

GENETIC IMPROVEMENT OF PRAIRIE JUNEGRASS FOR USE AS A TURF

By Matthew D. Clark Eric Watkins and Andrew Hollman

Department of Horticultural Science, University of Minnesota

Prairie junegrass (*Koeleria macrantha* (Ledeb.) Schultes), also known as junegrass, is a perennial, short-grass prairie species distributed throughout the Northern hemisphere. Until recently, the species has received little attention as a low-input turfgrass. Available varieties have been developed from European germplasm including 'Barleria' and 'Barkoel' by Barenburg, Inc., Holland. Little attention has been given to North American germplasm which demonstrates early green-up suggesting that native ecotypes may provide improved turfgrass traits. *Koeleria macrantha* represents a diverse natural range that provides the breeder with a broad genetic base from which to select important traits including turfgrass quality, color, density, mowability, growth habit, drought tolerance, disease resistance, and seed production. This

species is known to require fewer inputs than other cool-season turfgrasses and it demonstrates tolerance to many environ-

"The genetic improvement of native prairie junegrass into top-performing turfgrass varieties should reduce water, fertilizer, and pesticide inputs resulting in environmental benefits and reduced costs."

mental stresses found in Minnesota. The genetic improvement of native prairie junegrass into top-performing turfgrass varieties should reduce water, fertilizer,

and pesticide inputs resulting in environmental benefits and reduced costs. Native grasses are excellent choices for reduced water use, conservation of native species, and aesthetic and practical qualities such as erosion control.

Material in the *Koeleria* breeding project have been developed from collections from native stands in Colorado, North Dakota, South Dakota, Minnesota, and Nebraska. Additional material was provided by the USDA for incorporation into the breeding project. Evaluations are being conducted to select superior genotypes and develop populations as low-input turfgrass cultivars. Several different trials (nursery plots, mowed space plants, and turf plots) are used to evaluate traits such as seed production, turf quality, color, density, and mowability.

Winter Problems?

Get the IMPERMEABLE barrier!



Featuring the **NEW** Air Flow System!

Actual user photos — not retouched!

Minimizes temperature fluctuations • Protects from ice damage, crown hydration and desiccation

Lightweight and durable for years of easy installation & storage

www.GreenJacket.com/mgs 888-786-2683

Superior Ride Quality

The Workman MD series combines comfort and productivity like never before. The pioneering SRQ suspension with the Active In-Frame twister joint delivers superior ride quality for all-day comfort. Rugged front styling lets you know this is a utility vehicle built to work. With large payload and towing capacity, and a long list of accessories and attachments, the Workman MD series is the better way to get jobs done.



Toro Workman MD Series

- *SRQ suspension*
- *Active In-Frame twister joint*
- *Total vehicle capacity*
MDX - 1,650 lbs. (749 kg)
MD - 1,250 lbs. (567 kg)
MDE - 1,200 lbs. (545 kg)
- *Bed load capacity*
MDX - 1,250 lbs. (567 kg)
MD - 850 lbs. (386 kg)
MDE - 800 lbs. (363 kg)
- *Towing capacity*
MDX - 1,200 lbs. (545 kg)
MD - 800 lbs. (363 kg)
MDE - 800 lbs. (363 kg)

Stretch out

A new operating platform design provides additional leg room for the operator and passenger for enhanced comfort.



NO PAY 'TIL MAY FINANCING OPTIONS NOW AVA



4830 Azelia Avenue N. #100
Brooklyn Center, MN 55429
Phone: (763) 592-5600
Toll Free: (800) 362-3665
Fax: 763-592-5700

Accessories and Attachments

The Toro Workman MD Series adapts to almost any job thanks to a wide variety of accessories and attachments. A deluxe hard cap, canopy top and windshield provide protection from the sun and elements. The roll-over protective structure (ROPS), brush guard, and heavy duty bumper help you operate in more challenging terrain. Add the deluxe or portable refreshment center to turn your Workman into a revenue producing machine.



AVAILABLE! ASK YOUR SALES REPRESENTATIVE!!

2131 16th St. N., Suite C
Fargo, ND 58102
Phone: (701) 281-0775
Toll Free: (800) 782-1031
Fax: (701) 281-9417



Count on it.

2008-2009 Snow Mold Control Evaluation Sentryworld Golf Course –Stevens Point, Wisconsin

By Paul Koch and Dr. Jim Kerns

Department of Plant Pathology, University of Wisconsin-Madison

OBJECTIVE

To evaluate fungicides for the control of Typhula blight (caused by *Typhula ishikariensis* and *T. incarnata*) and *Microdochium* patch (caused by *Microdochium nivale*).

MATERIALS AND METHODS

This evaluation was conducted at Sentryworld Golf Course in Stevens Point, WI on a 'Penneagle' creeping bentgrass (*Agrostis stolonifera*) fairway nursery maintained at a 0.5-inch cutting height. Individual plots measured 3 ft x 10 ft (30 ft²), and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 p.s.i using a CO₂ pressurized boom sprayer equipped with two XR Teejet 8004 VS nozzles. All fungicides were agitated by hand and applied in the equivalent of 2 gallons of water per 1000 ft². Early applications were

applied on October 21st, 2008 and late applications were applied on November 25th, 2008. The experimental plot area was not inoculated. There was continuous snow cover on the plots from December 1st until mid-March of 2009, a total of approximately 100 days. Disease severity and color were recorded on March 26th, 2008. Data obtained was subjected to an analysis of variance to determine significant differences between treatments. The mean disease severity and mean color rating for each individual treatment are located in the table below.

RESULTS AND DISCUSSION

Disease pressure was high at this site this year with untreated controls averaging 76.3% disease. Although all three major snow mold diseases were observed, the dominant pathogens causing damage were *Typhula ishikariensis* and *Typhula incarnata*. All treatments with the excep-

tion of 11 and 52 provided a significant reduction in disease severity compared to the untreated control. Due to the high pressure, many treatments did not provide acceptable protection (<5% disease) against *T. ishikariensis*. Treatments 17, 22-32, 34-36, 44, 47-48, and 54-63 provided complete protection, and many others provided acceptable protection. Differences in plot color were also observed, with treatments 27-32 having a statistically significant greener color compared to untreated areas. All six of these treatments contained Bayer's StressGuard® technology in addition to the active ingredient. Treatments containing PCNB caused discoloration, but the discoloration was minimal and recovered quickly.

* * * *

(Editor's Note: More studies, and graphs can be found at www.mgcsa.org.)



HARTMAN

Quality since 1971

Specializing in classic restoration and renovation

- Drainage problems
- Slit Drainage
- Greens
- Bunkers
- Laser Leveling
- Grading
- Irrigation

8011 BAVARIA RD
VICTORIA, MN 55386
952-443-2958

WWW.HARTMANCOMPANIES.COM
INFO@HARTMANCOMPANIES.COM

2008-2009 Snow Mold Control Evaluation

Sentryworld Golf Course, Stevens Point, WI and Wawonowin Country Club, Champion, MI

By Paul Koch and Dr. Jim Kerns

Department of Plant Pathology, University of Wisconsin-Madison

OBJECTIVE

To evaluate fungicides for the control of Typhula blight (caused by Typhula incarnata and Typhula ishikariensis) and Microdochium patch (caused by Microdochium nivale).

MATERIALS AND METHODS

This evaluation was conducted at Sentryworld GC in Stevens Point, WI and Wawonowin CC in Champion, MI. Please refer to the "Materials and Methods" sections of each of those particular reports in the 2008-2009 Wisconsin Snow Mold Research Reports for further information about each site. The auxiliary trials were placed adjacent to the standard trials at both sites. To compare to other treatments in each individual trial, please refer to the data tables for that trial elsewhere in the report. Data obtained was subjected to an analysis of variance to determine significant differences between treatments. The mean disease severity and mean color rating for each individual treatment are located in the tables below.

RESULTS AND DISCUSSION

Disease pressure was high at Sentryworld GC in Stevens Point, WI and very high at Wawonowin CC in Champion, MI. All treatments in both trials with the exception of treatment 4 at Sentryworld significantly reduced disease compared to the untreated control. Treatments 6 and 7 were the most effective at both sites, although they failed to provide acceptable protection at Wawonowin CC. Treatments 5, 6, and 7 all provided adequate protection at Sentryworld. No differences in turfgrass color were observed.

* * * * *

(Editor's Note: Treatment information, more studies and more graphs can be found at www.mgcsa.org.)

Snow Mold and Color Ratings Recorded on April 16th, 2009 at Wawonowin CC

Treatment	Rate	Timing ^a	Disease severity ^b	Color ^c
1 Untreated Control			96.3 a	3.3 f
10 Emerald	0.13 OZ/M	Late	58.8 a-j	5.8 a-e
T-Methyl 4.5L	3 FL OZ/M	Late		
11 Emerald	0.13 OZ/M	Late	75 a-f	5.8 a-e
T-Methyl 4.5L	4 FL OZ/M	Late		
12 Emerald	0.13 OZ/M	Late	83.8 a-d	6 a-e
T-Methyl 4.5L	0.75 FL OZ/M	Late		
13 Emerald	0.13 OZ/M	Late	61.3 a-i	6.3 a-e
Trinity	1 FL OZ/M	Late		
14 Emerald	0.13 OZ/M	Late	92.5 abc	5.5 b-e
Iprodione Pro	3 FL OZ/M	Late		
15 Emerald	0.13 OZ/M	Late	73.8 a-g	5.8 a-e
Iprodione Pro	4 FL OZ/M	Late		
16 Trinity	1 FL OZ/M	Late	87.5 a-d	6 a-e
Iprodione Pro	2 FL OZ/M	Late		
17 Trinity	1 FL OZ/M	Late	67.5 a-h	6 a-e
Iprodione Pro	3 FL OZ/M	Late	85 a-d	5.8 a-e
19 Trinity	1 FL OZ/M	Late	53.8 c-l	6 a-e
Iprodione Pro	4 FL OZ/M	Late		
20 Curalan EG	1 OZ/M	Late	86.3 a-d	6 a-e
21 Curalan EG	1 OZ/M	Early	42.5 f-n	6 a-e
Daconil Ultrex	3.2 OZ/M	Early		
Insignia	0.5 OZ/M	Late		
Trinity	1 FL OZ/M	Late		
22 Curalan EG	1 OZ/M	Early	57.5 a-j	5.8 a-e
Daconil Ultrex	3.2 OZ/M	Early		
Trinity	1.5 FL OZ/M	Late		
Daconil Ultrex	5 OZ/M	Late		
23 Trinity	1.5 FL OZ/M	Late	61.3 a-i	6 a-e
Insignia	0.5 OZ/M	Late		
Daconil Ultrex	5 OZ/M	Late		

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
^aEarly and late fungicide treatments were applied on Oct. 2nd, 2008 and Oct. 28th, 2008, respectively
^bMean % diseased area
^cColor was rated on a scale of 1-9 where 1 = straw colored, 6 = acceptable, 9 = dark green

LEITNER COMPANY

Specializing in Soils for Golf Course Maintenance & Construction

Soil mixing and processing specialists.

Supplying the Golf Course Industry with soil and sand products for over 60 years.

Material to specification for topdressing and construction.

Quality - Reliability - Experience

MIKE LEITNER
LEITNER COMPANY

945 Randolph Avenue, St. Paul, MN 55102

(651) 291-2655

PROUD SUPPORTER OF RESEARCH AND EDUCATION THROUGH THE MGCSA

IMPORTANCE OF FALL FEEDING

Fall fertilizing is the most important application a turf manager can make. Promoting good color and stimulating shoot growth are important but many times the importance of carbohydrate reserves and root growth is overlooked. It is important to build the carbohydrate reserves to prepare the turf for winter. The accumulation and storage of carbohydrates is greatest during the fall and early winter because there is minimal shoot growth in late fall, but good photosynthetic conditions. In addition, roots of most cool season grasses continue to grow in autumn as long as the soil is not frozen. The carbohydrates that are not used in growth are stored in the crown and other storage tissues in the plant. These carbohydrate reserves help the turfgrass green up earlier in the spring and sustain growth into May.



John Meyer - Regional Manager
AGROTAIN International, LLC

UMAXX® Stabilized Nitrogen performs extremely well for fall and late-fall/dormant feed applications. Fall feeding with UMAXX will provide exceptional long-lasting color without excessive growth. UMAXX delivers maximum nitrogen efficiency and protects against nitrogen loss from ammonia volatility and leaching. UMAXX delivers both Ammonium nitrogen for plant development and Nitrate nitrogen for tissue growth. Cold soil temperatures have little effect on the efficiency of UMAXX since it does not rely on microbial activity for the nitrogen availability.

For more information on UMAXX contact me at 952-334-6845 or jmeyer@agrotain.com

UMAXX is a registered trademark of AGROTAIN International LLC

On-Course Observations From Spring 2009

By Dr. Brian Horgan, University of Minnesota

Plants use water, air and light making sugars required for plant growth and development. Remember photosynthesis? The other factor driving cool-season turfgrass growth is daily average temperatures of 70-85 F. Let's take a trip back into your short term memory. Spring 2009 was unseasonably cool and through June, we were 7 inches below average for moisture. For MSP, May received only 0.53" of rain making it the 3rd driest May dating back to 1891 (Rochester and International Falls were the two exceptions to the spring drought). Without the rainfall and with cool temperatures, turf just didn't grow!

The good news from spring 2009 was that winter injury was not extraordinary. Most of you had small blemishes on your putting surfaces. There were some of you that lost considerable turf due to crown hydration following the February rains. But when it comes down to spring golf and Minnesota, we can defend all the reasoning in the world and it does not matter. Golfers do not want to see temporary greens, greens covers or dead grass. They don't want you to close parts of greens to seed or sod. They don't want excuses. They want June 1 conditions on April 1.

How did you look on June 1? Did you even see any crabgrass by June 1? This was where logic was thrown out the window. Logic would have it that by June 1, average temperatures would be 70 F and the spring rains would warm the soil leading to a flush of growth. Average temperature for June was 67 F in MSP. Not bad when compared to the norm. But look at April (47 F), May (61 F) and July (70 F). Remember, cool-season turfgrasses like temperatures between 70 and 85 F.

With all that said about weather, I did observe a few items from this past spring that may be of interest to you.

1. **You cannot control Mother Nature.** You cannot speed up global warming. You cannot make grass grow when conditions are unfavorable for growth.

2. **Develop a game plan:** When you have dead grass, whether it is only the back of 10 green or large portions of all your greens, you need a game plan that is discussed and approved by your GM/owner/committee chairs. I'm not thinking of a signing ceremony but a drive around the course to describe your plan of action, timeline, and potential SNAFU's. Yes, you need to discuss what may limit the successful implementation of your plan. For example, this year you could have seeded, fertilized, irrigated, limited traffic and still not see any growth. This year's limiting factor, temperature.

3. **Implement your game plan:** Don't second guess yourself. Don't succumb to the pressure of the member who makes you feel like an ant by saying "my yard is sure green this spring." Stick with your plan. I saw a lot of you this spring that were seeding every week and job-saving dead areas almost daily. You wanted to be seen doing something. I understand that position but you can overwork blemishes to the point of slowing down recovery.

4. **Once the plan is implemented:** Concentrate on polishing your course. Focus on the 98% of the course that wasn't hurt by winter. Get the bunkers in shape, remove winter debris, polish the ball washers, etc...

5. **Get the irrigation system fired up early:** Again, this was the perfect year to prove this point. If you waited to get the irrigation system primed, you may have lost some turf. The downside to this argument is the potential for breaks. As one of your colleagues said to me; "I would rather explain the irrigation break than how I lost turf this spring." An irrigation break is familiar to golfers. They see you fix breaks periodically throughout the year. If you could have a planned SNAFU, a pipe break isn't necessarily a bad one.

(Continued on Page 17)

On-Course Observations-

(Continued from Page 16)

Remember photosynthesis requires water and this past spring it didn't come from rain.

6. **Seed vs Sod:** As part of your game plan, you considered sod or seed as part of your solution. Unless you are absolutely required by your employer, stay away from sodding putting greens. Just because you sod does not mean you can immediately let golfers put the surface. Time to surface readiness when comparing seeding versus sodding is not too dissimilar on a putting green. Sod also introduces issues like soil layering, cultivars that vary in color and growth rates, and the need for aggressive cultural practices (aerification and topdressing). One caveat to this rule is minor patching or plugging from on-sight sod/soil. If you have a nursery green of like soil, use it. If you need to hex-plug from the perimeter of your green to areas within, do it.

7. **Fertility:** When overseeding an area or establishing an area, don't forget the phosphorus. Phosphorus may be abundant in your soil but it is immobile and required for seedling growth and plant development. I also like to keep control of the fertility during establishment of those patchy dead areas. Small doses of N will help prevent a flush of growth from surrounding healthy turf while giving seedlings the nutrition it needs.

8. **Late Fall N:** Large doses of late fall N left unused by the plant can lead to a spring flush of growth causing rapid depletion of sugars. New research from University of Wisconsin-Madison and the University of Minnesota suggests that N uptake significantly decline as temperatures cool in the fall. Ten days following a soluble N application, an average of 73% of fertilizer N was taken up in September, compared to 57% and 38% in October and November, respectively. The results of this new research indicate that N uptake is greatly reduced in cool temperatures (upper Midwest) and the agronomic benefits of late-fall N fertilization may be less significant than turf managers believe. High N rates currently recommended (1 lb soluble N per 1000 ft²) may be agronomically unimportant and environmentally and economically undesirable.

9. **Covers:** Lets divide this discussion into winter covers and spring covers. Winter covers: I didn't see widespread death from putting surfaces properly covered last year. There were a few instances of ripped seams or water seepage under an impermeable cover that caused winter damage. All bets were off when that February rain came. If you have poor surface drainage and were not protected with an impermeable cover, low spots on your greens suffered. If you were part of the unlucky group that had long-term ice cover in the north, you may have exceeded the timeline for poa survival (60 to 75 days). Spring covers: These covers are permeable and they help. However, they are also labor intensive to install and remove. The use of a spring cover helps to moderate night-time temperatures and the longer you can use them into the spring, the better your chance of seedling germination and survival. On greens with large dead areas, the use of a cover will also help to manage traffic and limit wear. This also means limiting pin locations.

10. **Write about it:** You know the key players at your club that request information. Don't assume they are sharing that information with the rest of the membership. Keep members informed of your game plan and progress. Some of your colleagues are blogging and tweeting (yes that is now a word) about conditions on the course. It doesn't take long to update members when using this new technology. Facebook or MySpace are other options. Take advantage of your time this off-season and learn how to twitter or blog.

For those of you that had problems this past spring, hopefully something was learned that will help you navigate a similar scenario the next time it occurs. As you well know, in Minnesota, it will happen again.

PENNCROSS SOD & Dominant X-treme 7

from Country Club Turf

Grown by
**GOLF COURSE
PROFESSIONALS**
for
**GOLF COURSE
PROFESSIONALS**



Supplying over 200
Golf Courses Since 1987

24317 Durant St. N.E.
East Bethel, MN 55005

(763) 444-6753

"A Quality Grown Reputation"

AFFILIATE NEWS

Tiller Corporation and its operating divisions, Barton Sand & Gravel Co., Commercial Asphalt Co., and Barton Enterprises, Inc., are pleased to announce the addition of Mike Kelly as its new Director of Product Development. Mike, formerly with Rehbein Environmental Solutions Group, has worked closely

with engineers, sports field designers, golf course architects, landscapers, and property developers to manage storm water challenges and other unique design issues with the use of sand and soil blends. Mike's focus is to bring solutions to our customer's environmental needs.

* * * * *

We are excited to introduce the **GreenJacket** AFS (Air Flow System) insulation. We have been listening! While our Foam Insulation will still be available, we are answering the call for a better method of insulating, while allowing for even better air movement under the GreenJacket Turf Cover.

The AFS (Air Flow System) system is a UV Resistant, Non-woven PET staple fiber, bonded with a blend of non-water soluble acrylic resins.

* * * * *

After years of serving the community as Green Image, we are proud to announce that GreenImage, and our sister stores Polfus Implement, Horizon Equipment and Tri-County Implement, have consolidated into our parent company, Frontier, Inc. Effective immediately, we will do business as **Frontier Ag & Turf**.

Building the Frontier brand in all locations provides many advantages for our customers: Ease of doing business with all locations and divisions; within our company; our additional buying power will ensure competitive pricing, and access to larger and more complete inventories.

People and business structure remain the same - only the name is new!

* * * * *

Aaron Johnsen, formerly the Turf Consultant at Spectrum Technologies, Inc., announces the formation of Turf Intelligence LLC. **Turf Intelligence LLC** will focus on helping turfgrass managers utilize data from measurement technology, such as soil moisture sensors, salinity meters, weather stations, and reflectance instruments, to optimize inputs and maintain consistently exceptional conditions. Services will primarily be data mapping for site analysis and management planning; assistance with the selection and implementation of measurement technology; and formation and analysis of on-site research. Visit www.turfintel.com or contact Aaron at 651-895-2601 or turfintel@yahoo.com for more information.

* * * * *

Plaisted Companies is pleased to be recognized as the official supplier of the aggregate and specialty soils required to build the playing surface at Target Field. Currently being laid down in

coordination with the field heating and irrigations systems, Plaisted products - mined in Elk River - will be used to form the base layers of the playing field including: Clean select-fill created to serve as a base layer; Specialty-sized pea-gravel to facilitate quick drainage; An engineered soil mix consisting of a specially designed sand/peat mix for the turf root-zone.

"The Minnesota Twins are proud to partner with a great local company to help us build a consistent playing surface at Target Field," said Larry DiVito, head groundskeeper at Target Field.

Once the playing surface sub-layers have been laid and the field heating system and irrigation system are completed, the natural turf-grass sod installation will begin in early September.

"Plaisted Companies is happy to be involved in the construction of Target Field," says Todd Plaisted, President, Plaisted Companies. "We're pleased to see that our products will play a crucial role in Minnesota baseball for years to come."

Target Field, one of America's most urban ballparks, will be located in the historic Warehouse district of downtown Minneapolis. Site clearing began May 15, 2007 with actual construction commencing in August 2007. The 40,000 seat ballpark is slated for completion prior to Opening Day 2010 and the cost of construction is \$425 million. The Twins Ballpark Webcams provide fans the opportunity to view progress on the construction of the new downtown Minneapolis ballpark through completion in the spring of 2010. For more information on Target Field and to view the site through the Webcam, visit www.twinsbaseball.com/newballpark.



Professional Water Systems

Wells | Pump Repair
Any Size, Any Depth | All Types & Sizes

#1 in Quality & Safety

Insist on **BERGERSON CASWELL** for Sales, Service, & Support for all your Water, Well, & Pumping related products.

Our experienced operators, high quality equipment, and company wide health and safety program ensure all projects are performed to specification, safely and efficiently

SINCE 1948



5115 Industrial Street • Maple Plain, MN • 55359
(763) 479-3121 • Fax (763) 479-2183 • (800) 328-6188
www.bergersoncaswell.com



The Savory Supe

By **Scottie Hines, CGCS**
Windsong Farm Golf Club



It is that time of year again, kids going back to school, Superintendents aerifying, hunters heading to the field. This is a quick and easy recipe for those evenings when you don't have a bunch of time to cook a "sit-down" dinner.

Ingredients

- 1 pound lean ground beef
- 1 medium to large onion, diced or chopped
- 2 cloves of garlic, crushed
- 1 package (14-24 ounce) fresh oriental veggies. If you can not find the fresh stuff substitute 2 cans of the La Choy Oriental or Chop Suey vegetables.
- 2 cups cooked rice
- 3 1/2 tablespoons of soy sauce

Oriental Beef Veggie As a Skillet Dinner



In a large skillet brown the ground beef. Drain any excess drippings/fat.

Stir in the diced onion and cook until the onion is almost see through.

Add the oriental vegetables and quickly stir fry until heated through.

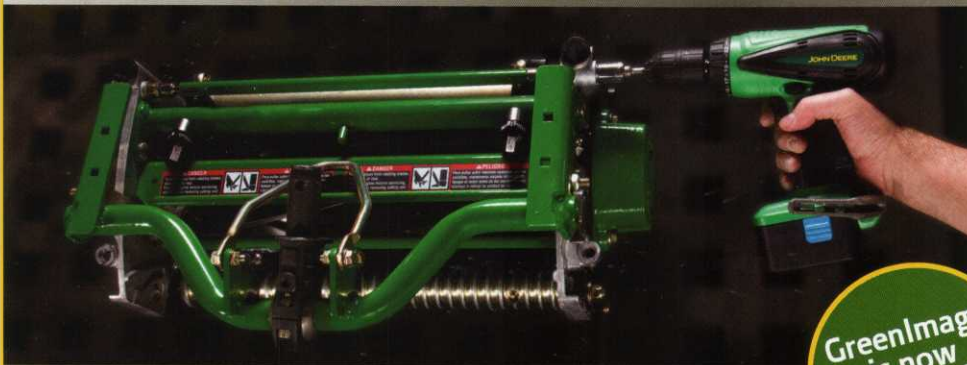
Add the cooked rice and soy sauce. Heat on low stirring often until evenly heated.

This recipe should serve 5-6 people easily. Any leftovers are excellent the next day for lunch at work.

Once again, this is a recipe that you can easily tweak with spices to your liking. Try a tiny bit of wasabi to spice it up a bit.

Enjoy!

By the time you read this, your height-of-cut could have been adjusted.



NEW QUICK ADJUST REELS

Yes it's now this easy to adjust the height-of-cut. Just click in a power drill on either side of the cutting unit, hit the trigger, watch the gauge, and you're done. No wrenches, and no need to double-check both sides. (Thanks to SpeedLink technology, they match perfectly every time.) But don't just read about these reels. Call your John Deere Golf distributor for a demo. Consider us part of your crew.

GreenImage
is now
Frontier Ag
& Turf



GreenImage, LLC
12040 Point Douglas Dr S. | Hastings, MN
651-437-7747
www.greenimagellc.com

Same people, same structure, new name!



www.frontieragandturf.com



Ask about Uptime Service Inspections
Call to schedule your service today!

John Deere's green and yellow color scheme, the leaping deer image and JOHN DEERE are all trademarks of Deere & Company.



INFORMATION ABOUT STROKES - EVERYONE - SHOULD KNOW

Remember the First Three Letters...S.T.R.

STROKE IDENTIFICATION

During a BBQ, a friend stumbled and took a little fall. She assured everyone she was fine (they offered to call paramedics) she said she had just tripped over a brick because of her new shoes.

They got her cleaned up and got her a new plate of food. While she appeared a bit shaken up, Ingrid went about enjoying herself the rest of the evening

Ingrid's husband called later telling everyone that his wife had been taken to the hospital and passed away. She suffered a stroke at the BBQ. Had they known how to identify the signs of a stroke, perhaps Ingrid would be with us today. Some don't die. They end up in a helpless, hopeless condition instead.

A neurologist says that if he can get to a stroke victim within three hours he can totally reverse the effects of a stroke...totally. He said the trick was getting a stroke recognized, diagnosed, and then getting the patient medically cared for within 3 hours, which is tough.

RECOGNIZING A STROKE

Sometimes symptoms of a stroke are difficult to identify. Unfortunately, the lack of awareness spells disaster. The stroke victim may suffer severe brain damage when people nearby fail to recognize the symptoms of a stroke. Now doctors say a bystander can recognize a stroke by asking three simple questions:

S *Ask the individual to SMILE.

T *Ask the person to TALK and SPEAK A SIMPLE SENTENCE (Coherently) (i.e. It is sunny out today.)

R *Ask him or her to RAISE BOTH ARMS.

If the person has trouble with any one of these tasks, call an emergency number immediately and describe the symptoms to the dispatcher.

New Sign of a Stroke: Stick out Your Tongue

Another 'sign' of a stroke is this: Ask the person to 'stick' out his tongue... If the tongue is crooked or if it goes to one side or the other, that is also an indication of a stroke.



Get green results.



Apply Milorganite after turf quits growing and before a permanent freeze-up or snow cover.

Dormant feeding with Milorganite assures...

- 1-2 weeks earlier spring green-up
- Quicker turf recovery from winter damage
- Vibrant turf color and growth rates through mid-May

Specialty
Turf & Ag, Inc.



Reinders
ESTABLISHED
In 1866

www.milorganite.com