

2003 RUTGERS Turfgrass Proceedings



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This publication includes lecture notes of papers presented at the 2003 New Jersey Turfgrass Expo. Publication of these lectures provides a readily available source of information covering a wide range of topics and includes technical and popular presentations of importance to the turfgrass industry.

This proceedings also includes research papers that contain original research findings and reviews of selected subjects in turfgrass science. These papers are presented primarily to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

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Dr. Ann Brooks Gould, Editor
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POTENTIAL OF *POA ANGUSTIFOLIA* L. AS A LOW- TO MEDIUM-LOW MAINTENANCE TURFGRASS

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Poa angustifolia L., referred to in Great Britain as narrow-leaved meadow grass, is considered by various taxonomists as (a) a variant form of Kentucky bluegrass (*P. pratensis* L.), which is referred to as smooth meadow grass in England, (b) a subspecies of *P. pratensis*, or (c) a separate species. It can be distinguished from Kentucky bluegrass by its narrower and mostly stiffer lower leaf-blades and usually smaller spikelets. In growth habit, habitat, narrow leaf blades, and appearance in mowed or grazed turfs, it closely resembles strong creeping red fescue (*Festuca rubra* L. subsp. *rubra*), which, however, has awned lemmas. It is of common occurrence in England on rough hill-grassland, especially on limestone soils, and in poor thin grassland on sandy and gravelly soils (Hubbard, 1984). It is also widespread in Europe and Southwest and Central Asia. We have also found attractive plants growing in old low- to medium-low maintenance turfs throughout the United States and Poland where Kentucky bluegrasses and fine fescues are adapted. Many of these plants have spread to produce dense, slender-leaved patches frequently exceeding 1 m in diameter. They normally are of significantly greater density than surrounding turfs of Kentucky bluegrass. They are frequently difficult to distinguish from a fine fescue without close examination.

Plants showing promise have been collected and evaluated by turfgrass scientists at Rutgers University and elsewhere. Levels of facultative apomixis similar to that observed in Kentucky bluegrass have been observed, and many hybrids with turf-type Kentucky bluegrasses have been obtained. Some of the most promising hybrids are performing well in turf trials at Adelphia and North Brunswick. The best exhibit excellent turf density and drought tolerance.

A strong effort to collect, evaluate, enhance, and utilize *P. angustifolia* for turf and soil conservation should be encouraged. Significant emphasis should be in breeding for higher levels of resistance to the leaf spot and melting-out disease caused by *Drechslera poae* (Baudys) Shoemaker and red thread incited by *Laetisaria fuciformis* (Mc Alpine) Burdsall. Leaf spot diseases are most serious in cloudy, humid climates and are most devastating on narrow-leaved bluegrasses because a single lesion can girdle the leaf blade reducing photosynthesis and carbohydrate food reserves. These are also the most serious diseases on the upright, narrow-leaved common types of Kentucky bluegrass. Many selections of *P. angustifolia* show the high level of susceptibility to red thread exhibited by most cultivars of strong-creeping red fescues. Interestingly, this disease is mostly found on dense plants growing in full sun where competition between tillers becomes intense for available soil fertility. The red thread disease is seldom observed under shade, possibly due to a less dense turf.

Improved cultivars might be valuable for low-maintenance turfs similar to those where strong creeping red fescue is recommended. They could also prove exceptionally useful in hybridization programs with Kentucky bluegrass.

REFERENCES

- Hubbard, C.E. 1984. Grasses - A guide to their structure, identification, uses, and distribution in the British Isles, 3rd edition. Revised by J.C.E. Hubbard, Penguin Books, Ltd., Middlesex, England.

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