

Lawngrass Extraordinary

FINE FESCUES



Individual plants of fine fescue are from the left Pennlawn, Wintergreen and Highlight. In these samples, Wintergreen displays a prominent rhizome, Highlight almost none. Lawn Institute photo.

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THE FINE or red fescues, *Festuca rubra*, in many varieties and subspecies, is circumboreale today but probably of European origin. Fine fescue is one of the two major lawngrasses utilized generally for fine turf in North America and Europe, where the custom of having ornamental home lawns has become so widely perfected. Fine fescues are especially noted for their attractiveness and tenacity where growing is difficult, such as on poor soil, in dry locations, and under shade. They make an excellent companion for Kentucky bluegrass in the seed blends used for lawns from the border states northward in the United States.

The fescue group is a confusing one, the distinctiveness even of species often being based upon obscure characteristics. It is not at all strange, then, that variety identification becomes all but impossible for anyone but the expert. Varieties are distinguished mostly by physiological response and resistance to disease, rather than by distinctive visual features. The species spreads by underground stems or rhizomes,

but the Chewings type (*F. rubra commutata*, = *F. r. fallax*) is theoretically a bunchgrass. However, all cultivars seem to yield plants that have at least a degree of the rhizoming habit. Whether an individual plant grows in tufts or spreads by rhizomes may be more a response to habitat than to genetic makeup! There is little doubt that widespread crossing occurs between varieties throughout the world, and many cultivars no doubt contain both "creeping red" and "Chewings" blood lines.

In North America, fine fescues are listed by Hitchcock as endemic in all except a few of the prairie states and those bordering the Gulf of Mexico. They are very much at home in the more northerly regions, and volunteer widely in western Canada. *Festuca rubra* usually resents waterlogged soil in hot weather, but ecotypes are found in marshy habitat both in northern Europe and many parts of North America (viz., according to Hitchcock, "meadows, hills, bogs and marshes in the cooler parts of the northern hemisphere, extending south — to the San Ber-

nardino mountains — New Mexico — the Allegheny mountains and the Atlantic coastal marshes to Georgia.").

Chewings fescue, was for many years exported to the United States from New Zealand, but shipping difficulties and inability to maintain high standards of quality helped switch seed production to Oregon where most Chewings is now grown. An Oregon selection of Chewings is known as Cascade.

Fine Fescue Traits

The fine fescues have many attributes marking them as top lawngrasses. The foliage is of an attractive, delicate texture, yet dense enough to restrain weeds well; its color is a lustrous dark green that blends beautifully with most bluegrasses. The leaves themselves are rather wiry and resilient; leaf margins are generally rolled inward giving a curled appearance to the leaf in cross section, especially during dry weather. The leaf sheaths are fibrous, reddish, persistent, a good distinguishing feature helping to identify fine fescue in a mixed turf.

Rhizome spread is not so manifest as with bluegrass, but most varieties expand well to fill-in scarred sod. Seedheads are produced early in summer, but are seldom much in evidence with plants crowded into a lawn. The grass is a little more fibrous than is bluegrass, and should be mowed with equipment kept sharp and in good adjustment.

It is apparent that fine fescues adapt widely, although their turf quality is not the best in hot-humid climates. They are very tolerant of soils, thriving on everything from peaty bogs to near sands and on infertile, rocky mountain sides. As to fertility, they can take it or leave it. Tests confirm that fescues have a better color and appearance when well fertilized, but seldom is it necessary to use more than two or three pounds elemental nitrogen (N) per 1,000 sq. ft. (M) annually, — considerably less than with most lawn species. As with bluegrass, fertilization is best practiced during the cooler parts of the year. Fine fescues are good insurance in a seed mixture for lawns that cannot be intensively tended; they usually survive where lesser grasses won't, — in sandy, wind-swept spots, for example, or on dry, infertile parts of the lawn. They persist in shade where competition with tree roots is often too much for other grasses. Obviously, fine fescues are excellent, low-maintenance grasses, self-sufficient and recuperative.

Fine fescues are quite tolerant to cold (seedlings, of course, may heave in winter, decimation then being more from desiccation than from low temperature). In northern Michigan, Highlight, Pennlawn and Chewings varieties showed the least winterkill in recent tests, and even so far north as Alaska (where many turfgrasses do suffer winter injury) tolerant fine fescues have been found (Arctared, Table 1, is being tested as a possible commercial introduction).

Growth Pattern

Fine fescues follow essentially the Kentucky bluegrass growth cycle. The grass builds up food during cooler weather, becoming dense through proliferation of new tillers, and spreading to a greater or lesser extent by rhizomes. If fertilized in autumn, fescue turf is essentially resplendent the following spring, beautifully thick, of deep color, and with an elegant texture. During summer, fine fescues may experience thinning and become patchy, especially if the weather is hot and muggy, the soil saturated. Die-out is usually blamed on "disease," but

seems more a reflection of physiological weakening. Nevertheless, fescues are attacked by several diseases, of which leafspot (*Helminthosporium*) is serious as weather warms, and redthread (*Corticium*) and snowmold (*Typhula*, *Fusarium*, etc.) more active in cooler weather and winter. Where summer weather encourages patchiness, fine fescues are usually blended with Kentucky bluegrass. Sparing use of fertilizer during the warm season should also help withstand disease. High mowing (1½ inches or more) aids survival, yet in equable climates such as England fine fescue can be mowed as low as is a bentgrass. Winterseedings of golf greens in the South with mixtures containing fine fescue also survive for the season mowed at one quarter inch.

Maintenance

Maintenance requirements are not onerous with the fine fescues. Rather casual fertilization often suffices, a pound or two of N/M keeping the grass reasonably attractive. Up to 6 lbs. N have been used with spectacular results so far as color and density are concerned, but only in northerly locations where summer problems are not serious. As with any grass, fertilization should be matched to the soil, keeping in mind that by-and-large fine fescue gets by with half or less the amount of fertilizer recommended for elite bluegrasses, bentgrasses and bermudagrasses.

With so drought-tolerant a grass, irrigation is seldom vital, but as for any well-kept turf is needed during periods of drought in order to hold the grass green. Be especially careful with fine fescue not to over-water, something that can prove disastrous on poorly drained soils in warm weather.

Because of their density and tenacity, fine fescues remain relatively free of weeds without much attention. There is even a hint that they inhibit the sprouting of weed seeds; weed seedlings may have difficulty gaining a toehold. When weeds do occur, fine fescue is reasonably tolerant of the conventional herbicides. Phenoxy materials used at recommended rates free fescue from most broadleaf weeds without injury. Fine fescue is a little less tolerant to some pre-emergence crabgrass preventers than is bluegrass, damage having been reported from bandane, benefin and DCPA; on the other hand, if kept on the dry side, and used as shade grass (as often is the case), there will not be much crabgrass

BOOK REVIEWS

THE PLANT KINGDOM by Ian Tribe, The Rowland Co., Inc., 415 Madison Ave., New York, N.Y. 10017.

What is a plant? The answer is not so simple, according to Dan Tribe, author of *Plant Kingdom*, one of the interesting and informative books in the new Grosset & Dunlap series of all-color guides. "It's easy to say that a plant is green, has stems, roots and leaves," he says. But numerous exceptions can be found. Some plants are yellow, brown or red. And roots and leaves do not appear as such in the lower order of plants. The author breaks down the vast membership of some 300,000 recognized members or species into major groupings. Among these are algae, mosses and flowering plants. Next he considers the plant as a living organism which grows and reproduces itself. The amazing solutions to living within the plant kingdom rival in interest and variety anything that can be said about animals, Tribe asserts. The book has 410 color illustrations.

TURF MANAGEMENT HANDBOOK by Howard B. Sprague, former executive secretary of the Agricultural Board of the National Research Council, National Academy of Sciences. Interstate Printers & Publishers, Inc., Danville, Ill. 61832. \$9.25

This book is a practical guide to turf culture, explaining the life processes involved, and describing the specific grasses, materials, equipment and procedures that have been found to produce desirable results with a minimum of effort and expense. Here are the chapter subjects: (1) Basic information; (2) Soil conditions for healthy turf; (3) Soil acidity and liming to correct it; (4) Practical use of fertilizers on turf; (5) Soil humus and grass management; (6) How grasses grow; (7) Characteristics of turf grasses for cooler regions; (8) Characteristics of turf grasses for warmer regions; (9) Planting new turf; (10) Regular care of turf; (11) Special turf problems and renovating poor turf; (12) Controlling weeds; (13) Controlling diseases; (14) Controlling insects and other pests; (15) Seasonal schedules for management of turf areas. The book has 258 pages and numerous illustrations.



A partially separated plug of fine fescue mowed about 1 3/4" high. Note dense growth of tillers, fine texture, and persistent leaf sheaths. Lawn Institute photo.

competition in any event. At the Lawn Institute, fine fescue has been singularly free of coarse species, seeming in time to "squeeze out" tall fescue, timothy, and even quackgrass.

Fine fescues are tolerant of the familiar insecticides and fungicides. Sod webworms, chinch bugs, and other insects, can be controlled with most any insecticide approved for household use, if applied as directed. At the Lawn Institute, there has been little need for or benefit from fungicide applications, but reports indicate that persistent application of a fungicide may help prevent summer thinning. Named fescue cultivars being bred today are at last in part selected for some immunity to disease.

Propagation

Fine fescue is propagated almost exclusively by seed. Consumption of fine fescue seed in the United States reaches almost 30 million pounds, about half imported. Most domestic seed is sold as named varieties, generally preferred because of pedigree and because it is carefully grown as an agricultural crop rather than simply harvested from volunteer stands (as is often the case in western Canada).

Fine fescue seed is of medium size, abundant enough by the pound to be quite a bargain (over a half million seeds to the pound, yet large enough to distribute easily and carry sufficient nutrients for excellent seedling vigor. Fescue included in a bluegrass blend sprouts somewhat ahead of the bluegrass, and is really a superior "nursegrass" to some of the temporary grasses that contribute nothing to the eventual sod. Domestic seed is mostly cleaned up to a high level of purity, and is free of pernicious

weeds or coarse crop species. On the modern label fine fescue joins bluegrass and bentgrass in the "fine-texture" category, in such varieties as are listed in Table 1 at the end of this article.

Fescue is usually sowed 3 or 4 lbs./M alone, or 2-3 lbs./M in mixtures with bluegrass. The seed distributes very nicely in modern lawn spreaders. If the weather remains warm and the new seeding is well watered, fescue should be visible in about a week. A mulch is recommended over new seedings to prevent drying out, ensuring more rapid germination. Recent studies by Dr. Wood at the University of Vermont indicate that fine fescue tops the list of grasses tested for seedling tolerance to drought. The variety Golfrood was especially noteworthy in the data reported.

Table 1. Fine fescues commercially available or expected soon in North America.

Arctared	Illahee
Boreal*	Jamestown
Cascade	Olds*
Chewings**	Pennlawn
Duraturf*	Rainier
Golfrood**	Ruby**
Highlight**	Wintergreen

* Canadian
** European origination

Table 2. European fine fescue selections still under test, or not available in the United States.

Barfella, Bargena, Bergere, Brabantia, Cottage, Dawson, Echo, Elco, Erika, Oasis, Polar, Reptans, Rubin, S-59, Sceempter, Steinacher, Tjelvar, various selections known by code numbers only (including a number of American selections).

Varieties

The great similarity in appearance between fescue varieties has been commented upon; most are interchangeable. This similarity also extends in some degree to performance; reports indicate now one, now another selection slightly superior a given year, a given location or a given season.

As is evidenced by Tables 1 and 2, a search for improved fine fescues is in full swing. Many new varieties appear each year, a number of them developed in Europe and sent to Oregon for seed production. Some are bred for density when planted alone, others with more open growth for blending with Kentucky bluegrass.

Pennlawn is an especially interesting case. It was bred some years ago from parental selections made at Pennsylvania State University, selected for resistance to disease. Dr. Musser had accumulated promising clones from the golf course fairway (seeded several decades before to seed of European origin) and from seed of domestic and foreign sources. Three superior strains (F-55, F-74, F-78) were eventually screened out on the basis of performance both at University Park Pennsylvania and Beltsville, Md. Planted together, they yield seed that is the synthetic variety Penncross, superior to any of the parents alone.

Very similar to the fine or red fescues are the hard or sheep's fescues (*F. ovina*) of which one or two turf varieties are now being developed. Neither the fine nor the hard fescues should be confused with the tall fescue group (*F. arundinacea*), however for the latter are coarse varieties used mostly for pastures (but also planted to lawns in the upper South, where the hot summers are inimical to fine fescue and Kentucky bluegrass).

Table 1 lists fine fescue varieties available on the market today, or expected soon. Table 2 lists additional cultivars not generally available in this country. Some of the coded selections may become fescue stars of the future if they pass their screen tests well. Meanwhile the traditional varieties such as Chewings, Illahee, Pennlawn and Rainier carry on, doing all the things a fine fescue is meant to do, including backing up Kentucky bluegrass in lawn mixtures offered generally from the border states northward in the United States.