

trients. Clippings are between 20 and 30 percent protein and are rapidly attacked by bacteria and fungi, which cause their fast decomposition. Therefore, they don't lead to thatch accumulation.

Knoop's study involved 184 Fort Worth residents who followed his guidelines for mowing, watering and fertilizing. Each was given a Toro mulching mower for the summer. In a follow-up survey, homeowners said they achieved healthier, better looking lawns with 30 percent less effort than they did bagging grass during the course of a typical summer.

The PLCAA's "Grasscycling" program is designed to educate homeowners to leave grass clippings on the lawn. The campaign includes developing a community action program, technical guidelines for mowing, watering and fertilization, and a public relations strategy to promote public participation and support.

More study

News concerning the expansion of studies on clippings volume and the effect of returning organic matter to the landscape is becoming more frequent. Researchers at the Rodale Re-

Early indications from a large-scale study being conducted by Cornell University indicate that municipal composting is a safe and efficient practice.

search Center in Kutztown, Pa., and Garden Way, Inc. have expanded a three-year test program to determine the benefits of returning grass clippings to the soil with a mulching mower versus the bagging of clippings with a conventional walk-behind mower.

"We are expanding the program because the disposal of grass clippings has become a major environmental concern," says Terry M. Schettini, horticultural coordinator. Initial research showed that mulch mowing returns nitrogen and other nutrients to the soil.

Early indications from a largescale study on municipal composting indicate that it is a safe and efficient



'In today's increasingly environmentconscious market, using alternative disposal methods reinforces the industry's ecological concerns.'

Dr. Bill Knoop

practice. So says Tom Richard, a Cornell University senior research specialist in the Department of Agricultural and Biological Engineering.

ing. "We think we can show that composting municipal yard waste works, that it doesn't have to be offensive, and that it can save taxpayers money," says Richard. "We are seeing pesticide levels of just a few parts per billion, well below the FDA tolerance level for food. As far as pesticides are concerned, you could eat this compost."

Cornell researchers have estimated the average annual cost of composting to be \$15 to \$20 per ton, considered to be far below the escalating cost of other waste disposal methods.

Attention on mulching

Mulching mowers enjoyed a brief heyday in the mid-1970s. But a combination of early bad experiences, limited commercial application, and ignorance about their use and benefits kept them from gaining widespread acceptance among industry professionals. However, as the public and regulatory agencies continue to demand alternatives to traditional chemical controls and more is learned about the benefits of returning organic matter to the soil, mulch-



MEETING TOMORROW'S RECYCLING CHALLENGES

Kurtz Brothers Recycling Systems Inc. has a solution for people who don't know what to do with all the grass clippings and debris manufactured by a typical landscaping job.

The Ohio-based company—and other such commercial enterprises across the country—offers an efficient and cost-effective composting service to municipalities, landscapers and golf course superintendents.

In Ohio, H.B. 592 (which goes into effect in December, 1993) will prohibit organic waste from being taken to solid waste landfills. Such legislation has either passed or is pending in 11 states, most of them in the country's northeast corridor.

"We're going to be an option for that waste diversion," notes company vice president Tom Kurtz. "Some municipalities have started up their own composting operations or have gotten someone like our company to do it for them."

Waste shrubs, grass clippings and wood are either picked up by Kurtz or delivered to its composting facility. It charges the customer a tipping fee for processing, then composts the material. The compost is then returned to the environment by incorporating it into topsoil blends that the company sells to landscapers, excavators and golf courses.

The debris must be processed, windrowed and cured for three to six months before it is ready to be used as organic material. This is not an inexpensive process.

"We've spent upwards of \$400,000 on equipment; plus site development is typically \$15,000 to \$25,000 an acre," Kurtz notes. "If we weren't in the soil business, we wouldn't have the built-in advantage of being able to use the compost, either.

"If we were to go into business just to compost, I don't know if the market for the compost would be there."

In order to open its organic composting site, the company had to buy property on Cleveland's south side, removed from residential areas because of odor considerations; develop the site to conform to EPA standards; buy what Kurtz calls "major league" recycling equipment; and invest in manpower, research and technology.

Composting is not an old science and industry, Kurtz notes. The technology is new, so his company is staying on the cutting edge by working closely with researchers at the Ohio Agricultural Research & Development Center in nearby Wooster. Drs. Harry Joitink and Ed McCoy continue to research the composting process; the expertise of Kurtz staffer and Penn State University graduate Sam Stimmel and company founder Melvin Kurtz is also drawn upon.

Kurtz composts lawn wastes for the cities of Brookpark, Maple Heights and Brecksville, Ohio, and markets 40,000 cubic yards of compost per year for the city of Akron. Soil mixed with composted matter has been used at Cleveland Municipal Stadium, Firestone Country Club, the Cleveland Metroparks, the National Park Service and the Galleria shopping mall in downtown Cleveland.

"The golf course and landscape markets are both exploding," Kurtz relates. "We look at this as being a hell of an opportunity. And there's more to it than just making money: we are prepared to meet the environmental challenges set forth by our law-makers."

The company's slogan? "The time to act is now."

Tom Kurtz: composting is "...a hell of an opportunity."



ing mowers are again being looked at.

Commercial mulching riding mowers with at least 18 horsepower are available from Jacobsen Division of Textron and Excel Industries. Manufacturers of smaller units include Ariens Company, Lawn Boy and Garden Way.

The clippings generated from side discharge mowers are too long and too clumped together to break down quickly. Mulching mowers, on the other hand, are built to re-cut grass blades several times before returning them to the soil/turf interface.

Mulching mowers accomplish this by incorporating a deeper mowing deck and using specially engineered multi-pitch or staggered blades. The blade and deck combine to both circulate the clippings and create a suction effect that holds grass upright. Once cut, clippings are suspended in the blade chamber and are repeatedly chopped into finer particles. These small particles are then returned into the turf near the soil level where they decompose quickly.

Landscapers not ready to invest in a full-fledged mulching unit should inquire about mulching plates that can be used on their present units. Mulching plates cover discharge chutes, forcing the clippings into the blades for a finer cut. LM

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leave your lawn with a smooth, professional finish.

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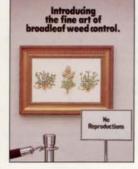
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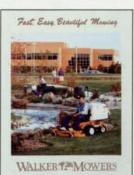
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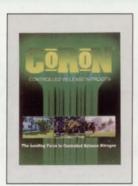
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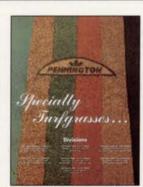
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Pennington Seed Company introduces eleven improved fine turf varieties in our Specialty Turfgrasses brochure package. Included are detailed descriptions and the latest data on three turf-type tall fescues, two Kentucky bluegrasses, four new perennial ryegrasses, Flyer spreading red fescue, and Cheyenne seeded turftype bermudagrass.

Pennington Enterprises, Inc. Landscape and Golf Turf Dept. P.O. Box 290 Madison, GA 30650 1-800-277-1412

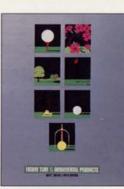
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Proprietary Seeds, Inc. offers four fullcolor flyers, each featuring a grass seed formulated for top performance for specific turf requirements: "Crew-Cut" Tall Fescue (dwarf type), "Bonanza" turf-type tall fescue, "Magnum" Brand turf-type perennial ryegrass mixture, and "Vantage" perennial ryegrass.

Proprietary Seeds, Inc. 2882 Howell Prairie Rd NE Salem, OR 97305 503-585-7033 Fax: 503-585-3273

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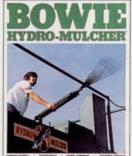


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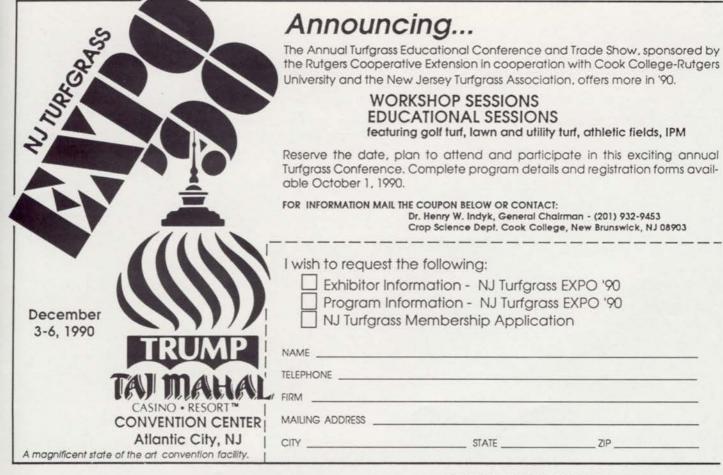


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OCTOBER 1990/LANDSCAPE MANAGEMENT 37

THE CLOUDS BREAK

Welcome spring and summer rains nourished much of this year's seed crops for one of the best harvests in recent memory.

by Terry McIver, associate editor

eed growers had high hopes for a good 1990 harvest after an average 1989, and this year they weren't to be denied. Company officials used words like "stable," "good yields" and "bumper crop" to describe the harvest of 1990.

The key factor in the yields was of course—the weather, or more precisely, the well-timed periods of rain and sunshine. Ample rain fell on seed production areas in the Pacific Northwest, but the clouds broke over most areas just in time for healthy harvests.

Bill Young, sales manager of Lofts/ Great Western, in Bound Brook, N.J., says Lofts enjoyed "the most ideal harvest we've had in years.

"The weather cooperated," says Young. "And except for the rain we had in early July, which slowed harvest down 5 to 10 days, the harvest has been excellent. We had satisfactory yields on perennial ryegrass, Kentucky bluegrass and turf-type tall fescue."

Another New Jersey-based company, Zajac Performance Seeds of North Haledon, also had a good summer.

"It was a good growing season," says Sandy Zajac, "with all the crops looking very good. This year we have

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DARK GREEN

Kentucky Bluegrass

DROUGHT RESISTANT



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Deep, dark, lush, vibrant, greens, the finest texture ... TMI has the turf grass varieties that will liven up your landscape. In fact, in a recent national turf trial, TMI had the #1 varieties for both dark color and fine texture.

2

Years of trials and research have developed turf varieties that require less fertilizer, produce less clippings, have endophytes for insect resistance, and because of extensive root systems, require less water.

On your next landscape project, specify the turf grass varieties that will give your lawn an improved appearance with less care...the top turf grass varieties from Turf Merchants.



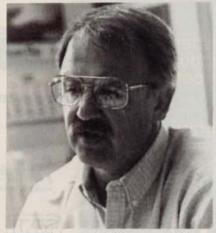
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TURF MERCHANTS

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TURF TYPE TALL FESCUE

TORF	TTPE TALL PE	SCUE
VARIETY	MARKETER	AVAILABILITY
Adventure	Warren's	8
Apache	Turf Seed	8
Aquara	O.M. Scott	С
Arid	Jacklin/Olsen-Fennel/ Northrup King/ Vaughan's	8/8/8/8
Arriba	Northrup King	C
Avanti	Warren's	c
Bar-None	Lofts/Great Western	8
Bonanza	Proprietary/ VanderHave/Turf Seed	B/A/B
Brahma	Roberts	С
Carefree	Olsen-Fennel	B
Chieftan	Roberts	B
Cimarron	Lesco	8
Clemfine	Lofts/Great Western	8
Crew-Cut	Proprietary	C
Crossfire	Pickseed	C
Earthsave	Turf Merchants	C
Eldorado (dwarf)	Turl Seed	C
Emperor (dwarf)	Zajac Performance Seeds	В
ERA	International	C
Falcon	E.F. Burlingham & Sons	8
Finelawn I	Fine Lawn Research	B
Gala	International	C
Galway	Northrup King	8
Guardian	Roberts	8
Houndog	International	C
Hubbard-87	Hubbard Seed & Supply	С
Jaguar	Zajac Performance Seeds	В
Jaguar II	Zajac Performance Seeds	В
Maverick II	Pickseed	C
J-89	Jackon	C
Micro	Turf Merchants	C
Mojave	Olsen-Fennel	8
Monarch (dwarf)	Turf Seed	8
Murietta (dwarf)	Turf Seed	C
Mustang	Pickseed	C
Olympic	Turf Seed	B
Rebel	Lofts/Great Western	C
Rebei II	Lofts/Great Western	B
Rebel Jr.	Lofts/Great Western	c
Sapphire Situated (dward)	VanderHave Turf Seed	c
Silverado (dwarf) Shortstop	Pickseed	c
Survivor	Seed Research of	B
Taurus	Oregon Turf Merchants	в
Thoroughbred	Pickseed	C
Thunderbird	E.F. Burlingham & Sons	c
Trailblazer	Lesco	8
Triathalawn (blend)	Turf Seed	8
Tribute	Lofts/Great Western	В
and the second s	the second se	



Mike Robinson: Tall fescue yields are above average.



TURF TYPE TALL cont.

VARIETY	MARKETER	AVAILABILITY
Trident	Seed Research of Oregon	8
Trophy (blend)	Seed Research of Oregon	8
Twilight (dwarf)	Turf Merchants	
Winchester	E.F. Burlingham & Sons	c
Wrangler	Jacklin/Lesco/Turf Merchants	B/B/B
SR 8200 (dwarf)	Seed Research of Oregon	C

KENTUCKY BLUEGRASS

VARIETY A-34 Ben Sun	MARKETER Warren's	AVAILABILITY
Abbey	O.M. Scott	B
Abie 1	Warren's	C
Adelphi	Jacklin/J&L Adikes/ Northrup King/ Vaughan's	B/C/C/B
Alpine	Pickseed	C
Amazon	Jacklin	C
America	Pickseed	C
Aspen	Northrup King	B
Banff	Pickseed	B
Baron	Lofts/Great Western	B
Blacksburg	Turt Seed	B
Bristol	O.M. Scott	C
Bronco	Pickseed	B
Challenger	Turf Seed	B
Chateau	Fine Lawn Research	B
Chelsea	Turf Merchants	C
Cheri	Olsen-Fennel/Jacklin	B/B
Classic	Peterson/Jacklin	B/B
Columbia	Turf Seed	B
Compact	E.F. Burlingham & Sons	C

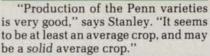


a bumper crop."

However, Zajac reports a slight demand downturn in the Northeast due to slow building starts, proving that there are a few bad seeds in every harvest.

"The turf-type perennial ryegrass production looks good following the favorable moisture and in spite of the hot temperatures of this spring," says Art Wick of Lesco.

Wick reports that "the 1989 crop was good and inventories of most varieties are stable." According to Wick, Lesco's proprietary bluegrasses were in reasonably good supply this spring. We've had just about ideal conditions sinece last fall," remarks Tom Stanley, marketing manager for Turf Seed, Inc.



Stanley also credits favorable weather conditions. "The growers don't change fertility or herbicide practices from year to year," he expalins, "so the big variable was the weather."

Pricewise, bluegrass has been reported to be at about 20 cents less per pound thanks to good harvests, and ryegrass is down about a nickel.

"Prices of common bluegrass are soft," admits Gayle Jacklin, of Jacklin Seed Co., reflecting excellent yields.

"This has resulted in an increase in usage of common Kentucky bluegrass," Jacklin explains, as "seed

KENTUCKY BLUEGRASS con

KENTUCKY BLUEGRASS cont.			
VARIETY	MARKETER	AVAILABILITY	
Coventry	O.M. Scott	8	
Cynthia	VanderHave Oregon	C	
Dawn	Lesco	8	
Destiny	Jonathan Green	8	
Eclipse	Jacklin/Peterson/ Vaughan's	B/B/C	
Enmundi	Seed Research of Oregon	c	
Estate	Roberts	8	
Freedom	Jacklin/Vaughan's	8/8	
Fylking	Jacklin	8	
Georgetown	Lofts/Great Western	8	
Geronimo	VanderHave Oregon	A	
Glade	Jacklin/Vaughan's	B/C	
Gnome	Turf Merchants	A	
Haga	E.F. Burglingham & Son's	С	
Huntsville	Jacklin	8	
Indigo	Pickseed	C	
Kelly	Northrup King	8	
Liberty	Zajac Performance Seeds	Ð	
Limousine	Roberts	C	
1757	Lofts/Great Western		
Marquis	Roberts	C	
Merion	Jacklin	C	
Midnight	Turf Seed	8	
Merit	Full Circle/Seed Research of Oregon	B/B	
Minstrei	VanderHave	C	
		-	
Monopoly	Peterson	c	
Monopoly Mystic	and the second se		
	Peterson	c	
Mystic Nassau	Peterson Lofts/Great Western Lofts/Great Western/	C Fall, 1991	
Mystic	Peterson Lofts/Great Western Lofts/Great Western/ Jacklin	C Fall, 1991 B/B	
Mystic Nassau Nugget	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham &	C Fail, 1991 B/B B	
Mystic Nassau Nugget Opal	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/	C Fail, 1991 B/B B C	
Mystic Nassau Nugget Opal Princeton	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western	C Fall, 1991 B/B B C C	
Mystic Nassau Nugget Opal Princeton Parade	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon	C Fail, 1991 B/B C C B/C	
Mystic Nassau Nugget Opal Princeton Parade RE 88	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/	C Fail, 1991 B/B B C C C B/C B	
Mystic Nassau Nugget Opal Princeton Parade RE 68 Ram I	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf	C Fail, 1991 B/B C C B/C B/C B C/B	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Sed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants	C Fail, 1991 B/B C C B/C B/C B C/B B/B	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby Sophia	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lotts/Great Western/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants VanderHave Oregon Jacklin/Lofts/	C Fail, 1991 B/B C C B/C B C/B B/B B/B C	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby Sophia Suffolk	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants VanderHave Oregon Jacklin/Lofts/ Great Western	C Fail, 1991 B/B C C B/C B/C B/C B/B C/B C B/C	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby Sophia Suffolk Touchdown	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants VanderHave Oregon Jacklin/Lofts/ Great Western	C Fail, 1991 B/B C C B/C B/C B/B C/B B/B C B/C B/C B	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby Sophia Suffolk Touchdown Trenton	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants VanderHave Oregon Jacklin/Lofts/ Great Western Pickseed Northrup King	C Fail, 1991 B/B C C B/C B/C B/B C/B C/B B/B C B/C B/	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby Sophia Suffolk Touchdown Trenton Victa	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants VanderHave Oregon Jacklin/Lofts/ Great Western Pickseed Northrup King O.M. Scott	C Fail, 1991 B/B C C B/C B/C B/B C/B C/B B/B C B/C B/	
Mystic Nassau Opal Princeton Parade RE 88 Ram I Rugby Sophia Suffolk Touchdown Trenton Victa Wabash	Peterson Lofts/Great Western/ Jacklin Jacklin E.F. Burlingham & Sons Lofts/Great Western Northrup King/ VanderHave Oregon Turf Seed Lofts/Great Western/ Jacklin Northrup King/Turf Merchants VanderHave Oregon Jacklin/Lofts/ Great Western Pickseed Northrup King O.M. Scott Jacklin	C Fail, 1991 B/B C C B/C B/C B/C B/B B/B B/B B B B B	