

WHY FINE FESCUES ?

Frequently overlooked by turfgrass managers, fine fescues are among the most adaptable and versatile of lawn grasses, as research from Rhode Island proves.

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Seed for chewing fescue is grown in Oregon.

In 1984, this magazine presented a series of articles on turfgrasses. In one article under this byline, it was noted that fine fescues were an under-used group of grasses. This is particularly so, as improved varieties continue to become available to us.

The wide range of adaptation and versatility of fine fescues remains impressive today. They grow from coast-to-coast in the temperate regions of the United States and Canada, and from central Italy through Scandinavia in Europe. They do well in the Mediterranean climate of Italy and France, on the sand beaches of Belgium and the cold, windy prairie provinces of Canada. They have long been major components of turf stands in the cool humid northwest, throughout the British Isles and the northeastern region of the U.S.

At least 35 species of the genus (fescue) have been identified throughout the U.S., and some species are found in the wild in nearly every state of the union. The fine fescues used for turfgrass purposes are creeping red fescue *Festuca rubra* L. subsp. *trichophylla* Gaud.), spreading fescue *F. rubra* L. subsp. *rubra*, chewings fescue *F. rubra* L. subsp. *commutata* Gaud.), hard fescue *F. longifolia* Thuill.) and fine-leaved sheeps fescue *F. tenifolia* Sibth.) Red fescue and sheeps fescues are reportedly found in 35 or 40 of the 50 states. One or the other appear to be

missing only in the south-central and southeastern states.

Fine fescues differ greatly from their related species, tall fescue, *F. arundinacea* Schreb. and meadow fescue, *F. pratensis* Huds. The latter are coarse-textured grasses with different climatic and cultural requirements.

All fine fescues are relatively fine-bladed and will tolerate mowing to 1½ inches or less, are adapted to both sun and shade and are tolerant of rather acid, infertile and dry soils. They have been used as turfgrasses since the beginning of lawn culture.

Tender loving care

Until the mid-1900s, lawns were generally not pampered. They seldom received much fertilizer nor were they generally irrigated. This held true also for most golf course fairways and other extensive turf areas. Under these conditions the fine fescues were often abundant in turf stands in many areas of the United States—particularly in the temperate regions having acid soils or a maritime climate. Fine fescues were particularly adapted to areas where soils were infertile and of light texture.

With the advent of increasing fertilization and irrigation, these grasses decreased in popularity and, when once abundant, ceased to be a major component of turf stands. It might be said that these grasses could not stand

“prosperity.” It was not immediately clear why they backed off under increasing levels of maintenance.

It took years to determine that diseases, primarily leafspots, were a major factor in loss of fescues. For many years this loss was not particularly disturbing as improved Kentucky bluegrass and, then, turf-type perennial ryegrasses were entering the market. As long as inexpensive fertilizer and water could be supplied, these grasses were very adequate replacements. Fine fescues became known primarily as shade grasses or for use mainly in low-fertility situation.

Until the release of Merion Kentucky bluegrass in the 1950s, all available turfgrasses were essentially of “common” type. They had not been selected or bred specifically for turfgrass purposes. Even though named varieties were being marketed, the names most often related to their area of production or to a particular type that developed in the producing area.

The release of Merion opened many eyes to the potential for breeding superior turf-type grasses, and the search for more improved turfgrasses was immediately begun.

Fine fescue on trial

In 1960, trials were established at the Rhode Island experimental station that included Merion, two experimental bluegrasses and five common bluegrass varieties. In the same trial were seeded five common fine fescues and one experimental, R.I. No. 6 (eventually released as Jamestown). The purpose of this study was to evaluate the performance of those grasses when fertilized with one, two or three pounds of N/1000 sq.ft. annually—relatively low rates in that era.

One outstanding result from this trial was the observation that a fine fescue could provide equal or better quality turf than even the best Kentucky bluegrass, at each level of fertility. This was the first indication that the potential existed for “improved” fine fescues.

Regional turfgrass research trials were initiated within the 13 northeastern states in 1968. That year, sepa-

rate Kentucky bluegrass and fine fescue trails were seeded at several locations throughout the region. The trails contained 55 cultivars of Kentucky bluegrass and 24 fine fescues. All grasses were evaluated at mowing heights of 1 1/2 and 3/4 inches and were fertilized at the rate of three to four pounds of N/1000 sq. ft. annually.

These trials were continued through 1973. Results from this study were most encouraging for fescue grasses.

Evidence of superior performance by selected, improved varieties, over common varieties was clear. Chewings varieties such as Atlanta, Halifax, Highlight and Jamestown were clearly superior to commonly available varieties, and the chewings type generally performed better than the creeping or spreading types. Some of the better varieties performed well even at the 3/4-inch cutting height, which was not expected.

Subsequent variety trails of fine fescues have led to a number of conclusions:

1. Improved varieties of chewings and hard fescue, particularly, are far superior to common varieties. They are more disease resistant, will tolerate closer cutting and will provide excellent density in pure stand.
2. Hard fescues establish more slowly than chewings fescue but seem to be more tolerant of heat, moisture and salt stresses. They will tolerate higher fertility usage.
3. Most fine fescues are prone to

Table 1
Quality ratings of the top three cultivars of perennial ryegrass, fine fescue and Kentucky bluegrass cultivars in evaluation trial, 1979-83.

Cultivar	1978 General Variety Trial						
	5 Year Turf Quality Ratings						
	May	June	July	Aug	Sept	Oct	Ave
Perennial Ryegrass							
Dasher	7.0	5.6	5.0	5.1	6.0	7.1	6.0
Blazer	6.4	6.1	5.1	5.0	6.0	6.8	5.9
Fiesta	6.5	5.8	4.8	4.6	5.4	6.6	5.6
						Overall Ave:	5.8
Fine Fescue							
Jamestown	7.7	7.1	6.6	6.5	7.2	7.1	7.1
Luster	7.4	6.8	6.5	6.2	6.6	7.5	6.8
Scaldis	7.3	7.1	6.7	6.4	6.1	6.6	6.7
						Overall Ave:	6.9
Kentucky Bluegrass							
Ram	4.7	5.5	5.7	4.6	4.4	4.7	4.9
I-13	5.6	6.2	6.0	5.7	5.3	6.3	5.9
Harmony	3.7	4.5	5.1	4.8	4.5	5.2	4.6
						Overall Ave:	5.1

* Turf Quality Ratings: 9 = best quality
1 = bare ground or dead turf

summer disorders and possible injury if fertilized during periods of summer heat stress. It appears that, if they are to be fertilized, cooler spring or fall periods would be best.

4. Fine fescues, once established, do not require much fertilizer. They are adapted to lower fertility soils and perform best under low fertility management programs. They develop

deep, extensive, root systems and are very efficient in moisture and nutrient acquisition.

Adding versatility

Sod producers in New England generally used as much as 50 percent creeping red fescue, in combination with Kentucky bluegrass, as a seeding mixture until the mid-1970s. The addition of the fescue provided a more versatile product. The sod was more widely adapted to sun or shade and infertile areas as well as fertile soils.

Creeping red fescue was not competitive with vigorous bluegrasses, however, and often at sod harvest very little fescue was evident.

With the availability of improved cultivars of chewings fescue many growers are currently using them with their bluegrasses, but at a reduced rate. Because fine fescues establish more rapidly than does bluegrass, and chewings fescue is capable of profuse tillering, 10 to 15 percent of seed, by weight, appears to be adequate.

In a study of Kentucky bluegrass and red fescue cultivars at the Rhode Island station in 1970, it was evident that rerooting of transplanted sod was faster when fine fescues were combined with Kentucky bluegrass. Each fall at the research farm, new turfgrass cultivar trails are seeded. These trails include potentially improved selections and several standard varieties for comparisons of Kentucky bluegrass, perennial ryegrass, tall fescue and fine fescues.

The trials are maintained for at

Table 2.

Quality ratings of the top three cultivars of perennial ryegrass, fine fescue and Kentucky bluegrass cultivars in the evaluation trial, 1981-85.

Cultivar	1980 Variety Trial						
	5 Year Turf Quality Ratings						
	May	June	July	Aug	Sept	Oct	Ave
Perennial Ryegrass							
M 456	5.7	5.8	4.8	5.6	6.1	6.0	5.7
HE 139	6.1	5.2	5.1	5.4	5.5	5.7	5.5
Ranger	5.7	6.0	5.0	6.1	5.6	6.2	5.8
						Overall Ave:	5.7
Fine Fescue							
HF 20	6.5	7.8	6.9	7.3	7.4	7.4	7.2
Scarlet	6.1	6.7	5.5	6.8	7.3	7.5	6.7
Atlanta	6.2	7.1	6.5	7.0	7.1	7.6	6.9
						Overall Ave:	6.9
Kentucky Bluegrass							
HV-72	5.1	6.1	6.0	7.0	6.3	6.2	6.1
HV-54	5.0	6.1	5.7	6.6	6.5	6.3	6.0
HV-71	5.1	6.5	6.2	6.5	6.3	6.0	6.1
						Overall Ave:	6.1

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Danger of ATVs require caution

All terrain vehicles (ATVs) may present a risk of severe injury or death in certain circumstances, warns Tommy Valco, an agricultural safety engineer with the Texas Agricultural Extension Service.

Valco says the Consumer Product Safety Commission recently sounded a safety alert concerning these vehicles, saying that more than 900 people, including many children, have died in accidents associated with ATVs since 1982; many people have become paralyzed or suffered severe internal injuries as a result of accidents associated with ATVs; and thousands of people are treated in hospital emergency rooms every month for injuries received while riding an ATV.

"You and your employees should be aware that an ATV is not a toy and may be dangerous to operate," says Valco. "An ATV handles differently from other vehicles and can roll over on the rider or violently throw them without warning. Even hitting a small rock, bump or hole at low speed can upset it."

Because of the grim statistics, Valco adds, the U.S. government has filed a lawsuit against all manufacturers and distributors of ATVs asking the court to declare the vehicles hazardous and that additional regulations to protect ATV riders be established.

INSECTS

Monitoring flowers can save you money

Nurserymen who monitor their flowers for pests may reap substantial cost savings, says Harvey A. Yoshida, a doctoral student at the University of California, Riverside (UCR).

Monitoring enables flower growers to detect, evaluate and record pest populations and trends, Yoshida says. He reminds landscape managers that even small numbers of some pests can ruin the aesthetics of many floricultural crops.

Monitoring also enables growers to evaluate the effectiveness of their pest control programs, not to mention save the nursery money by enabling nurserymen to determine when and at what levels insecticides should be used.

Yoshida recommends combining visual walk-throughs with the use of an insect trap system, such as blacklight traps, pheromone traps, and yellow sticky traps, in order to make good management decisions about pest control.

Where to place the traps depends on the type of pest present, but, in general, Yoshida recommends one blacklight trap per 5,000 sq. ft.; one pheromone trap and one yellow sticky trap per 10,000 sq. ft.

Table 3.

Quality ratings of the top three cultivars of perennial ryegrass, fine fescue and Kentucky bluegrass cultivars in the evaluation trial, 1982-85.

Cultivar	1981 Variety Trial						
	4 Year Turf Quality Ratings						
	May	June	July	Aug	Sept	Oct	Ave
Perennial Ryegrass							
Repell	5.6	6.0	4.7	5.3	5.6	5.6	5.5
Yorktown II	5.2	5.4	4.6	5.3	5.7	5.9	5.4
Prelude	5.7	5.8	4.7	5.4	5.9	5.8	5.6
						Overall Ave:	5.5
Fine Fescue							
Reliant	6.5	7.2	5.7	6.9	7.2	7.1	6.8
Waldina	6.6	7.6	6.0	7.3	7.4	7.2	7.0
Jamestown	5.4	6.5	5.0	6.1	6.6	6.5	6.0
						Overall Ave:	6.6
Kentucky Bluegrass							
Mystic	4.4	6.1	5.2	6.4	5.7	5.5	5.6
Ram I	4.0	5.6	4.8	6.1	5.7	5.3	5.3
Baron	3.3	5.0	4.4	5.3	5.5	5.9	4.9
						Overall Ave:	5.3

*Turf Quality Ratings: 9 = best quality
1 = bare ground or dead turf

least five years during which time performance data are obtained. The grasses are mowed at a 1 1/2-inch height, watered as required and weeds and insects are controlled. Fertilizer is applied to provide about three lbs. of N/1000 sq. ft. annually. All plots are observed and rated for quality during the first 10 days of each month throughout the growing season, April through November.

For the purpose of comparing quality of the fine fescues with Kentucky bluegrasses and perennial ryegrasses, records of larger trials established in 1978, 1980, 1981 were checked. The five-year monthly and seasonal averages of quality ratings for the three cultivars of each species that exhibited the highest quality throughout the five-year period were recorded.

The data retrieved are presented in Tables 1, 2 and 3. It should seem obvious why we are so high on the fine fescues. In all three trials, the quality ratings of the fine fescues are considerably above those of perennial ryegrass and Kentucky bluegrass.

With the introduction of improved fine fescue varieties, this has generally been the case. Although early improvements were primarily among chewings cultivars, hard fescues started to make their presence known in the early 1970s and excellent varieties of both are currently being marketed.

The 1985 progress report of the National Fine Leaf Fescue Test (established in 1983) clearly shows the fine turf potential of hard fescues. There

are 47 entries in this test. The 1985 report includes data from 19 locations nationally. One sheeps, 14 creeping and spreading, nine hard and 21 chewings cultivars are compared. Performance scores averaged during the second year of the trial (1985) showed seven hard, one sheep and two chewings fescues among the top 10 cultivars.

Although creeping red fescue has great potential and value and is widely used successfully, markedly improved varieties have yet to be developed. Considerable work is under way to provide improved varieties of this grass.

Each species of fine fescue has distinct characteristics, attributes and adaptations. Some of them now contain an endophyte which apparently provides biological control of certain surface-feeding insects. There is also variation in disease resistance and shade tolerance. Certain varieties will tolerate closer mowing than others. Because of this variability, it may be advantageous to use blends of fine fescues for certain uses.

Where very close mowing is required, as on overseeded greens or golf course fairways, chewings and hard fescue would perform best. In higher cut areas such as roadsides or golf course roughs, creeping red fescue would be the species of choice.

At a time when we are more environmentally aware and are attempting to reduce dependence on fertilizer, pesticides and water, the fine fescues have much to offer. **LM**