

Water Restrictions Are Coming: Will We Be Ready?

Maybe I should apologize for the title of this article, which at first glance may seem somewhat depressing or even alarmist. With all of the recent headlines about corruption on Wall Street, impending financial doom, and biting political ads (need I continue?), I really don't want to add to the tension. I am after all an optimist and I see a whole lot of good things in the world that are not often highlighted in the media. So I would prefer us to look at this article as stimulus for an upcoming strategic exercise at the Annual Kansas Turfgrass Conference this November (more on that later). By coupling the collective wisdom of folks like you in the turf industry with our efforts at Kansas State University, I believe we can adapt ourselves as an industry to the reality of greater demands on finite water supplies and subsequent tighter restrictions on its use.

The turfgrass group at Kansas State University, with the help of the Kansas Turfgrass Foundation and others, has recently received USDA funding to the tune of \$600,000 for an exciting 3-year project that is designed to help our turfgrass industry be proactive in addressing this challenge. In this multi-faceted project we will investigate how residents in urbanizing watersheds make decisions to irrigate their lawns and then attempt to improve accuracy in lawn irrigation through the use of research, education, and extension. Our directive from the USDA is to bring about *measurable* changes in knowledge and irrigation behaviors of residents and *measurable* improvements in local environmental conditions (for example, fewer turf chemicals in ground and surface water reservoirs because of reduced runoff or leaching from excess irrigation).

Now if you are a golf course superintendent, a sports turf manager or a horticultural services small business operator, please don't stop reading. Most of you understand important fundamentals of turfgrass irrigation and have already implemented sound irrigation practices in your operations out of necessity. Consequently, to improve our chances for success in this project, we would like to tap into your expertise borne from your years of experience in the field. In short, we don't want this project to be only Kansas State University proactively working to improve irrigation accuracy (and hence, conserve water and improve water quality) in urban lawns in Kansas but rather the collective efforts of us with our state turf industry. To that end, I invite you to attend a forum at the upcoming Kansas Turfgrass Conference on Thursday, November 20, 2008. The topic is not surprisingly the same as the title of this article. At this forum Rodney St. John and I (Jack Fry and Steve Keeley will be there too!) will present more details about this project and then discuss and brainstorm ideas with you for improving the project.

The project "team" includes some names you are familiar with and some you may not know. The turf group at K-State is involved and includes myself (Dale Bremer), Jack Fry, Steve Keeley, and Rodney St. John. The team also includes Cathie Lavis, an instructor in Landscape Irrigation at K-State (to assist with teaching), Jay Ham, a researcher in Environmental Physics at Colorado State University (to assist with field research), and Laura Moley, a social geographer at Northwest Missouri State University (she will conduct surveys of residents).

For the research component, we will work with Water Districts in Johnson County, Wichita and Salina to survey urban residents about how they make decisions to irrigate, among other things. We also will work with these Water Districts to assess actual water use in residential lawns. We also are looking for areas of turfgrass where we can set up scientific instrumentation for a number of days to measure evapotranspiration (ET) from turfgrass. The idea is to then compare measured ET in turfgrass with the amounts actually applied to individual lawns to determine if residents could get by with less water. This is where the cooperation of golf

course superintendents, horticultural and lawn-care business operators, and perhaps even sports turf managers such as you may be of assistance. We would appreciate your help in perhaps allowing us to set up for a few days at your location (or one of your clients with their permission) if the site is suitable for setting up the instrumentation. We also will be looking for residential lawns where we can deploy small equipment for a few days during summer to estimate ET. Ryan Lawn & Tree has already offered their assistance, as well as Meadowbrook Golf & Country Club in Prairie Village, the Flint Hills National Golf Club in Andover, and Pine Family Farms in Lawrence.

New extension programs will be developed in cooperation with water districts in each city. These programs will consist of a new lawn-irrigation seminar and a web-based lawn irrigation module, both of which will include the latest information from research in turfgrass water conservation. Results from the survey in this project will also be incorporated into these programs. Information will be included about irrigation requirements of turfgrasses based on actual ET in their area, which will be derived in part from the research component of this project. Eventually, we hope to develop a website where daily ET-based irrigation values adjusted for turfgrass species and exposure of turfgrass to sun or in shade will be posted. This will offer convenient and accessible sources of information for homeowners (and other turfgrass managers) who desire to apply only the amount needed on their lawns. This is a pilot project that, if successful, will likely be expanded to other cities in Kansas and perhaps beyond.

For the education component of the project, we will develop a new online class on critical irrigation and water issues. The class will be available to undergraduate students at K-State and around the globe, as well as to professionals who desire to enhance their careers through continuing education. The class will be entitled *Water Issues in Lawn and Landscape*, and the tentative design includes seven topical modules in developmental order: 1) homeowner perceptions; 2) water availability and quality; 3) relationship between irrigation practices and water quality; 4) weather-based irrigation decision making; 5) low-water-use-lawns and landscapes; 6) auditing irrigation systems, and 7) changing water users' habits. We have even developed a tentative logo for the course!



This article is a very brief overview of this project. Obviously we have a lot of work to do and we suffer no illusions about the difficulty in trying to change irrigation behaviors of urban homeowners and residents. But we have to start somewhere and what better time than now and here in Kansas! Because of the great relationship between Kansas State University and the statewide turf industry, we are confident that by including you in the project and combining our efforts with your help and expertise, we will meet with success. Our team is “on the ground” and ready to get started. So put on your thinking caps and come brainstorm with us at the Turfgrass Conference this November. See you there! (Dale Bremer).