



Q&A

Drought and Water Restrictions

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Have Questions?

SEND THEM TO DAVE AT: ISU, HORTICULTURE DEPT., AMES, IA 50011

I read about the east coast getting hammered by the drought and water restrictions last summer. It looks like it may be our turn here in the Midwest this year. How can I prepare my fields for drought and water restrictions?

Each year parts of the country are affected by dry conditions. Thunderstorms occur sporadically throughout each state to give local and temporary relief from dry conditions. A good soaking rain that slowly delivers at least 1 inch of water over the course of a few days is always welcomed to recharge deeper soil moisture reserves. Non-irrigated turf in one county may thrive while the next county may already be experiencing summer dormancy and turf browning from complete lack of rainfall. The "luck of the draw" concerning rainfall can seem very unfair, but the reality is that you need to prepare each year as if you will be experiencing annual drought and possible water restrictions.

There are two basic scenarios that develop with sports fields and summer drought. The first scenario involves "holding" a field. This occurs when you are satisfied with the amount of turf cover and your summer time traffic is not excessive. Under these conditions you can actually develop a strategy to deal with drought and restrictions. With adequate turf cover it is not necessary to force excessive growth with additional water and nitrogen fertility. Avoid the temptation to irrigate in the spring just to get grass growing. Allow it to green up naturally. Start to irrigate only after there are obvious signs of turf wilting that lasts for more than one day. In the spring, atmospheric water demands are low and moderate wilting does not damage the turf. In

fact this creates deeper rooting and plant cell structure that is more tolerant of dry conditions. Hardening the plants in the spring and early summer gives your grass the best chance to survive water restrictions and then recover when water is again available.

The second scenario is more common and it involves the situation where you are trying to force the growth of grass to recover from past or current traffic. Under these conditions you will be using more nitrogen and frequent watering to avoid wilt. Some areas may even contain seedling turf from annual renovation.

Unfortunately, grass in this lush condition has very little drought tolerance. As water is restricted these "pumped up" areas will be the first to wilt, turn brown and die. Forcing growth and recovery in the summer may be the only practical time that you have to recover the field, however; just remember that a sudden cut off of water, as with local bans on field watering, can spell disaster for lush turf. Sand-based fields are also kept in a somewhat lush condition, because of the increased nitrogen and watering they require for sand fields. Sand fields can usually only store enough water to last two or three days and they have virtually no drought tolerance should water restrictions be applied. Completely restricting water on a sand-based field would rapidly kill the grass and render the field useless until grass was sufficiently reestablished.

The following tips were given to me by Dan Douglas, KAFMO Chapter president, concerning the drought and water restrictions experienced in Pennsylvania last year. Contact your local water authorities to determine what the details are on any existing emergency water restriction plan. After doing this in the Midwest I found

that the Department of Natural Resources and each city water manager have a "water priority plan" that is somewhat vague, and in many cases turf irrigation was given the same priority as other outside uses like washing your car. Local water authorities have welcomed information about the nature of sports fields that will allow them to make a more informed decision concerning water restrictions. Some of the points to stress include:

- Without water, fields become excessively hard and result in unsafe playing conditions that lead to cancellation of events.
- Cancellation of games, tournaments and other field-related events can generate substantial loss of revenue to the city and surrounding businesses. In addition there will be the added cost of replacing the fields to the original condition--and that means sodding.
- Develop a water conservation plan that shows the gallons of water that will be saved.
- Separate metering for field irrigation is beneficial so that the city can monitor water use. A written watering plan may need to be filed with the local police so that they can also enforce monitoring.

An adage commonly used among sport field managers is "failure to plan is planning to fail." Scheduling irrigation is something that you plan very carefully because it means so much to field management. Organize through each STMA chapter and meet with your local water authorities to develop an effective plan that reduces the strain on water supply during drought but also allows for safe playing conditions on your athletic field facility. See the September 1999 Q&A in *sportsTurf* for more information on preparing for drought. ■



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