

Is there *Poa supina* in your field's future?

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Introduction

Athletic field managers in the northern U.S. often have difficulty maintaining turf cover on fields due to extensive use. Part of the difficulty is that cool season turf managers have not had a turfgrass ideally suited for athletic fields. In the warm season zone, bermudagrass makes an ideal turf for athletic fields due to its stoloniferous growth which allows rapid recovery from wear (the rhizomes grow and produce plants too slowly to aid much in recovery). In the cool season zone, there has not been a stoloniferous turf suited for athletic fields. In addition, the cool season turfgrasses currently used for athletic fields are not growing under optimal conditions (they may not be growing at all) during the early spring (March, April) and late fall (November, December) when soccer and football are being played. In order to have sufficient turf cover for games in late fall and the following spring, turf managers have traditionally had three options, each with its intrinsic problems: 1) Resodding, although soil matching is often difficult, resulting in poor rooting, 2) Take the field out of play and reseed, a situation which is often difficult or impossible, 3) Limit the number of events on the turf to several per season, a limitation which is unrealistic in all but a few situations. A wear tolerant, stoloniferous turfgrass, able to maintain growth in cool to cold weather after typical turfgrasses have ceased growth, has long been needed for athletic fields.

The use and development of *Poa supina* in Germany

Since the 1960's German turfgrass breeders have been breeding a grass known as *Poa supina* (1, 2). *P. supina* is a stoloniferous, wear tolerant turfgrass, native to the European Alps (3, 6). It is commonly found on cattle trails, hence its German common name "Lagerrispe" which means "where the cows lay". In the United States the common name is supina bluegrass. In Germany, supina bluegrass is commonly used on athletic fields, lawns, and golf courses (fairways, tees, and occasionally greens) (4, 5). Low seed production has been a problem with supina bluegrass. In the 1970's the first commercial cultivar, 'Supra', was routinely sprigged instead of seeded--the first application was for soccer in 1974 in Munich Stadium, home of the 1972 Olympics. In the 1980's a second variety, 'Supranova', was commercially released, with a third variety, 'Suprafox', due to be released in autumn 1996. Release of new cultivars has been slow due to the small size of the turfgrass breeding program in Germany. Fortunately in the U.S. a few private companies and the Univ. of Minnesota and Univ. Rhode Island now have fledgling breeding programs with supina bluegrass.

The advantages of *P. supina* for athletic fields are its stoloniferous growth habit and its cold weather tolerance. Its stoloniferous growth habit provides a dense turf, allows rapid recovery from damage, and results in a relatively low growing height. Its biggest disadvantages are its light green color and the high seed cost (about \$25 per pound). However, increased breeding programs should be able to improve the color (in Europe all turfgrasses are bred to be a light green) as dark colored *P. supina* plants exist in nature. Breeding for plants with improved seed yield will result in lower seed costs.

Management and Research Needs of *Poa supina*

Management needs for supina bluegrass have not been well defined due to lack of research. Current recommendations are to fertilize as for Kentucky bluegrass (1-4 lbs N per year, with an equal amount of potassium). The mowing height optimum is probably 0.5 to 1.5". Supina bluegrass may require more water than Kentucky bluegrass for optimal color and growth. Supina bluegrass seems to grow well in poorly drained areas and on heavy (clay) soils and grows well on sand based fields if irrigation is sufficient. Michigan State University has recently committed a major portion of its athletic field research program to supina bluegrass research. Field plots (about 10,000 ft² area) have been installed to study mowing height, fertility regimes, traffic tolerance, effect of soil type, variety trials, shade tolerance, sod production techniques, and ratios of supina bluegrass in mixes with Kentucky bluegrass for best establishment. Several other universities in the U.S. and Canada are also starting research programs on supina bluegrass.

Availability of *P. supina* seed and sod

In North America, Finelawn Research, Inc. (Lake Oswego, OR) is the sole company licensed by the German-based *P. supina* seed producer/breeder to market *P. supina* seed. Seed is available via Finelawn Research directly or through several licensed companies, notably Benham Chemical in Michigan and OSECO Corp. in Ontario, Canada. Sod is produced by several growers, mostly in the Midwest, and by Manderley Sod in Ontario, Canada. Sod costs are currently \$3/yard² (Canadian).

Conclusion

Poa supina, or supina bluegrass, has tremendous potential for athletic fields in the northern U.S. and Canada due to its extended growing season under cool weather and its stoloniferous growth habit. Research is needed in the areas of management practices, seeding rates, pesticide tolerance, variety testing, disease susceptibilities, traffic tolerance, and shade tolerance. Michigan State University is currently evaluating many of these needs in field plot trials planted during 1994 and 1995.

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