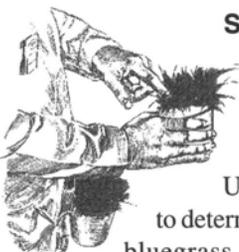


Supina Bluegrass for Sports Fields

JOHN SOROCHAN & JOHN ROGERS, DEPARTMENT OF CROP/SOIL SCIENCES, MICHIGAN STATE UNIVERSITY



For many years in Germany and other areas of Europe, supina bluegrass (*Poa supina* Schrad.) has been recognized as a species for athletic fields because of its aggressive competitiveness as well as its exceptional wear tolerance and disease resistance (Berner, 1980; Pietsch, 1989). Unlike other cool season turfgrasses used for athletic fields, supina bluegrass is a stoloniferous turfgrass. This provides for a more aggressive recovery as well as superior turf cover. Previous evidence from Germany suggests that supina bluegrass seeded at less than 10% in a mixture with other cool season turfgrass will in time dominate the turfgrass stand after several years of heavy traffic (Pietsch, 1989). Being able to seed supina bluegrass in a mixture of less than 10% also helps to alleviate the high cost of supina bluegrass seed (about \$80 Cdn/kg). This information known, much of the other information about the performance of supina bluegrass has been hearsay or otherwise researched in Germany.



Supranova

A series of studies have been conducted at Michigan State University since 1996 to determine how the supina bluegrass "Supranova" performed in a cool season climate. These studies include the investigation of different seeding ratios of supina bluegrass with Kentucky bluegrass, optimal nitrogen fertilizer requirements, mowing heights and shade tolerance for athletic field conditions.

An objective of the supina bluegrass and Kentucky bluegrass seeding mixture study was to determine the competitiveness of supina bluegrass over time when seeded at different ratios. The seeding ratios investigated were 0, 5, 10, 25, 50, and 100% supina bluegrass. The experiment was conducted on a sand based root zone (80:10:10, sand:soil:peat), and was established in June 1995. Each of the seeding

ratios were fertilized with two levels of nitrogen fertilizer (4 and 6 lbs. N/1,000 ft²/year), and then were either subjected to traffic or not. The Brinkman Traffic Simulator (BTS) was used for traffic applications. Traffic applications were done in the fall of each year (1996-99). Typical wear associated during a National Football League game between the 40-yard lines and hash marks was simulated. A total of approximately 25 games per season was applied using the BTS. Fertilizer regimes began during the 1996 growing season and went through 1999. Spring plant counts were taken in 1997-99 to determine the change in percent composition of each species following fertilizer and traffic treatments.

After only one season of simulated football traffic, the percent composition of supina bluegrass increased significant in the 5, 10, 25, and 50% seeding ratios. After three years of simulated football traffic, supina bluegrass was the predominant species for most of the seeding ratios investigated. In addition, as long as there was some Kentucky bluegrass present in the turf composition (even 5%), there were no significant differences that occurred in turfgrass shear strength (stability) compared to a 100% Kentucky bluegrass stand.

Investigations to determine the optimal nitrogen fertilization and mowing height were conducted at Michigan State University from 1996-99 on a loamy soil. Results determined that under athletic field conditions, fertilizing at 4 lbs. N/1,000 ft²/year was optimal; while, 2 lbs. N/1,000 ft²/year was too little. Mowing supina bluegrass at 30 mm (1.25 inches) provided the best and most uniform cover. When mowed at 14 mm (9/16 inches), the supina bluegrass provided a dense uniform cover, but would not tolerate simulated athletic field traffic at this low height. Mowing at a higher height of 57 mm (2.25 inches), the supina bluegrass provided excellent cover when trafficked; however, at this higher mowing height the overall uniformity and appearance of the turfgrass was not acceptable.

Added Benefits

Supina bluegrass is a true cool season turfgrass. It continues to grow late into the fall when most other turf species have stopped growing. This ability to continue late fall growth makes supina bluegrass a desirable turf species for athletic fields, especially for fall sports like football. Therefore, the aggressiveness of supina bluegrass makes it a very desirable turf species for heavily trafficked situations in cool season climates. Conversely, because supina bluegrass is such an aggressive turfgrass by stolons there may be a decrease in some sand root zones for stability. This is due to the fact that supina bluegrass lacks the rhizomes and therefore the stability associated with Kentucky bluegrass, or the deep rooting of perennial ryegrass. However, when the ultimate goal is to sustain a uniform playing surface, the combination of supina bluegrass with an alternate cool season species is favored.

In addition to the aforementioned benefits of supina bluegrass, it also has excellent shade tolerance. Studies at Michigan State University have consistently shown this to be true (Stier, *et al.*, 1996). Research investigating the optimal turfgrass species for indoor athletic stadia determined supina bluegrass was the superior turfgrass (Stier, *et al.*, 1997). The adaptability to shade can also be applied to home lawns and golf courses where shade problems exist. Supina bluegrass is a species native to the mountain regions of central Europe, and its cold tolerance is very evident by its ability to continue to grow during adverse growing conditions. It is usually the last turfgrass to go into fall dormancy, and is the first to begin actively growing in the spring. In Michigan, the only turfgrass disease found to be associated with supina bluegrass is pink snow mold. However, the symptoms of pink snow mold are typically no longer evident by the time the other cool season turf species have begun to actively grow in the spring. This is because the supina bluegrass has already grown out of any effects incurred by the pink snow mold.

When the goal is to sustain high quality turfgrass stands that can withstand the vigor of athletic field conditions, any advantage a turf manager can implement is always beneficial. Therefore, using supina bluegrass alone or in a mix in order to have a uniform and green cover will only add to the success of a turf manager.

Currently, there are two commercial varieties of supina bluegrass available (*Poa supina* 'Supra' and *P. supina* 'Supranova' – available as Icon Turf in Canada). Both of these varieties are from Saatzucht Steinach in Germany. Please see

the seed chart on page 10 – Supranova is also available from EroGreen. A third variety is being released in the near future by Philipp Berner (Saatzucht Steinach) who does the supina breeding in Germany. With the recent success of supina bluegrass in North America, supina bluegrass breeding is underway in the United States to develop even more varieties. The future of supina bluegrass appears very promising, and its use in the landscape, whether it is for golf courses, athletic fields or home lawns, will only increase. ♦

Article References

- Berner, P. 1980. Characteristics, breeding methods, and seed production of *Poa supina* Schrad. P. 409-412. In J.B. Beard (ed.) Proc. 3rd Int. Turfgrass Res. Conf., Munich, Germany. 11-13 July 1977. Int. Turfgrass Soc., ASA, CSSA, and SSSA.
- Pietsch, R. 1989. *Poa supina* (Schrad.) un seine bedeutung für sport-und gebrauchsrassen. Zietschrift für vegetationstechnik. 12:21-24.

- Stier, J.C., J.N. Rogers, III., J.C. Sorochan. 66th Annual Michigan Turfgrass Conference Proceedings Volume 25 p. 8. January 15-18, 1996. Holiday Inn Conference Center, Lansing, MI.
- Stier, J.C., J.N. Rogers, III., J.C. Sorochan. 67th Annual Michigan Turfgrass Conference Proceedings Volume 26 p. 4-8. January 20-24, 1997. Holiday Inn Conference Center, Lansing, MI.

Jeopardy

The Municipal Challenge

THIS YEAR'S CHALLENGE was a hard fought round with defending champion Team Oakville leading until "Final Jeopardy" when they lost out to the "Misfits," a multi-talented group from southwestern Ontario. Questions were split into three areas, General Knowledge, Turf and Equipment with each category having three levels of questions, easy, medium and difficult. Many thanks to Pam Charbonneau for supplying the questions for the half hour event.

A new lighting system fabricated by STA Director Andrew Gaydon using red, yellow and blue lights helped decide who first had the answer to each question. Score was kept by President Jane Arnett-Rivers who also presented the trophy to this year's winners. Team Oakville vowed to return to reclaim the crown next year. ♦

— Mike Bladon



Turf Drainage Systems Ltd.

Turf Drainage Professionals

- Complete Design and Installation
- Specializing in Slit Drain Systems for Sports Fields and Golf Courses
- Drainage Specialists for over 25 years
- Automatic Laser Controlled Equipment
- Guaranteed to Provide the Results You Need

Contact us:

- 33839 Saintsbury Line, P.O. Box 237, Lucan, ON N0M 2J0
- E-mail: tdsturf@on.aibn.com
 - Website: www.tdsdrainage.com
 - Office: 519-227-0731 • Mobile: 519-878-8918
 - Fax: 519-227-1670

Proud Members of CGSA • OGSA • STA

ATHLETIC FIELD COVERS

TURF GROWTH BLANKETS

Baseball/Football

WALL & RAIL PADDING

Everything you need to protect natural turf, avoid rainouts or help safeguard against player injury.



For complete information, please call
1-800-387-5808

COVERMASTER™
COVERMASTER
COVERMASTER
MASTERS IN THE ART OF SPORTS SURFACE COVERS



VISIT OUR WEBSITE!
WEB: www.covermaster.com
E-MAIL: info@covermaster.com

COVERMASTER INC., 100 WESTMORE DR. 11-D, REXDALE, ON, M9V 5C3
TEL 416-745-1811 FAX 416-74-COVER (742-6837)