Landscape Manager's Guide to:

Fine Fescues

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Fine fescues are an under-utilized, often ignored group of grasses that have great diversity and much greater turfgrass potential than generally recognized.

They are basically cool-season grasses, but they are found growing readily throughout much of the temperate region of our continent, from the mountains of New Mexico and coastal marshes of Georgia to the colder regions of our hemisphere.

Creeping red fescue seed from the Pacific Northwest, Canada and Europe, and Chewings fescue from New Zealand and the Northwest have been marketed since the 1940's. A Rhode Island Agricultural Experiment Station lawn seed mixture, formulated in the 1930's, listed Chewings and creeping red fescues as a major ingredient.

Attributes

The improved fine fescues, as a group, have many remarkable attributes that make them first-rate lawn grasses. In general usage they are used in mixtures with other grasses, such as Kentucky bluegrass, perennial ryegrass or bentgrasses. They produce beautiful turf in pure stands but their versatility and desirable attributes may be enhanced in mixtures.

The versatility of general seed mixtures containing fine fescue is greatly broadened because of the wide adaptability of the species. Fine fescues will tolerate a wide range of

Chewings fescue survives shade *where Kentucky bluegrass in home lawn failed. Extensive rhizomes in older creeping red fescue plants prove its spreading nature. (See inset)*

light conditions, from full sun to fairly dense shade. They grow well on soils too light and sandy, infertile and acidic, for most cool-season lawn grasses and grow even better on good soils. They tolerate dry soils but do poorly on wet soils. They perform well on roadsides with infrequent high mowing yet some of them will perform well on golf course fairways at a height of 1/2 to 3/4 inches.

Under turf conditions, fine fescues are of delicate texture. They can form dense stands with brilliant shades of green and, because of texture and color, they also blend well with most other cool-season grasses.

Seed of fine fescue is of medium size, ranging from 500,000 to 800,000 seeds per pound. They are small enough to be a bargain by the pound yet large enough to pack sufficient reserves for good seedling vigor.

Germination of fine fescue seed, under favorable soil temperature, requires from 5 to 12 days, almost as rapid as perennial ryegrass. This is a significant plus when used in mixtures with slower establishing Kentucky bluegrass. Because of the very fine leaf texture of these grasses, they are not overly competitive in the seedling stage.

Fine fescue seed for domestic use is currently grown primarily in the Pacific Northwest and in the Canadian Provinces of Alberta and British Colombia. The improved varieties currently being marketed are grown almost exclusively in the U.S. Pacific Northwest.

Improvement in 60's

The first significantly improved turfgrass was Merion Kentucky bluegrass, released in the 1950's. Improved fine fescues did not appear until in the late 1960's.

Fine fescue trials containing 23 cultivars were established at the Rhode Island station in 1968. Results obtained over the next five years clearly demonstrated genetic improvement over any material commercially available at that time.

Common Chewings fescue such as Cascade and the Pennlawn variety of creeping red fescue were the best materials available during the 1960's. Astonishing differences were noted between these standards and some of the new cultivars included in those 1968 trials.

Table 2 contains quality score data from three Rhode Island trials. It is interesting, and important, to note that the improvement occurred with Chewings and hard fescue and not with creeping or spreading types. Note also that many of the cultivars performed as well in these trials at a 3/4-inch cutting height as they did at 1 1/2 inches.

These were irrigated trials receiving 2-3 pounds of nitrogen per 1,000 square feet annually. The three trials encompassed a period of 15 years. The 53 varieties listed are only some of those tested and those with experimental designation were not included in Table 2.

We currently have a single trial, established in 1983, that includes 85 named and experimental cultivars of fine fescue. This is an indication of the increasing interest among plant breeders and demonstrates a strong feeling for the potential of these grasses.

Because of the heterozygous nature of the fescues it is possible to observe greater differences within a variety than between varieties. Under turf conditions, it is often difficult to see clear-cut differences among many varieties at any given time. Differences in cultivar performance throughout season and over a period of years can be documented.

Creeping and spreading fescues are generally coarser than the other fescues and are capable of greater lateral growth through the production of short rhizomes. Stands tend to be more open than with Chewings or hard fescue.

Improved Chewings and hard fescues develop dense stands through the production of numerous basal tillers. Hard fescue often has a slightly duller hue than Chewings but may hold its color through periods of high summer temperatures better than other grasses. Hard fescue also seems to be more tolerant of high salt concentrations in the soil than creeping, spreading or Chewings fescues.

Seed production of hard and sheeps fescue has been more difficult and costly than with Chewings or creeping red fescue, thus making seed more expensive. Efforts are underway to minimize this added cost.

Sheep's fescue, Pseudovina and

TABLE 1

Characteristics of Fine Fescues

Type	Species	Height	Spread	Leaf Texture	Chromo. No.	Hour of flower	Typical Varieties	Color
Chewings	*F. rubra* L. subsp. *commutata* Gaud.	low	v. little	fine	42	6 a.m.	Highlight Jamestown Banner	lt. green dk. green med. green
Creeping	*F. rubra* L. subsp. *trichophylla* Gaud.	med.	little	med.	42	2-4 p.m.	Dawson Golfrood	med. green lt. green
Spreading	*F. rubra* L. subsp. *rubra*	mod. tall	good	broader (like Ky. bluebrass)	56	3-5 p.m.	Fortress Ruby Boreal	dk. green dk. green dk. green
Hard	*F. longifolia* Thuill.	low	v. little	fine	42	6-8 a.m.	C-26	dk. green
Sheeps	*F. ovina* L.	low	v. little	wiry	28,42	12 noon	none available	blue-green
Pseudo-vina	*F. pseudovina*	low	v. little	f. wiry			Vendome	v. lt. green
Fine-leaved sheeps	*F. tenuifolia* Sibth.	low	v. little	v. fine	14		Barok	lt. green

Compiled by R.W. Duell and R.M. Schmit, Soils and Crops Dept., Cook College, Rutgers University, 1974.

TABLE 2

Turf Quality Scores of Fine Fescues in Three Regional Trials at the Rhode Island Agricultural Experiment Station from 1969 - 1982

Selection and Type	1968 Trial[1] 5 Yr Mean 3/4" cut	1 1/2" cut	1972 Trial[1] 4 Yr Mean 3/4" cut	1 1/2" cut	1977 Trial[1] 5 Yr Mean 1 1/2" cut
Jamestown - C[2]	7.0	6.6	5.3	5.8	5.9
Atlanta - C	6.7	5.8	—	—	—
Koket - C	6.1	5.8	3.8	5.1	5.8
Biljart - H	5.8	5.5	—	—	6.7
Barfalla - C	6.0	5.4	5.8	5.1	5.8
Halifax - C	5.3	5.4	—	—	—
Erika - C	5.8	5.3	—	—	—
Cascade - C	4.5	4.9	—	—	—
Highlight - C	5.5	4.9	5.2	5.2	6.1
Pennlawn - CR	4.7	4.4	4.2	3.6	—
Chewings - C	4.1	4.3	—	—	—
Oasis - C	4.2	3.9	—	—	—
Oregon D - C	3.4	3.6	—	—	—
Barbantia - C	4.5	3.5	—	—	—
Wintergreen - C	4.2	3.4	—	—	—
Bargena - CR	3.1	3.1	—	—	—
Tjelvar	3.1	3.1	—	—	—
Agio - CR	2.3	3.0	—	—	—
Novorubra - CR	2.4	2.8	3.4	3.4	—
Ruby - CR	3.3	2.8	—	—	—
Barenza - S	2.1	2.2	—	—	—
Durlawn - CR	—	—	3.2	4.0	—
Jade - C	—	—	5.3	6.3	6.4
Barok - S	—	—	2.9	3.4	—
Menuet - C	—	—	6.1	6.7	6.4
Encota - C	—	—	4.4	4.6	5.3
Flavo - C	—	—	4.0	4.3	—
Banner - C	—	—	6.8	6.0	5.8
Oregon K - C	—	—	5.1	5.5	—
Dawson - CR	—	—	3.8	5.1	—
Scaldis - H	—	—	4.0	4.5	6.2
Waldorf - C	—	—	5.1	5.5	6.5
Scarlet - C	—	—	3.4	6.2	—
Roda - CR	—	—	3.8	2.7	—
Boreal - CR	—	—	3.0	3.4	—
Duraturf - CR	—	—	3.1	4.0	—
Polar - C	—	—	5.6	4.0	5.5
Ilona - C	—	—	—	—	6.2
Famosa - C	—	—	—	—	5.9
Agram - C	—	—	—	—	6.4
Grel - C	—	—	—	—	6.1
Sonnet - CR	—	—	—	—	4.9
Kensington - CR	—	—	—	—	5.0
Silyana - H	—	—	—	—	6.6
Waldina - H	—	—	—	—	7.2
Tournament - H	—	—	—	—	5.4
Engina - CR	—	—	—	—	2.7
Enzet - CR	—	—	—	—	3.3
Gracia - CR	—	—	—	—	4.1
Reneva - S	—	—	—	—	4.3
Reptans - CR	—	—	—	—	3.6
Creeping Red - CR	—	—	—	—	3.7
Ensylva - CR	—	—	—	—	5.2

1 Scoring system used is 9 for perfect quality and 1 for dead turf or bare ground.
2 C = Chewings, CR = Creeping Red, H = Hard, S = fine-leaved sheep's.

fine-leaved sheep's fescue, although adapted to extremely difficult and infertile conditions, tend to provide a more clumpy turf of less attractive color. Great varietal improvement still has not occurred, but there is promise for these materials in particularly difficult or infertile situations such as reclaimed lands.

Seeding and establishment

In mixtures with Kentucky bluegrass and/or perennial ryegrass, as much as 50% creeping or spreading fescues by weight appears proper. With Chewings or hard fescues, 20% is often adequate as these grasses become much more competitive. Greater amouunts of fescue seed may be used for shade mixes.

Methods of establishment are similar to those for most turf grasses. Seedlings respond well to establishment fertilizer.

Maintenance

The fine fescues generally mow cleanly and require less management when mowed at heights above one inch than when cut to lower heights. During periods of heat or drought stress, the grasses mow less cleanly and stand appearance may decrease in quality.

Improved varieties are similar to modern Kentucky bluegrasses in their response to heat, dryness and cold. They may go into semi-dormancy during periods of summer or winter stress, but recover readily when growing conditions improve.

The fescues are tolerant of normal summer heat, if moisture is available, and they are extremely winter hardy. Improved varieties hold their color into the winter and are among the earliest of turf grasses to green-up and resume growth in late winter and early spring.

Fine fescues will tolerate drought and persist on much drier soils than will most other cool-season turf grasses. This is a valuable attribute in a time when water is becoming more precious.

Fine fescues are among the most shade tolerant of our lawn grasses but they do not persist long on wet soils whether in sun or shade. When grown in the shade, cutting height should be above two inches and stands should not be fertilized during the warmer months. In fact, feeding once a year, during September or October may be adequate and even optimum for fescues grown in the shade.

Fertility requirements of the fine fescues in all locations are minimal. Once established, one to three pounds

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of nitrogen per 1,000 square feet annually is normally adequate for good growth and color. Fertilizers are best applied during cooler periods of spring or fall.

These grasses remain healthier and more stress tolerant during summer months when they are somewhat hungry. Summer feeding creates a soft or lush condition that makes the grass much more disease susceptible.

TABLE 3
Available Fine Fescues

	Variety	Producer	Circle No.
Creeping Red	Dawson	Northrup King	190
	Flyer	Turf Seed	192
	Ensylva	International Seed	191
	Fortress	Turf Seed	192
	Pennlawn	public	000
	Ruby	Northrup King	190
Chewings	Agram	Pickseed	193
	Atlanta	Northrup King	190
	Banner	Scotts	194
	Highlight	International Seed	191
	Jamestown	Lofts	195
	Koket	Burlingham	196
	Shadow	Turf Seed	192
	Waldorf	Pioneer Hi-Bred	197
Hard and Sheeps	Aurora Hard	Turf Seed	192
	Azay Sheeps	Pickseed	193
	Biljart Hard	Scotts	194
	Reliant Hard	Lofts	195
	Scaldis Hard	Northrup King	190
	Tournament Hard	Pickseed	193
	Waldina Hard	Turf Seed	192

While these fescues are fairly resistant to many lawn diseases, they are most frequently injured by red thread or pink patch and leaf spot. Red thread or pink patch are more serious when fescues are underfed and leafspot may be more serious when the turf is over-fertilized. A modest, but not excessive and properly timed fertilizer program provides the best insurance against serious disease problem.

The fine fescues are subject to injury by all of the normal turfgrass insects: including beetle grubs, chinch bugs, sod webworms and cut worms.

Since the most improved of the group are Chewings and hard fescues which do not spread by rhizomes, insect injury can be serious. Damaged areas are very obvious and recovery is slow. This is one reason why fescues are best mixed with sod-forming grasses such as Kentucky bluegrass.

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If a lawn consists primarily of fine fescue it is important to apply an insecticide at the first sign of damaging insect activity. These fescues are tolerant to most commonly used pesticides. No reports of serious injury with judicious pesticide usage have come to my attention.

Special uses

With the advent of improved varieties, use of fine fescues has increased greatly. Sod growers throughout New England have been adding up to 10% Chewings fescue to their Kentucky bluegrass blends. They find that the presence of the fescue widens the adaptation range (sun, shade, poor soils, low maintenance) of their product. Their customers increasingly are requesting sod containing some fine fescue.

Sod growers and users find other values of including fescues as well. Quick seed germination makes fine fescues useful as a nurse grass for other turf species and provides more rapid protection from soil erosion following seeding.

Research at the University of Rhode Island has also shown that sod roots faster after harvest when it contains fine fescue than when it is pure Kentucky bluegrass. This ability can be significant. When establishing research trials with putting green grasses at the Rhode Island Turfgrass Research Farm during the past 10-12 years, we have often seeded Chewings fescue with creeping and velvet bentgrasses.

By seeding one to four pounds of Jamestown Chewings per 1,000 square feet with the usual one pound of bentgrass, we have brought the greens into play faster and have seen no adverse effects.

As the bentgrass develops and matures the fescue slowly disappears. With weak bentgrasses, however, we have found that the fescue can persist even at 3/16 -1/4-inch cut and, in some of our trials, fescue has persisted for over ten years.

The fine fescues, particularly Chewings, are also suggested for emergency seeding of damaged greens. Seeding at the rate of 20 to 25 pounds per 1,000 square feet, in conjunction with a normal rate of a seeded bentgrass, has proven effective. Because of their rapid establishment rate and good, short-term, tolerance to close mowing the fescues have served this purpose well.

Fine fescues have been used for years, often in mixture with perennial ryegrass, for overseeding Bermudagrass putting greens, tees and lawns in the South. Improved cultivars of Chewings fescue have found particular favor and often constitute from 20 to 35 percent of an overseeding mixture with fine-textured, perennial ryegrass. Under dry winter conditions the fescues have made a special contribution. Mixtures of fine fescue and perennial ryegrass are often seeded at rates from 25 to 35 pounds per 1,000 square feet on greens and at 20 pounds on tees and lawns.

Progress has been made in developing fine fescues for turfgrass use. Improved cultivars of Chewings and hard fescue are available from many sources. Although markedly improved creeping or spreading fescues have not been developed, work is in progress and the potential is great.

In summary, fine fescues are a basic component of North American fine turf. Selection and breeding have and will continue to make these among the most versatile and useful of the turfgrasses. **WT&T**