	8.5:1
Compression Pressure	43 psi (3 kg/cm) minimum	43 psi (3 kg/cm) minimum	43 psi (3 kg/cm) minimum
Maximum Output	4.0 hp (2.8 kW) @ 3,900 rpm	4.0 hp (2.8 kW) @ 3,900 rpm	4.0 hp (2.8 kW) @ 3,900 rpm
<b>Direction of Rotation of Output Shaft</b>	Counterclockwise viewed from shaft	Counterclockwise viewed from shaft	Counterclockwise viewed from shaft
<b>Inclination Limit</b>	Tilted up to 20 degrees in any direction	Tilted up to 20 degrees in any direction	Tilted up to 20 degrees in any direction
<b>Idle-Speed at Output Shaft</b>	1300 rpm	1300 rpm	1300 rpm
<b>Maximum Speed at Output Shaft</b>	3500 rpm	3500 rpm	3500 rpm

**Transport Tires (quick detachable):**

Tread Width (width of mower with tires)	33.3 in. (84.6 cm)	41.3 in. (104.9 cm)	37.3 in. (94.6 cm)
Tires	4.1-6, 2 PR tubless	4.1-6, 2 PR tubless	4.1-6, 2 PR tubless
Pressure (standard pneumatic)	18 to 20 psi (125 to 140 kPa) (0.3 to 0.4 bar)	18 to 20 psi (125 to 140 kPa) (0.3 to 0.4 bar)	18 to 20 psi (125 to 140 kPa) (0.3 to 0.4 bar)

**Transport Brake**

	Band-type brake, lever activation	Band-type brake, lever activation	Band-type brake, lever activation
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**Cutting Equipment:**

Cutting Width	18 in. (45.7 cm)	26 in. (66.0 cm)	22 in. (55.9 cm)
Cutting Height (Minimum):			
Standard 3.0 mm Bedknife	1/8 in. (3.2 mm) (optional on 180B)	1/8 in. (3.2 mm)	1/8 in. (3.2 mm)
Optional 2.5 mm Bedknife	3/32 in. (2.5 mm) (standard on 180B)	NA	3/32 in. (2.5 mm)
Optional 2.0 mm Bedknife	5/64 in. (2.0 mm)	NA	5/64 in. (2.0 mm)
Optional Tee Bedknife	NA	3/16 in. (4.8 mm)	NA
Cutting Height (Maximum)	7/8 in. (22.2 mm)	7/8 in. (22.2 mm)	7/8 in. (22.2 mm)

**Frequency of Clip:**

Standard	0.195 in. (5 mm)	0.195 in. (5 mm)	0.195 in. (5 mm)
Optional	0.155 in. (3.9 mm)	0.155 in. (3.9 mm)	0.155 in. (3.9 mm)

**Reel:**

Diameter	5 in. (127 mm)	5 in. (127 mm)	5 in. (127 mm)
Number of Blades	11	11	11
Material	Heat-treated chromium molybdenum steel	Heat-treated chromium molybdenum steel	Heat-treated chromium molybdenum steel
Bedknife - STANDARD	0.118 in. (3 mm) thick x 18 in. (45.8 cm) long Approx. 6 lb. (2.7 kg)	0.118 in. (3 mm) thick x 26 in. (66.0 cm) long Approx. 8 lb. (3.7 kg)	0.118 in. (3 mm) thick x 22 in. (56.0 cm) long Approx. 7 lb. (3.2 kg)

**Grass Catcher**
**Clutches:**

Transport	Belt tension	Belt tension	Belt tension
Reel Jaw-Type Clutch	On/Off	On/Off	On/Off
Brush	Gear engagement disconnecting	Gear engagement disconnecting	Gear engagement disconnecting
<b>Traction Drum</b>	Dual aluminum traction	Dual aluminum traction	Dual aluminum traction

**Traveling Device:**

Forward Speed*	5.2 mph (8.4 km/h) with transport wheels at 3500 engine rpm	5.2 mph (8.4 km/h) with transport wheels at 3500 engine rpm	5.2 mph (8.4 km/h) with transport wheels at 3500 engine rpm
Roller (Rear)	Aluminum, 7 1/2 in. (190 mm) diameter	Aluminum, 7 1/2 in. (190 mm) diameter	Aluminum, 7 1/2 in. (190 mm) diameter
Roller (Front)	Machined steel, 2 3/8 in. (60 mm) diameter (for cutting height adjustment)	Machined steel, 2-3/8-in. (60 mm) diameter (for cutting height adjustment)	Machined steel, 2-3/8-in. (60 mm) diameter (for cutting height adjustment)

**Dimensions:**

Length (w/Tires Installed)	37 in. (94.0 cm)	37 in. (94.0 cm)	37 in. (94.0 cm)
Width (w/Tires Installed)	33 1/4 in. (84.5 cm)	41 1/4 in. (104.8 cm)	37 1/4 in. (94.6 cm)
Height (w/Tires Installed)	47 in. (119.0 cm)	47 in. (119.0 cm)	47 in. (119.0 cm)
Weight (Less Brush Drive, Transport Wheels and Grass Catcher)	203 lb. (92.3 kg)	235 lb. (106.8 kg)	219 lb. (99.5 kg)

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the root of your  
weed problem?***

**Roundup**  
**PRO**  
Herbicide





***The proof is in the leaf.<sup>1</sup>***

*Monsanto scientists used scanning-electron microscopy to photograph the effects of weeds sprayed with Roundup PRO and an imitator. Taken just one hour after application, these images clearly show more formulation in the leaf sprayed with Roundup PRO.*

**Get Roundup PRO<sup>®</sup> herbicide with patented PROformance<sup>™</sup> technology.**

***In the first two hours, it delivers three times more power to the roots than Syngenta's latest imitator product.***

***The proof is in the roots.<sup>2</sup>***

*Scientists also used autoradiography to photograph and measure the amount of herbicide in the roots two hours after application. Time after time, at least three times more herbicide showed up in the weeds sprayed with Roundup PRO. With the imitator, barely any herbicide has moved to the roots.*

The logo for Roundup PRO herbicide. It features the word "Roundup" in a bold, black, sans-serif font, with a green leaf-like graphic element to its left. Below "Roundup" is the word "PRO" in a blue, bold, sans-serif font. Underneath "PRO" is the word "Herbicide" in a very small, black, sans-serif font.





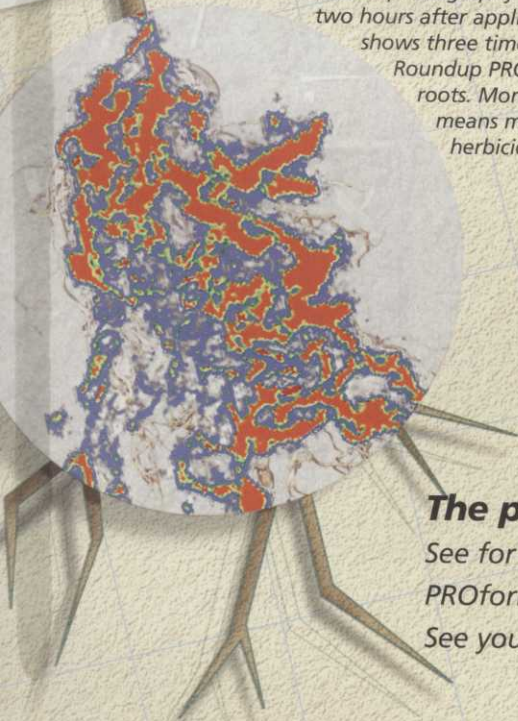
*This is a cross-section of a weed leaf magnified 1000x. The yellow droplets mean Roundup PRO is already at work inside.*



*This weed, sprayed with the imitator, has almost no droplets in the leaf.*

*Syngenta's latest imitator product*

*In the first two hours, almost no imitator herbicide has moved to the roots.*



*Scientific photography taken two hours after application shows three times more Roundup PRO in the roots. More color means more herbicide.*



**The proof is in your control.**

*See for yourself the difference Roundup PRO with patented PROformance technology can make in your weed management. See your dealer or call 1-800-ROUNDUP for more information.*

**Free video shows science in action.**

See PROformance technology at work in a free, five-minute video. Scientists Dr. Tracey Reynolds and Dr. Jimmy Liu demonstrate the autoradiography and cryo-SEM techniques used to compare Roundup PRO with an imitator on two identical weeds.

Call **1-800-ROUNDUP** and ask for your free Roundup PRO video today!



Always read and follow label directions. Test conducted with MON 77360, EPA Reg #524-475 with comparison to Syngenta product carrying EPA Reg. #10182-449. 1. Test methodology: In scanning-electron microscopy, Monsanto scientists identified penetrated formulations of both Roundup PRO and Touchdown Pro in the mesophyll cell layer. These micrographs support the evidence that formulations containing Monsanto's patented PROformance technology rapidly penetrate the leaf surface. 2. Test methodology: Radiolabeled formulations were applied at equal acid-equivalent rates. Radioactivity was visualized by autoradiography following a simulated rain event two hours after application. Monsanto laboratory tests, 2001. Roundup®, Roundup PRO® and PROformance™ are trademarks of Monsanto Technology LLC. [12748 jct 10/01 ] ©2001 Monsanto Company RUPRO-12748

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