

DEVELOPMENT OF IMPROVED RED FESCUE VARIETIES FOR SOD  
PRODUCTION AND NEW KENTUCKY BLUEGRASS VARIETIES FOR THE SOD INDUSTRY

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The turfgrass industry in the cool humid regions of the United States is in need of an improved shade tolerant turfgrass cultivar. Excellent cultivars are available and more are being produced each year for growing in full sunlight.

The problem may be approached in either of two ways. One may be to work with sun loving species such as Poa pratensis and attempt to isolate varieties which are tolerant to shade. The second approach is to attempt to upgrade a good shade species such as Festuca rubra to levels of excellence.

The Turfgrass breeding program at Michigan State University has been designed to attempt to develop improved cultivars of red fescue. In addition to having tolerance to shade, this species possesses a higher level of drought tolerance than most other cool season species. Inasmuch as supplies of water for turfgrass irrigation are going to be more, rather than less limited in the future, this emerges as an important character. Red fescue thrives on a lower level of nutrients than most other turfgrasses, therefore, possessing a significant economic factor. This species has excellent appearance when it is in good stand and well maintained. In addition, it is a large seeded species which is relatively easy to establish. The greatest shortcoming of red fescue is the fact that it is susceptible to Helminthosporium leaf spot which prevails at some time during practically every growing season. This results in extremely poor appearance and economical fungicidal control measures are not available. In extreme cases, this disease progresses beyond the leaf spotting stage to cause a severe melting out of the stand.

Since the progress on the Red Fescue Breeding Project at Michigan State University has been reported in a preceding paper at this conference (see morning session, January 19) the details of the breeding procedure and present status will not be repeated here. For sod production, however, two additional characters are needed. The first is a spreading habit which will allow the seeding to knit together relatively quickly so that the turf, when grown in solid stands, may be lifted in considerably less time than is required with the currently available cultivars. The second character needed is that of transplanting capability. The experience of most sod growers has been that the greatest and sometimes the only success in transplanting pure fescue sod is achieved during a limited time in early summer. While a portion of this problem may be overcome by additional research and management practices, it is felt that a breeding program can contribute the ability to produce rooting systems under high temperatures which would increase the establishment capability of the species during the warmer periods of the growing season.

As reported in the paper referred to above, progress is being made in isolating rhizomatous plants and an inoculation technique has been developed which has resulted in the isolation of a number of plants which appear to have high levels of resistance to leaf spot.

The following tables provide information on bluegrass varieties which have been tested at Michigan State University.

Selected Kentucky Bluegrass Variety Appearance Ratings  
East Lansing, Michigan

1 - Excellent    9 - Very Poor

	<u>Upland Soil</u>			<u>Muck Soil</u>		<u>Snow</u> <u>Mold %</u>
	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1970</u>	<u>1971</u>	<u>1971</u>
Nugget	1.9	1.9	2.5	3.2	1.2	7
Merion	2.3	2.5	2.8	2.6	1.7	23
Fylking	2.9	3.1	3.3	3.2	3.9	48
Pennstar	2.7	3.1	2.9	3.3	2.6	33
Newport	2.3	3.8	3.9	3.3	4.9	47
Windsor	3.9	4.5	4.1	3.3	3.6	38
Park	4.0	4.8	4.8	3.6	3.4	75
Kenblue	3.4	5.3	4.3	3.9	5.6	95
Delta	3.8	5.8	5.9	4.1	3.9	23
So. Dak. Cert.	4.9	7.0	6.6	4.6	4.5	97
Baron	---	---	1.9	2.7	1.9	10
Sydsport	---	---	2.4	2.2	2.8	73