



## Turf seeds 101: Understanding the foundation

*Editor's Note: Most turf managers understand the very basics of seed but many still have critical questions about the complete process, especially the very early stages of seed development. Seed manufacturer Turf-Seed, Inc., recently sent us an outstanding primer on the subject, which we edited and share with you here.*

two turf professionals are dealing with the exact same conditions. Soil types vary, weather conditions fluctuate, and the list goes on and on. With more seed varieties to choose from, including those that are resistant to certain diseases, turf professionals save time and money.

Time because the seed's performance will be better than ever eliminating the need for constant overseeding; and money because fewer rounds of disease-fighting treatments are needed and, very often, less maintenance is required.

### **Research & development**

The research and testing part of the seed process is probably more complicated than you realize. It takes about 14 years to go from concept to bulk production, which includes years of testing, research and development and field trials.

Several seed manufacturers serve the turf industry and each introduces about 30 new varieties each year, and that's good news for everybody using seed. The seed industry is constantly evolving. Not only are new varieties becoming available each and every year, existing varieties are bred to be stronger, healthier and exhibit specific traits such as increased disease resistance and salt tolerance.

All these varieties means the commercial seed user has more research and information to stay on top of, but it also means you are better able to find a variety to fit a precise range of attributes. No



Most turf professionals see the need for a variety of research consisting of both university and field test trials. While university research is important to initially develop improved varieties, field research is essential because it tests in real-world applications and conditions. Gone are the days when turf professionals could rely solely on NTEP findings. Today's commercial seed users have greater access to data and desire comprehensive research to ensure the quality of their turf.

Although genetically modified products are the future, it's still the traditional plants that get the most attention. These include those varieties bred to be resistant to gray leaf spot, dollar spot, crown rust and stem rust, brown patch, Pythium blight, red thread, as well as tolerance to glyphosate and salt.

In the commercial industry, one of the most common ways to purchase seed is still through a secondary supplier. In addition to seed, the supplier typically sells spreaders, fertilizers, weed control, and other turf-related supplies. The representatives who work at these places are often knowledgeable about turf products and offer the buyer insight into what will work best for the conditions of the region.

However, as turf professionals have greater access to information and don't always look to

the advice of their supplier representative, many seed manufacturers are selling product direct to end-user through the Internet and phone orders.

### Germination

Germination rates vary among species and climate, but given the right conditions, most seed will typically germinate within 14 days of planting. One species in particular, ryegrass, is known for its fast germination and will usually germinate within 5-7 days of planting. Keep in mind, germination refers to the time it takes for seeds to sprout. It usually takes about six to eight weeks for the turf to be completely grown in and ready for mowing and about 2 years for the plant to become fully mature.

### How to read a label

When reading a seed label, most people seem to have an excellent understanding of the meaning of weeds and germination percentages. In fact, some companies take great effort to show they have very low level of weed seed in the packaging and many packages on store shelves include statements such as: "99.99% Weed Free."

What most consumers don't fully understand is the meaning and importance of



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“Other Crop Seed.” Visualize a corn plant in the middle of your field. Although the corn plant is certainly undesirable, it would be labeled as Other Crop Seed on a seed label as opposed to Weed Seed. The difference between Other Crop Seed and Weed Seed is a fine line. Because unwanted crop seed can be just as difficult to remove as unwanted weed seed, you should pay particular attention to both percentages.

The importance of understanding Other Crop Seed is also apparent when assessing tall fescue blends. Improved turf-type tall fescue blends traditionally are dark green in color, with a dwarf growing habit. Unfortunately, tall fescue blends often include levels of annual ryegrass, a fast growing, light green grass. Managers mowing once a week will quickly notice that the annual ryegrass will grow taller than the tall fescue and the light green color will stand out like a sore thumb. Thus, the lower the percentage of annual ryegrass, the better.

Similar to the nutrition label on food packages, the seed label relays the contents inside the bag. Look first to the name of the seed variety. Improved varieties have characteristics that are patentable under the Federal Plant Variety Protection Act, so consumers should look for specific brand names of varieties rather than generic species names. For example, a label for Brightstar SLT Perennial Ryegrass means “Brightstar SLT” is the specific brand name, while “perennial ryegrass” is the variety.

Knowing exactly what kind of seed is in the bag is the best indicator of quality. Two numbers are of utmost importance: Pure Seed and Other Crop Seed. The percentage of listed seed in the bag is indicated by the Pure Seed number.

Equally important to evaluating quality is the percentage listed as Other Crop Seed. These seeds are “off types” that aren’t specifically named, but will detract from the quality of the turf. Since Other Crop Seed might include winter wheat and rye that may have entered the bag through harvesting or cleaning equipment, consumers shouldn’t be alarmed with its presence. However, the lower the percentage, the bet-

ter, so look for a number below 0.5%. Anything more would prohibit the seed lot from qualifying for certification.

You’ll also notice a Weed Seed percentage. Although the goal is to eliminate all weed seeds from the bag or box, it is both difficult and expensive to do. Minimum amounts of weed seed are acceptable; however you shouldn’t accept percentages that are more than 0.5%. The germination percentage tells you how much of each pure seed variety listed will “sprout.”

### Seed species specifics

**Bentgrass.** Used almost exclusively on golf courses, bentgrass withstands a close cutting height and traffic stress making it an ideal choice for use on greens, tees, and fairways in cool, transitional and arid climates. It reproduces with stolons (above-ground runners) and tillers (shoots from the crown.)

Mowing heights range from .1 to 1/2 inches; requires regular fertilization and water to avoid pressure from disease and insects; and produces dense stands of turf and is able to withstand pressure from weeds.

**Bermudagrass.** Used throughout southern United States on golf courses, athletic fields, and home lawns, bermudagrass is a warm-season grass that does well in temperatures above 50 degrees. Due to its aggressive stolon growth habit, it withstands wear and recovers quickly from damage.

Mowing heights range from .1 to 1 1/2 inches; requires moderate to high levels of fertilization and water; goes into dormancy when temperatures fall below 50 degrees; and requires overseeding after dormancy occurs.

**Kentucky bluegrass.** Used throughout the United States, Kentucky bluegrass is the most widely used cool-season grass, often found on golf courses, athletic fields, home lawns, and parks. It spreads through the development of rhizomes (underground runners) and has good heat and cold tolerance.



Wide range of mowing heights from 1/2 to 3 inches; requires moderate fertilization and water; roots may grow as deep as 1 1/2 feet, which provides a dense stand of turf that is able to withstand pressure from weeds.

**Fine fescue.** Used primarily in northern climates on golf course roughs, fine fescue is a cool-season grass that includes the fine leaf types of creeping red fescue, sheeps fescue, chewings fescue, and hard fescue. It grows well in partial shade and is able to withstand periodic droughts. It reproduces by tillers.

Mowing heights range from 1/2 inch to completely unmown; requires low to moderate fertilization and water; species is weakened by very hot temperatures, so extra water is necessary when heat waves last more than a week.

**Tall fescue.** Used throughout the transition zone and northern climates, tall fescue is a cool-season grass that grows well in both partial shade and sun. It is frequently used on athletic fields because of its good wear resistance. It spreads by tillers and is considered a good utility grass.

Mowing heights range from 2-4 inches; requires low to moderate fertilization and water; and has the ability to adapt well to shady areas makes it ideal for establishing growth under trees.

**Ryegrass.** Known as a fast establishing cool-season grass, ryegrass is often used on golf courses and athletic fields because of its ability to

withstand wear. It spreads by tillers and remains one of the most commonly used species for overseeding.

Mowing heights range from 1/4 to 3 inches; requires moderate fertilization and water; rapid germination makes it an ideal seed complement for later germinating species.

**Seashore paspalum.** Highly regarded for its salt tolerance, seashore paspalum is most often used on golf courses located in hot, humid coastal climates, but is gaining popularity on home lawns. Previously, the only way to establish seashore paspalum was by sod, sprigs, stolons or plugs, however in 2005, the first seeded seashore paspalum, Sea Spray, became available.

Mowing heights range from .125 to 1/2 inches; requires minimal fertilization and less water than other grasses; demonstrates five major stress tolerances (salinity, drought, low oxygen, low-light intensity and traffic) making it an environmentally friendly grass; and excellent for areas irrigated with effluent water or prone to naturally high salinity levels.

**Wildflower mixtures.** Providing a constant change of color throughout the seasons, wildflowers are becoming increasingly popular for naturalized areas of golf courses and city parks. Heights range from small (12-24 inches) to large (36-40 inches); excellent for areas that are difficult to mow and landscapes with slopes or rock gardens. ■

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