

Winter Protection. Investigations at M. S. U. during the winters of 1968-69 and 1970-71 indicated that several materials can be effectively utilized as winter protection covers. Included were the Conwed Winter Protection Cover, Soil Retention Mat, Saran Shade (94%), and topdressing. The first three had superior performance in terms of desiccation prevention, low temperature insulation, and controlled early spring greenup. The topdressing practice is primarily effective in preventing winter desiccation.

During the winter of 1970-71 a range of topdressing rates were evaluated. Included in the test were rates of 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, and 0.8 cubic yards per 1000 square feet. The soil was applied uniformly to the experimental area but not matted in. The study was conducted on 5 x 8 foot plots with three replications. Observations made during the winter and early spring period revealed the 0.3 to 0.4 cubic yard per 1000 square feet rate to be preferred in terms of protecting against winter desiccation without leaving an objectionable amount of soil on the surface which restricted spring greenup. It should be pointed out that the practice of topdressing is primarily effective in preventing winter desiccation and has no effect in reducing snow mold. Thus, it is important to apply the appropriate snow mold fungicide prior to making the topdressing application in late fall.

STOP 5

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Fine Leaved Fescued Variety Evaluations

The red and chewings fescues are best adapted to shaded sites and droughty, sandy soils maintained at a minimal nitrogen fertility and irrigation level. Forty-five fine leaf fescue varieties were established September 13, 1968, for comparative evaluation under lawn-turf conditions. The plot size is 5 x 8 feet with 3 replications. The experimental area is cut at a height of 1.2 inches twice per week with clippings returned. Irrigation is supplied as needed to prevent wilt. A split-plot nitrogen application has been made across the plots at rates of 2 and 4 lbs nitrogen per 1000 square feet per year. No fungicides or herbicides have been applied to the experimental area since establishment.

C-26, a hard fescue has consistently ranked highest under conditions of this experiment (Table 5). This high level of performance can be contributed primarily to a higher level of Helminthosporium leaf spot resistance compared to the red and chewings fescues included in this study. Among the red fescues, which have a more creeping growth habit, Bergere, Brabantia, Arctared and S-59 have all ranked higher than Pennlawn red fescue.

TABLE 5. 1970 FINE LEAF FESCUE VARIETY EVALUATIONS.
East Lansing, Michigan

Variety	<u>Festuca</u> species	Visual Turfgrass Quality Rating (1-Best; 9-Poorest)*
C-26	hard	2.6
Golfrood	chewings	2.7
Oregon K	red	2.8
Wintergreen	chewings	2.8
Bergere	red	2.8
Dawson	chewings	2.9
Barfalla	chewings	3.0
Brabantia	red	3.0
Highlight	chewings	3.1
Arctared	red	3.1
Jamestown	chewings	3.2
Erika	chewings	3.3
Oregon D	red	3.3
Sceempter	red	3.4
S-59	red	3.4
Pennlawn	red	3.5
Reptans	red	3.5
Tjelvar	red	3.6
Ruby	red	3.6
Polar	chewings	3.7
BL-127	chewings	3.8
Casis	chewings	3.8
Cascade	chewings	3.9
Dura turf	red	4.0
Rubin	red	4.1
Illahee	red	4.2
Steinacher	red	4.2
Common	chewings	4.3
Boreal	red	4.3
Bargena	red	4.4
Elco	red	4.6
Rainier	red	4.7
Olds	red	4.7
Echo	red	5.0
Cottage	red	5.1

*Average of eight seasonal ratings.

The chewings fescues, those possessing a minimal creeping growth habit, that have ranked above Pennlawn include Golfrood, Wintergreen, Dawson, Barfalla, Highlight, Jamestown, and Erika. Thus, there are now a number of chewings and red fescues that are ranking above Pennlawn in general performance. Of these, only C-26, Golfrood, Wintergreen, Highlight, and Jamestown are available commercially in North America. Several of these have been in seed production for only a limited period of time.

Although there are a number of improved red and chewings fescues now available, none yet possess adequate levels of Helminthosporium leaf spot resistance to provide satisfactory lawns in monostands. However, some plant materials recently incorporated into the red fescue breeding program at M. S. U. show promise as being superior in terms of this characteristic as well as in creeping habit for good sod strength. Until these superior varieties are adequately tested and seed supplies are increased to levels where commercial marketing can be achieved, the best alternate practice is to blend several fine leaf fescues in order to take advantage of some of the preferred characteristics in each. Blending of Kentucky bluegrass varieties has proven desirable since no one variety has all the superior characteristics desired. Until recently, it has not been feasible to blend varieties of red fescue because of the lack of improved varieties available for use in the blend. However, a number of fine leaf fescue varieties are now available and can be combined in a blend to provide a wider genetic base in terms of adaptation and tolerance to turfgrass pests.

STOP 6

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Kentucky Bluegrass Variety and Blend Evaluations

Kentucky bluegrass is best adapted to unshaded sites and moist, well-drained soils having a pH near neutral and a medium to high intensity of culture. Sixty-six Kentucky bluegrass varieties were planted September 13, 1968, in 4 x 6 foot plots with three replications. The experimental area is mowed twice a week at 1.2 inches with clippings returned. The area is irrigated as needed to prevent wilt. Sub-plot nitrogen treatments are made across the plots at 3 and 6 lbs of nitrogen per 1000 square feet per growing season. No herbicides or fungicides have been applied to the experimental area during the 1970 growing season.

The 1970 evaluations for 26 commercially available Kentucky bluegrass varieties are included in Table 6. Nugget ranks superior to all other Kentucky bluegrass varieties included in this test, primarily because of superior resistance to both Helminthosporium leaf spot and snow mold. Other varieties, in order of ranking, that were generally satisfactory during the 1969-70 season include Baron, Merion, A-34, Sodco, A-20, Fylking, Pennstar and A-10. Varieties which ranked decidedly inferior included South Dakota