cont. from page 28

he sees a pricing decline due to lower K-31 tall fescue prices.

"The large crop of Kentucky-31 and increased acres of turf types will keep prices off last season's record," says Turf Merchants Inc.

"The tall fescues are coming

There should be adequate supplies of Kentucky bluegrass, including sodquality seed. Prices should be stable.

in lighter than expected. Common bluegrasses are also coming in lighter than expected," says Pepin. "There will still be plenty of seed, but there won't be an excess."

While most suppliers are reporting an "average" crop for perennial ryegrass, almost all agree that demand for perennial ryegrass will continue strong.

The opening of about 300 new golf courses in the United States again this year, and continued strength in the home building market drive demand for perennial ryegrass.

"Lots of acres were planted but early seed yields are below projections. An overall good availability is expected," adds Pepin.

Keith Laxton, vice president of operations, Seed Research of Oregon, Inc.: "We had some really unseasonably hot weather back around spring vacation time. It was a couple weeks of 85-90 degree weather, and it tended to push things along a little quicker

than we would have liked to see. As a general rule, the quicker things ripen, the lighter they tend to be.

"Since then we've been into a pretty normal weather pattern, and we're well into harvest now," says Laxton.

"The tall and fine fescues are now being harvested. We're just now beginning to get into ryegrass. We don't have enough actual weights in hand to give real accurate yield predictions, but I would say the

tall fescue is coming in as a good, average crop, maybe a little heavier than average. And in just a few tests we've seen so far, the quality seems fine."

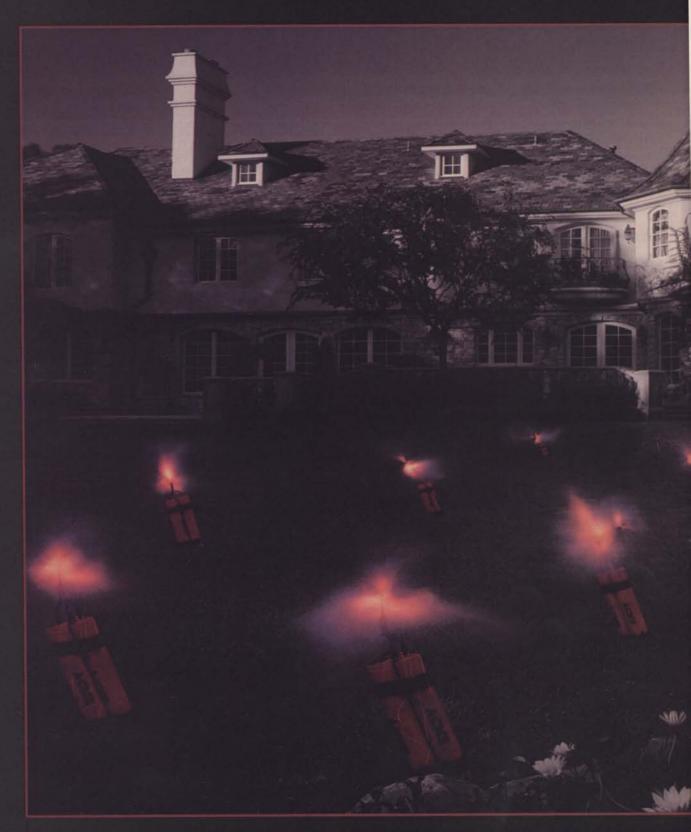
"Some pretty hard rain shattered out some ryegrass seed," says Laxton. Across the Willamette Valley the ryegrass crop is more like an average or slightly below average crop."

There should be adequate supplies of Kentucky bluegrass this season, including sod-quality seed. Prices should be stable.

"Our Kentucky bluegrass yields look average," says Art Wick of Lesco, "They are not as high as last year. That was a bumper crop. This year they are about where we expected them to be."

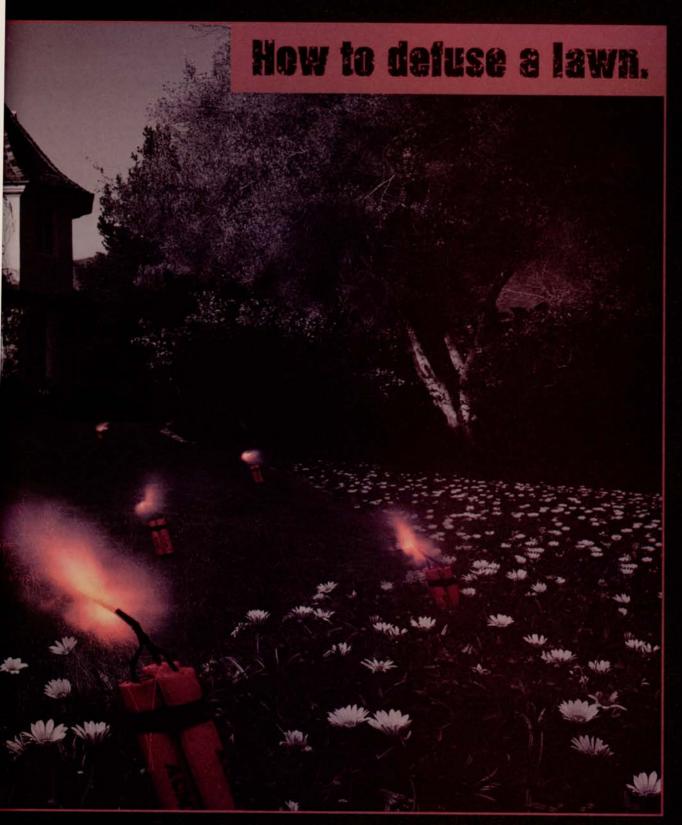
On bentgrass supplies, Pepin says, there is generally a good availability of the newer, improved varieties, and much greater market acceptance of the newer types. **LM** 

CULTIVAR	MARKETER AV	AILABILITY	PRICE
Rescue hard	Jacklin	C	5
Scaldis	Advanta	С	Н
Shademark creeping red	Lesco	В	5
Shademaster II	Turf-Seed	С	Н
Spartan hard	Pickseed West	C	Н
SR 3100 hard	Seed Research	C	Н
SR 3200 blue	Seed Research	В	Н
SR 5100 chewings	Seed Research	В	Н
Tiffany chewings	Turf-Seed	C	Н
Treazure chewings	Zajac Performance	C	Н
Valda hard	International Seeds	В	5
Victory chewings	Pickseed West	C	Н
Victory II chewings	Medalist America	В	S
Vista creeping red	Zajac Performance	C	Н
Warwick hard	Medalist America	В	S
Bentgrass			
Bardot colonial	Barenbrug USA	С	5
Cato	Pickseed West	В	5
Cobra	International Seeds	В	5
Crenshaw	Lofts	В	S
Golf Star	Medalist America	С	Н
18th Green	Zajac Performance	В	L
L-93	Lofts	В	5
Lopez	Advanta/Fine Lawn	A/B	5
Mariner	Pickseed West	В	L
Penn G-2	Lesco	В	S
Penncross	Tee-2-Green	В	5
Penneagle	Tee-2-Green	В	5
Pennlinks	Tee-2-Green	В	S
Princeville	Lesco	В	5
ProCup	The Scotts Co.	В	5
Putter	Jacklin/Medalist America		S
Regent	Barenbrug USA	В	5
Southshore	Lofts	В	2000
		0.00	5
SR 1020	Seed Research	В	S
SR 1019	Seed Research	В	5
SR 1119	Seed Research	С	5
Tracenta	Advanta	С	Н
Viper	International Seeds	В	S
Other Seeded Cultin	vars		BAT F
Barkoel prairie junegrass	Barenbrug USA	C	S
Jackpot	Jacklin	В	S
Mirage	International Seed	В	5
Primavera bermuda	Seeds West/Seed Res.	C	S
Savannah bermuda	Turf-Seed	C	5
Sonesta bermuda	The Scotts Co.	В	5
Southern Star	Medalist America	С	Н
SR 6000 deschampsiaSeed Research		C	5
Sundevil II bermuda	Medalist America	В	5
Sunrise zoysia	Jacklin/Med.Am.	В	5
Sunstar bermuda	Lesco	В	5
Supina bluegrass	Fine Lawn Research	В	5
Zen zoysia	Turf Merchants/Fine Lav		
	Turi Merchants/Fine Lav	vn C	H



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# SNOW EQUIPMENT

By CURT HARLER

So you ducked back into the shop to escape the late summer heat? To help you out, our Report this month is on snow-blowers. A key piece of equipment for winter operation, the snow blower can be taken for granted by workers who are apt to take chances that they would not think about risking with a lawn mower.

"For most of us, operating a snow blower is not a day-today task," says Richard DePauw, snow blower safety expert for John Deere, Moline, IL. He says the biggest safety risk is trying to clear the discharge chute without first turning off the machine. Newer machines have manufacturer-installed automatic shut off systems. "People try to bypass the system ... bad idea," DePauw says. "Never put your hands inside the chute or the auger. Use a stick instead. It's a lot safer," he states.

Before plowing or blowing snow, clear the area of objects like doormats or boards. If the job takes you around condos or office clusters, beware of newspapers buried under the snow ... shredded newspapers are a bear to extract from an impeller. Don't clear snow across steep slopes — and be doubly careful

when changing direction on any slope.

Be aware of snow conditions. A snowblower will push right through the first light, fluffy snow of Fall in top gear without hesitation. However, speed will have to be vastly reduced if the snow is wet, or the operator will be frustrated with cleaning clogged chutes and frequent restarts. Along with operating speed, keep in mind the distance the snow is discharged.

Small stones along a walkway often will be hurled out the discharge chute. Pause for a moment if people are within the throwradius of the unit. Windows also seem to act as magnets for stones or small pieces of wood which are thrown out the discharge chute. Deflectors should not be set to toss snow any farther than is necessary.



John Deere TRS22 powered by 4-hp Tecumseh. Model 828 D has 8-hp engine and clears 28-inch path through the snow.



Attach a snowthrower to Grasshopper zero-radius power unit.

## SNOW REMOVAL EQUIPMENT

#### BOBCAT 701-241-8700 Circle No. 250

Hook a Kwik-Way angle blade to your 500, 700, 800 or 900-series loader from Bobcat, Fargo, ND, to remove snow; use the heavy-duty version to doze or backfill dirt the rest of the year. Or, get the 1812 or 2418 hydraulic-drive rotary units. Special plastic lines the discharge chute to help prevent plugging in wet conditions. The 1812 is available in 61, 67 and 73-inch versions; the 2418 comes in 63, 73 or 85inch widths and can throw snow up to 50 feet when equipped with the high-flow option loader.

#### CUB CADET 216-273-4550 Circle No. 251

The newest from Cub Cadet is the 1333SE with power steering wheel drive which allows easy maneuvering. Simply engage one directional trigger and one side remains stationary while the other digs in to complete the turn. Powered by a 13-hp, 4-cycle OHV Regency engine, the 1333SE clears a 32-inch path. Features include push-button electric start, halogen headlight for early morning use, serrated augers

to dig into hard pack snow or ice. and a 6-inch freeze-resistant discharge chute that rotates 190 degrees to toss snow where you want

#### JOHN DEERE 888-669-7767 Circle No. 252

Your local Deere dealer offers a full line of stand-alone machines and attachments. The TRS22 twostage snow blower, powered by a 4-hp Tecumseh engine, has a small frame for easy maneuvering. A 10inch auger moves through hardpacked snow or ice and the 4-blade 9-inch impeller moves snow efficiently from the auger and out the chute. The 828D is a large-frame model with 8-hp engine. It clears a 28-inch path. Features a spiral auger with serrated cutting edges, embossed side panels to prevent flex, and differential lock for better traction. Tosses snow up to 35 feet.

#### **DINGO DIGGING SYSTEMS** 800-476-9673 Circle No. 253

Take the 1812Hyd snowblower, from Dingo Digging Systems, Fort Mill, SC, with you to tight spaces. With a 48-inch cutting width, the unit is perfect for sidewalks and other narrow areas. Its design eliminates metal-to-metal contact between the blower and rotating chute base, sealing out snow and freezing slush. Comes with 12-inch auger and 18-inch diameter fan. Discharge chute is hydraulically rotated and will cast snow 15 to 25 feet.

#### **FAIR MANUFACTURING** 605-387-2389 Circle No. 254

Full line of Snocrete Blowers is available from Fair Manufacturing, Menno, SD. Sizes range from 36inch center spout models through 48, 60, 72, 84, 96 and 108-inch units with center or twin spouts. Modified-V cutting edge penetrates snow easily, while two large-diameter fans give maximum movement with a minimum of moving parts. Chopper bars prepare and gather ice or snow. Spouts rotate 360 degrees and tapered side wall protects against surface damage.

#### THE GRASSHOPPER COMPANY 316-345-8621 Circle No. 255

Mow through snow with the Snowthrower from Grasshopper, Moundridge, KS, Attach a snowthrower to any Grasshopper zero-radius power unit for no-clog performance, even in deep, heavy or wet snow. Discharge spout rotates 180 degrees to throw snow up to 30 feet. Available in 48- and 60-inch models, snow throwers feature heavy-gauge welded steel construction. Optional winter enclosure with heater is available.

#### **GRAVELY INTERNATIONAL** 800-472-8359 Circle No. 256

Thirty-two-inch two-stage snow blower from Gravely, Brillion, WI is constructed of reinforced, dieformed and welded steel. Unit has a 16-inch impeller fan that runs at 1179 rpm and a 16-inch auger operating at 112 rpm. Auger slip clutch protects the worm gear auger drive enclosed in a cast-iron housing. Auger drive and impeller fan are driven by tractor pto. Also available is a 48-inch SnowDozer blade, designed for front mounting. The 21-inch high curved blade pushes a 48-inch path, curling snow out of the way in tight areas.

#### **GUEST INDUSTRIES** 800-243-5390 Circle No. 257

Turn any bucket loader into a snow plow right without any special tools required. Torrington, CT-based Guest Industries has six models ranging from five-feet to 12-feet which attach in two to three minutes time. Clamps on the plow units require only manual tightening to the bucket. Pin locks prevent loosening. All models can be used straight or angled 30 degrees to either side. Units work with buckets ranging from 37 inches to 83 inches wide and fit bucket lips from one inch to 2.75 inches.

#### HONDA POWER EQUIP-MENT 800-426-7701

Circle No. 258 The HS828 series of walk-behind snowblowers from Honda, Duluth, GA are powered by the Honda 8-hp OHV engine. Both the HS828K1WAS and the HS828K1TAS come with a standard 210-degree adjustable discharge chute. The WAS (wheel drive) and TAS (track drive) units clear a path 28 inches wide and can discharge snow up to 49 feet, de-



#### Honda Power Equipment

pending on snow conditions. The two units come standard with hydrostatic drive and electric start. Operator controls are easy to use.

#### HUSQVARNA 800-448-7543 Circle No. 259

Heavy-duty snowblowers with electric start from Husqvama. The Charlotte, NC, firm offers the ST926EC with a 9-hp Tecumseh Snow-King engine and shift on-thego drive, including four forward speeds and two reverse. It clears a 26-inch path. The larger ST1030EC has a 10-hp engine and clears a 30 inch path. Both allow single-hand operation and feature sealed bearing shaft supports and come with two year warranties. The ST624E is a 6-hp, self-propelled version with six forward and two reverse speeds. Large mitten-grip starter handle.

#### MTD PRODUCTS, INC. 800-800-7310 Circle No. 260

Refined features like the extra-large mitten-



Snapper, Inc.

size starter handle grip and extralarge gas cap make it easier working with the 5-hp Yard-Man from MTD

> Products, Cleveland, OH. Powered by a two-cycle engine, the single-stage E262 clears a 20-inch path. Handle folds down for off-season storage. The larger E993I is a 13-hp snow thrower with 33-inch clearing width and a 16-inch impeller.

Rugged, cleated tracks provide top traction, balance and stability.

#### SNAPPER, INC. 770-914-4278 Circle No. 261

Latest from Snapper, Mc-Donough, GA is the SX5200E, a single-stage snow blower with a 20inch clearing width and a 230-degree rotating chute with adjustable arch control. Powered by a two-cylinder, 5-hp winterized engine from Tecumseh, it blows away 1,300 pounds per minute of snow. Rubber-lined auger cleans right down to the pavement.

#### THOMAS EQUIPMENT, INC. 506-276-4511 Circle No. 262

A 2-stage, hydraulic drive snowblower is available to fit four models of the Thomas Equipment loaders, including the T133, T173HL, T203HD and the T233HD. The snowblower from the Centreville, New Brunswick, Canada firm is 60inches wide and 23 high and features a 700 rpm auger with a diameter of 14.5 inches. The chute turns 210 degrees. The unit features Quick-Tach mounting and weighs about 475 pounds.

#### TRYNEX INTERNATIONAL 800-725-8377 Circle No. 263

Tailgate spreaders from SnowEx, Royal Oak, MI, mount to the pickup, but still allow full tailgate access. No drill holes required in truck bed. Features low profile hopper for salt, allowing operator good view. Available in two sizes: Pivot Pro 1075 for three-quarter ton and one-ton pickups or larger has 700 pound capacity and 4 to 40 foot spread width; Mini Pro 575 is best for half-ton or compact pickups and sport utility vehicles, has 350-pound capacity and 40 foot spread width. LM

Mid-summer

Suggestions to keep annuals healthy and colorful throughout summer's hottest days and into the fall.

By H.S. STEVENS

nnuals can provide a full season of color but don't count on it unless you take all the right steps. By mid-summer, many gardeners are asking, "where have all the flowers gone?"

> Even if you have planted locally adapted varieties, there are many factors throughout the season that can have a negative effect on flowering. Here are some of the most common problems.

> 1) Too much water: When excessive rainfall or over-watering saturates the soil, annuals that are not growing in well-drained beds will suffer. Plant roots require oxygen in order to take up moisture and nutrients. In saturated soil, all the pore spaces are filled with water and little or no oxygen is available. Heavy rains can also leach available nitrogen from the

soil. The result is yellowing of the lower leaves, loss of vigor, poor flowering and the proliferation of root rot fungi such as pythium and phytopthera. Sudden changes, such as hot, dry weather following a cool, rainy period can also cause the loss of flower buds and result in poor flowering.

We can't control the weather, but we can prevent problems caused by excess moisture by watering on the basis of need rather than on a fixed schedule, by planting on raised beds in any area where



PHOTOS COURTESY NATIONAL GARDEN BUREAU

drainage is poor, and by adding large amounts of organic matter to clay soils.

2) Too little water: Lack of sufficient moisture is the most limiting factor in summer gardening. During hot, dry weather, a large percentage of the water taken up by plant roots is lost by transpiration through the leaves.

Broadleaf plants may lose moisture faster than the roots can furnish it. This can cause wilting on a hot afternoon even when ample moisture is present.



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The problem is especially common when soil temperatures are too high.

Plant roots do not function efficiently when the soil temperature is 90° F or higher, and are most efficient when soil temperatures are in the 70s. A three-inch layer of organic mulch can reduce the soil temperature by as much as 25° F, keeping it in a favorable range for root growth and efficiency. Mulching reduces evaporation, maintains a more even level of moisture in the soil, and helps prevent weed problems.

Because most annual flowers are shallow rooted, they suffer more quickly from moisture stress than other type plants. Proper watering is critical. The soil should never be allowed to dry out. But too much water can do more damage than too little.

When supplemental watering is needed, apply enough to moisten the soil to a depth of at least six inches, then do not water again until the top inch or two of soil is dry.

Frequent, shallow watering leads to shallow root systems and plants that are less able to survive heat, low humidity, drying winds or other types of stress.

3) Improper fertilization: An ample supply of phosphorus is needed at planting time and during the early part of the season to stimulate root growth and hasten maturity, but once the plants are producing, their needs change. Nitrogen and potassium become more important. We generally think of nitrogen as stimulating foliar growth, but it is also necessary for reproduction. Because flowers, and the resulting seeds, are the plant's method of reproducing, an ample supply of nitrogen is important if the plants are to stay in bloom. Also, it should be remembered that by mid-season much of the available nitrogen in the soil has been either used by the plants or leached out of the root zone by rainfall or watering.

For a quick boost, foliar feeding is a good option. Use a spray application of fish emulsion or other water-soluble fertilizer according to label directions. Repeat weekly, if needed.

To supply an adequate amount of nitrogen and other nutrients for the remainder of the growing season, make one application of a slow-release lawn fertilizer with a 3-1-2 or 4-1-2 ratio, such as 15-5-10 or 16-4-8. Scatter the fertilizer lightly around the drip-line of the plants, staying away from the stems, and water it in promptly and thoroughly.

4) Deadheading: This is
the removal of faded or spent flowers, a chore that is
necessary if the plants are to continue
blooming. Deadheading is important for
ageratum, calendula, cosmos, marigold
(except triploid or mule marigolds), rud-

(except triploid or mule marigolds), rudbeckia, scabiosa and zinnias. Poppies (Papaver) are an exception. Removing faded poppy flowers will not result in additional blooms.

To understand the importance of frequent deadheading, remember that the goal of the plant is to produce seeds for the next generation, not to produce flowers for us. If we allow the plants to produce mature seeds, they will have fulfilled their mission in life and flowering will slow or cease entirely. When removing flowers for display or during deadheading, always cut back to a healthy leaf or to the soil line if there are no more leaf buds on the stem.

5) Wrong plant in wrong place: Poor flowering during the summer can also be caused by too much or too little sunlight. Impatiens and begonias bloom best in shady locations and will not tolerate the hot afternoon sun.

On the other hand, marigolds, zinnias, periwinkles, moss rose and verbena need a



Marigolds are a favorite annual; there are many varieties.

minimum of six to eight hours of direct sunlight each day.

Annuals most resistant to drought, heat and the hot summer sun include periwinkles, zinnias, moss rose, alyssum, verbena and purslane. Marigolds are also included, except for dwarf French marigolds (*Tagetes patula*) in the South. They suffer heat check or heat stress.

High night temperatures and high humidity can cause a greenhouse effect that promotes growth rather than flowering. The larger African or American marigolds are not as sensitive to heat and, if kept healthy, will continue blooming.

Triploid or "mule" marigolds (*T. erecta* and *T. patula*) are the most dependable. Because they are sterile and cannot produce seeds, the plants put all their energy into producing more and more flowers. Triploid marigolds will bloom prolifically all summer. **LM** 

—The author writes on horticultural topics from Lancaster, Texas.

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