Turf Guide for Improved Turfgrasses

Species	Growth Habit	Establish Rate	Nitrogen Requirement	Mowing Frequency	Close Mowing Tolerance (½" of less)	Traffic Tolerance	Drought Tolerance	Competitiveness	Thatch Formation	Shade Tolerance	Cold Tolerance	Seeding Rate/1000 sq.ft.
Improved Turf-Type Kentucky Bluegrass	Spreads by rhizomes	Slow	Medium	Low to medium	Fair	Good	Good	Medium	Medium to high	Fair to good	Very good	2-3 lbs.
Improved Turf-Type Perennial Ryegrass	Bunch type	Very fast	Medium to high	High	Very good	Excellent	Very good	High	None	Fair to good	Fair to good	5 lbs.
Improved Hard Fescue	Bunch type	Slow to medium	Low	Low	Poor	Good	Excellent	Medium	Medium	Very good	Very good	4-5 lbs.
Improved Chewings Fescue	Bunch type	Medium	Low to medium	Low to medium	Good	Fair	Good	High	Medium to high	Very good	Very good	4 lbs.
Improved Creeping Fescue	Spreads by rhizomes	Medium	Low to medium	Low to medium	Poor	Poor	Good	Medium	Low to medium	Very good	Very good	4 lbs.
Improved Tall Fescue	Bunch type	Medium	Medium	Medium	Poor	Very good	Excellent	Medium	Low to none	Good	Good	6-9 lbs.
Improved Creeping Bentgrass	Spreads by stolons	Medium	Low to medium	Low to medium	Excellent	Good	Poor to fair	High	High	Fair	Excellent	½-1 lb.

Compiled By: SEED RESEARCH OF ORECON, INC

creasing numbers of these grasses have been listed. This helps to provide better cultivar availability on a broad geographic base since not all cultivars are marketed uniformly across the country. As interest and use of a lawngrass declines, fewer cultivars are listed. Those remaining are the ones readily available in regions of the country where these grasses are best adapated.

No one cultivar will perform equally well under the wide variation of soil, climate and use found across the United States and Canada. Cultivars are selected to provide as wide a range of adaptation as possible. Local trials and cooperative extension recommendations, of course, are helpful in making a final selection. For this reason, several of each type cultivar; i.e., bluegrass, fine fescues, perennial ryegrass, turf-type tall fescue, bentgrass and specialty grass are listed.

Weed-free bluegrass

Of all lawngrasses, none are better sod forming than the Kentucky bluegrasses. Underground stems grow through the soil and send up new shoots at intervals to form the tightest, most dense turf possible.

Since a seedling weed and a Kentucky bluegrass plant cannot both occupy the same spot at the same time, weeds fail to become established in a healthy, vigorous bluegrass turf. The new named bluegrass varieties found in premium seed blends and mixtures have been developed with more heat and drought tolerance and with greater insect and disease resistance to make the turf persistent in crowding out weeds through the entire year.

With an abundant supply of weed seed always present in the soil, a vigorous bluegrass lawn is needed

Lawn Institute lists favorites

Here are the Lawn Institute's 1988 preferred variety selections, as made by its Variety Review Board:

KENTUCKY BLUEGRASSES: Adelphi, Estate, Sydsport, Merit, Huntsville, Nassau, Glade, Fylking, Baron, Ram I, Arboretum, Monopoly, America, Nugget, Rugby, Eclipse, Gnome and A-34 Bensun.

TALL FESCUE: Pennant, Houndog, Arid, Rebel II, Galway and Mustang.

PERENNIAL RYEGRASS: All*Star, Pennant, Regal, Gator, Derby, Delray, Fiesta II, Manhattan II and Ranger.

FINE FESCUES: Banner, Koket, Ensylva, Reliant and Jamestown.

(Turfgrass managers should always be sure to check with local extension agents concerning adaptability of certain varieties to their area.)

throughout spring, summer and fall to prevent weed seedlings from getting a start.

Fine fescues to start

Spring and fall are the best times to seed lawngrasses. And, premium seed mixtures will contain from 30 to 50 percent fine fescues to see that all grasses get off to a good start. Fine fescues germinate quickly and establish rapidly in either sun or shade. They have low fertilizer requirements and thus do not compete adversely with other slower growing grasses in the mixture.

Fine fescues separate grasses of different species and create a population of plants with improved vigor and disease resistance. They function as good companion grasses in lawn establishment, and then develop into a permanent component of the sod that helps create a high degree of hardiness and ease of maintenance.

As conditions favor bluegrasses, fine fescues give way and provide needed room; as other conditions may reduce growth of bluegrasses, fine fescues move in and fill in the space so that a high quality ground cover is maintained.

Versatile perennial ryegrass

The new turf-type perennial ryegrasses are the most versatile of any lawngrasses available. They germinate rapidly, can be used by themselves or with other grasses in seed mixtures. They are used successfully to establish a new lawn or to improve an old one by overseeding into a poor quality turf. They are truly a do-it-yourself lawngrass.

These grasses do not form thatch and are easy to maintain on low budgets.

Disease and insect resistance help to eliminate need for use of pest control chemicals. And, when something does go wrong, it's easy just to let the disease or insect infestation run its course and then start new turf, simply by seeding over the injured areas.

Hardy tall fescues

Turf-type tall fescues have established a fine reputation for hardiness

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in development of lawns where growth conditions are less than ideal. They take heat down through the transition zone and even into the upper South. Whereas the old Kentucky 31 fescue made an open, often weed-infested lawn, the new turf-type tall fescues create a more dense weed-resistant turf.

These grasses do not develop thatch and feature improved insect and disease resistance. Thus, they have desirable low-maintenance characteristics. Perhaps the most important asset of the turf-type tall fescues is their ability to grow deep roots through a large volume of soil. These roots use water and nutrients efficiently and make the lawn trouble free and easier to maintain. Most uniform turf is produced when turf-type tall fescues are seeded alone.

Some mixtures with other grasses are available. Blends of two or more fescues are popular. When starting a new turf-type tall fescue lawn, prepare the soil well and then use either seed or sod.

Specialty lawngrasses

Some residences are so located that soils and climate make use of a specialty lawngrass desirable.

● Lawns in cool, moist climates—Exeter colonial bentgrass from Pickseed West makes a beautiful, uniform lawn where summer night temperatures are cool and natural rainfall or irrigation provides frequent light watering.

This grass can be clipped closer than any other lawngrass—½-inch—and by means of above-ground runners, makes the densest turf possible. Seeded with as much as 75 percent fine fescues, Exeter establishes quickly and is easy to maintain. Turf is tolerant of acid soils and cold winters.

● Lawns in moist shady locations—Sabre *Poa trivialis* from International Seeds is the ideal grass for moist shade. Whereas fine fescues do well in dry shade, Sabre is better on wet soils. Seed germinates rapidly to produce a fine textured turf. It blends in well with other lawngrasses.

Senior citizens all over the country find it easy to scratch in a little ryegrass seed from time to time, put on a little water and then enjoy watching the lawn turn green.

● Lawns with alkaline soils—Fults alkaligrass from Northrup King is a low-growing, bunchgrass with excellent salt and high pH tolerance. Plants are leafy and leaves are narrow. For lawns on alkaline soils or where roadside salting during winter months results in sodium chloride contamination of parking and lawn soils, Fults is ideal.

● Lawns for low maintenance semi-turf—Some soils are so poor and some growth conditions so inferior that lawngrasses cannot be grown without costly soil modification. Reubens Canada bluegrass from Jacklin Seed can be used to produce a semi-turf ground cover with essentially no maintenance needed, only occasional mowing. **LM**

For more information, contact: The Lawn Institute, County Line Rd., P.O. Box 108, Pleasant Hill, TN 38578-0108; (615) 277-3722.

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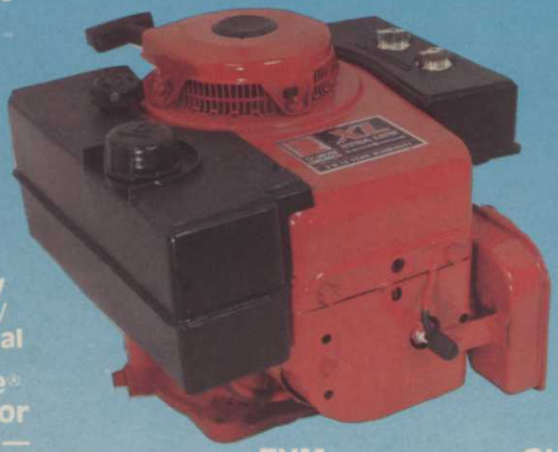

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Network 8000 accomplishes all of this by combining a computerized central controller with satellites of amazingly extensive stand-alone capabilities.

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Network 8000 provides automatic adjustment of irrigation system operation, responding to such key factors as rainfall, evapotranspiration rate, plant materials, soil types, soil compaction, geographic location, terrain slope, Ph factor and system design. A manual override is provided for all factors.

The central programmer will operate any station, set the running time, assign it to any program and set up to three repeats for any station. It can operate up to 800 satellites of 32 stations each, for a total of 25,600 stations.

Toro's new Network 8000 central provides two-way communication: it "down-loads" information to the satellites and "up-loads" information from the satellites.

Also, with this central station you enjoy the advantages of water-budgeting by means of percentage increase/decrease control (by station, by program, by CSG, or the total system), from 1% to 900%.

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*Requires satellite rain gauge monitoring equipment

Key components to Network 8000 are the IBM personal computer, with color monitor and keyboard, operated with handy "mouse" and/or keyboard. Shown in the middle is Toro's Delay & Distribution Unit. On the right, IBM matrix printer and stand.

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Toro's new Network 8000 Satellite also provides water-budgeting capability, with percentage increase/decrease from 1% to 900%.

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DISEASES OF COOL-SEASON TURF

No fungicide offers a complete spectrum of turf disease control. But, for most diseases, a range of reliable products is available and (in spite of enormous development costs) the introduction of new materials continues.

by Noel Jackson, Ph.D., University of Rhode Island

Necrotic ring spot on Kentucky bluegrass is a serious problem for the lawn care industry.

Managing high quality turf is an exacting task due, in no small measure, to problems associated with fungal disease.

Each year, the potential exists for a succession of turf diseases. Resting structures of fungal pathogens present in previously-infected plant parts, in thatch or in the soil, resume vegetative growth and generate new inoculum. Each of the varied disease-causing fungi responds to particular environmental conditions that are conducive to renewing this activity.

Even under adverse conditions, sufficient new fungal growth and/or sporulation occurs. These ensure the survival and carry-over of each species. Given optimum condition, then, a large-scale build-up of inoculum can occur. Large amounts of inoculum, however, do not inevitably mean widespread disease.

Specific environmental conditions (not necessarily the same as those favoring inoculum build-up) are needed for infection of susceptible grass plants and for consequent disease symptoms. The disease-causing fungi invariably are present in turf. But unless the appropriate environmental conditions favorable to all these processes are met, outbreaks of a particular disease will be minor or apparently absent for the growing season.

The interactions involving grass hosts, fungal pathogens and environmental factors ultimately determine whether particular pathogens are favored at the expense of the grass host, so allowing disease to develop. The turf manager must anticipate these situations and make timely management decisions to maintain the balance in favor of the grass host.

Contributory factors

Factors which may contribute to reducing the incidence of disease are:

- judicious changes in irrigation and fertilizer practice;
- modification of soil pH;
- improvement of soil aeration and drainage;
- removal of thatch and clippings;
- adjustments in mowing height and mowing frequency;
- dew dispersal and improved air drainage;
- restraints on the amount of wear;
- incorporation of organic amendments;
- weed control;
- insect control;
- nematode control; and
- use of resistant varieties.

But even the most skilled turf manager cannot rely entirely on cultural tactics to eliminate the risk of disease

The choice is yours. Whether your customers need season-long preemergence weed control by itself or on fertilizer from leading formulators, Team fits.

Either way, you can control crabgrass and goosegrass season-long with just one application. Or even a split application, if need be, to better fit your program.

Team granular also fits your high standards of annual grass weed control. University tests show it's outstanding. Team gets to the ground and stays put to form a zone of protection that keeps weeds out all season long.

And Team does all this without hurting your turf, including sensitive bentgrass.

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Spread it your way.

in high quality turf. This must be supplemented with with chemical control measures.

Preventive, rather than curative, measures afford the most effective protection against turf diseases. No fungicide offers a complete spectrum of turf disease control. But, for most diseases, a range of reliable products is available and (in spite of enormous development costs) the introduction of new materials continues.

Fungicide arsenals

With fungicide tolerance on the increase, the arsenal of turf fungicides must be as large as possible. This ensures that control programs can involve the alternate use of several effective products and so lessen the risk of tolerance build-up.

In the absence of a chemical cure-

Take-all patch, which has destroyed this Penncross creeping bentgrass, is a serious problem on sand greens.

CALENDAR

Common Diseases of Cool-Season Turf