

## Have questions? Send them to Dave at: ISU, Hort. Dept., Ames, IA 50011.

by Dr. Dave Minner

Many East Coast sports field managers have been expressing the same drought-related concerns lately: "We have experienced severe lack of rain this summer, and now we are under water restrictions. Some restrictions call for no watering of our soccer and football fields. The fields have become so hard that we have had to cancel games. What can we do, and what should we expect in terms of grass recovery if it ever rains again?"

First, remember that rain can be very local. One town may receive no rain, while another town only 50 miles away may have several brief showers to keep the grass growing nicely.

On the other hand, certain parts of the country can experience more prolonged periods of dry weather that can lead to drought and water restrictions. It's difficult to predict which summers will be excessively dry, so in most cases it's warranted to treat each summer as if it's going to be a drought.

Here are a few tips to keep grass alive during dry summers:

- Mow as tall as possible to shade the ground and promote deep rooting. Mow cool-season grasses, like Kentucky blue, perennial rye, and tall fescue, at 2.5 to 3.5 inches.

Warm-season grasses, like bermuda, tolerate dry conditions quite well. Mowing at 2.0 inches will help them during extended dry periods.

- Water deeply and infrequently during the spring and prior to dry conditions. This will allow your grass to harden off and survive without lush conditions.

You must allow some wilting to occur between these deep, infrequent waterings. Slight wilting

ensures aeration of the soil, increased rooting, and a physiological hardening of the plant to moisture stress.

Signs that a field is beginning to wilt include: lingering footprints, rolled or folded leaves, and a purple/blue cast to the field. When these signs begin to become evident, wet the soil to a depth of about six to eight inches. Watch the grass recover, and don't water until the field has begun to wilt again.

*"How will my fields recover from this type of severe drought?"*

- Bermudagrass fields tolerate drought better than any of the cool-season grasses. They recover faster once water is returned to the field.

- Perennial ryegrasses receive the most damage when fields are left to go brown or summer dormant without irrigation. Many fields that contain a high percentage of perennial ryegrass from continuous overseeding will likely experience substantial turf loss.

- Kentucky bluegrass recovers from summer dormancy in most cases. However, when the ground is so dry that it begins to crack open, expect some loss of Kentucky bluegrass.

- Tall fescue is the most drought-tolerant grass because of its deep root system. However, it can become quite clumpy as it recovers from severe drought.

Be prepared to interseed grass back into the field as soon as adequate moisture is available. Coring and drill seeding will help get the grass started again.

Seed before, during, and after the fall season. Seed is fairly inexpensive, so I suggest you continue to

seed during the fall playing season to ensure as much coverage as possible for next year.

*"Is there anything we can do to make our hard, dry fields more playable during the drought?"*

This is a tough question. Floyd Perry once reminded me that if all you have to play on is a worn-out field with compacted soil, then you need to make the best dirt possible. The best way to accomplish this is to loosen the soil through aeration.

Your goal is not to get air to the roots, it's to make the field softer. Use whatever aeration equipment you have if it will go into the hard ground.

Shatter-core aerifiers do the best job of loosening fields that have been hardened by dry conditions. Their tines penetrate the ground and use shaking action to fracture and loosen the surface.

This type of equipment also works well on hard, dry skin areas of baseball and softball fields. You can loosen the field and play on it the same day.

Summer aeration is not typically recommend for general turf. But if you're desperate to make the field softer and safer, it may be your only solution.

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