Drought, Heat Stress Grass Seed Production

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It’s no secret that the weather is a critical factor in determining just how well grass grows. It turns out the same is true when it comes to grass seed. That’s especially evident this year, as unusually hot, dry weather in Oregon—where most U.S. grass seed is grown—has dramatically altered the crops being produced.

“There’s a lot of concern on the part of seed producers about the drought situation and the effect on turf and forage grass seed crops,” says Thomas Chastain, associate professor of seed crop physiology and ecology at Oregon State University. He compares this year’s weather pattern to that of 1992. Hot, dry weather that year led to major turf seed losses in Oregon. Perennial ryegrass seed yields were down 11 percent in 1992, while tall fescue was off 14.5 percent from normal levels. He expects the weather’s impact to be even more severe this time. “Growers are telling us that the losses will be 25 percent,” Chastain says.

While exact figures aren’t yet available—at press time, growers were still harvesting and cleaning turfgrass seed—he says seed numbers will be down substantially. “A 10 percent loss in yields would be dramatic, [but] 25 percent would be a disaster and would cause some pretty severe financial harm to some of our producers,” Chastain states.

PHOTO: BLUE MOUNTAIN SEEDS
State of turf seed

Fundamentally, seed yield is composed of two elements: seed number and seed weight. This year, growers are seeing declines in both because the abnormally hot and dry weather stretching from winter through spring and into June led to a significantly earlier harvest, which didn’t give the seed a chance to “fill out” as it normally would. “The crop came out anywhere from two to four weeks early this year because of the dry weather,” says Rick Myers, vice president of sales at DLF International Seeds. “The old saying among farmers is that an early crop is a light crop, and that’s definitely true this year.”

This “light seed” actually takes up more room in the bag because it harbors a lot of inert material, Myers explains. The seed will likely have more hull on it, for example. Seed producers may need to reclean and retest the seed before it is sold, he notes.

Myers has observed a decline in yields for some seeds. Annual ryegrass is off by about 20 percent, and both tall fescue and fine fescues are off by 20 percent to 25 percent, he says. At press time, he declined to predict perennial ryegrass yields because it was too early in the season.

While perennial ryegrass and tall fescue are the two largest seed crops in the state, another major grass variety — Kentucky bluegrass — is also taking a hit because of the weather. “Our crop is certainly off quite a bit from what it was last year,” explains Bill Merrigan, general manager of Blue Mountain Seeds, a contract seed production company in eastern Oregon that mostly grows Kentucky bluegrass. Not only did hot weather strike his region, but rains also put a damper on harvest season.

Darrin Walenta, an Oregon State University extension agent who works with a number of growers in the eastern part of the
state, says he hears varied expectations about seed yields. As of the early phases of harvest, Walenta says Kentucky bluegrass seed yield may be about average. In addition, he says, “We have a smaller acreage basis of fine fescue seed production. We may see some variable seed yields in that particular crop due to the weather, but we’re not sure yet.”

What will the end result be for seed buyers? “It could definitely have the effect of some varieties not being available,” Myers says. He adds that because perennial ryegrass and tall fescue acreage has increased in recent years, the supply of these grasses may be less affected than other varieties.

Merrigan says it’s too soon to say if there will be shortages of certain varieties, in part, because that will be determined by demand. For example, last year demand for bluegrass was low, and if it stays that way, there may be enough supply on the market, he explains. “In the turfgrass business, we have the unique distinction of being dependent on the weather for our production as well as for our consumption,” Merrigan says. The wet summer weather seen in the Northeast, for instance, may reduce the need for overseeding come fall, which will cut into demand.

Oregon State’s Chastain adds that seed supply is one factor constantly influencing the ratios of certain grasses used in turfgrass mixes. That’s likely to be truer than ever this year.

PHOTO: DLF INTERNATIONAL SEEDS

**Turf seed trends**

Increased demand for tall fescue is one of the most recent trends in turf seed, notes Steve Tubbs, president of **Turf**
Merchants, a seed developer, producer and marketer. “We are surprised at the area of adaptation,” he says. “We now sell more tall fescue in Pennsylvania than we sell bluegrass.” The performance of the grass even in northern climates has cut into demand for bluegrass, he says, estimating that bluegrass seed was once a 100-million-pound annual crop and is now around 30 million to 40 million pounds. “Tall fescue has an exceptional root structure that can go down 6 feet,” Tubbs says. “It may look like a bluegrass, but it requires much less water and fertilizer.” Tall fescue is used both as a stand-alone grass and mixed with no more than 10 percent bluegrass, he explains.

Tall fescue is one of the few cool-season grasses seeing growth in demand, Tubbs says. Warm-season grasses are favored, particularly in Southeastern and Southwestern U.S. home construction and other development, such as golf courses.

Overall, the market is headed toward lower-input, lower-maintenance turfgrasses, Tubbs points out. “Ten years ago, we would focus our screening on color and texture and beauty,” he says. “Now it’s for drought tolerance and sustainable grasses, like tall fescues.” Turf Merchants, Tubbs continues, has been focused on developing salt-tolerant grasses. Not only can salt tolerance help grasses perform even with lower-quality irrigation water, but it also can protect against diseases such as rapid blight. “We’re finding that more and more places are irrigating with reused, recycled water, which has a high salt content,” he explains.

Tubbs also notes growing interest in so-called reclamation grasses designed for stabilizing sites as homeowners seek alternatives to just having a yard full of rocks.

Myers is doing more work with grasses that use less water and require less overall maintenance, including mowing. “That’s definitely a big area that we’re going after,” he says. “We’re trying to develop varieties that require fewer inputs: fewer
chemicals, less fertilizer and less water, for sure.” In the coming years, as states and localities regulate the use of water, fertilizers and pesticides, lawn care companies will need to operate within those constraints. “All industries are doing things to address environmental issues, and we’re doing exactly the same thing with grass seed,” Myers says.

A trend that could have a wide impact is the amount of acreage being devoted to growing turf seed. “The biggest risk for our industry is production,” Myers says. “Wheat is approaching $8 a bushel, and when it gets to that point, it’s very profitable for the growers. Some of the growers could take some of their fields that aren’t doing as well this year out [of turf seed production] and put wheat in.”

Another concern for turf seed companies is the competition for acreage with filberts, or hazelnuts, which are seeing soaring demand due to the popularity of spreads such as Nutella. The prices growers are receiving for filberts have led many to switch over their fields. “They’re just being planted everywhere here, and once those acres are planted, they’re out of production for 15 years,” Myers says. “We’re seeing lots more of that happening over the last two years.”

Merrigan says competition for acreage is one reason the seed industry is moving away from “elite” types of grass that perform well but just don’t produce seed well. “The competition for the ground is so intense right now that growers just aren’t willing to take a risk on varieties that have not proven to be very good producers,” he observes.