

Sharing the difference CSU Extension makes in people's lives and their communities.

Urban residents maintain healthy yards while conserving water

Urban water users can accurately assess how their irrigation systems are working with a new lawn auditing toolkit.

Situation

Inefficient lawn irrigation is one of the major demands on Colorado's water supply. Though not as significant as some other major uses of water in the state, municipal use—particularly urban landscape irrigation—is often a target since the potential water waste is highly visible. Colorado drought cycles are increasing in frequency and intensity; compounded with a steadily growing population, the state's municipal providers and users want more tools to ramp up water conservation efforts.

Extension's Response

The Lawn Irrigation Self Audit (LISA) was developed in response to problems with lawn and landscape water waste. This water conservation tool enables homeowners or anyone else interested in lawn irrigation to accurately gauge the efficiency of their watering practices by allowing them to precisely measure the irrigation system's output.

CSU Extension specialist Denis Reich recognized the need for an easy to use irrigation audit system that would not take too much of the homeowner's time. By simply following the video tutorial on the LISA website (www.ext.colostate.edu/lisa), users are able to accurately assess the efficiency of their entire lawn irrigation system.

For a ten dollar fee, interested residents can rent a LISA toolkit from their local Extension office. They then have three weekdays or the weekend to complete the lawn audit. The tools supplied in the LISA kit are user friendly, and the entire process can be completed in about an hour.

The catch cans provided in the LISA toolkit are arranged in a grid spanning the entire surface area of an irrigated lawn. LISA users obtain the output consistency of their sprinkler system by recording these water volume levels.

This data is then transferred to the LISA web-tool, which tailors the information according to the unique conditions found in each resident's yard. Each appraisal takes grass type, soil type, shade, trees/shrubs, and climate conditions into account when calculating the ideal watering schedule.



The Bottom Line

- The state of Colorado will continue to experience periods of extreme drought.
- Colorado State University Extension is prepared to help the public meet the challenges of living in drought conditions by providing the urban water user with the LISA tool-kit.

By the Numbers

- Potential water savings: 50-65%
- Current (2008) Colorado water demand: 974,500 acre feet per year
- Projected (2050) Colorado water demand: 1,761,800 acre feet per year

Results

The challenge for municipal water providers has been to price water responsibly without overpricing, or being perceived to overcharge, their customers. These circumstances lie at the crux of the challenge in connecting LISA with Colorado's urban communities.

According to Reich, the affordability of water has been the biggest challenge toward implementing the LISA program into the urban communities of Colorado. It is only during a water shortage crisis that urban residents fully understand the true value of water.

Up until the 2001-2002 drought, there hadn't been any insurmountable challenges in meeting Colorado's growing demand for urban water. The water use restrictions and penalties that were implemented during this event had a noticeable and positive impact on the state's willingness to conserve water.

Since then, urban water users have slowly reverted to outdoor use volumes similar to pre-2001 numbers, even though Colorado could be facing another period of prolonged drought.

Municipal providers may once again be forced to rely more on severe restrictions and penalties for excessive water use once they become unable to insulate the public from a dwindling water supply. When this happens, there will inevitably be a surge in water prices as well as demand for water conservation tools like LISA.

Fortunately, Colorado State University Extension is ready for this scenario.

Reich stresses the need to maintain a public awareness of water conservation even during wet conditions. By spreading the word about LISA kits now, the public will already be aware of these tools when water bills start having a real impact on monthly bank statements.

The LISA program has already found success through a WRECKing Crew (Water Resource Education Curriculum) program that was a collaboration between Colorado State University Extension and high schools in Pueblo (Pueblo West High School and Pueblo County High School) as well as in Colorado Springs (Air Academy High School). The project focused on performing irrigation audits with LISA kits on school grounds. This experience encouraged students to become more aware of the crucial role water plays in the economic and environmental health of Colorado.

LISA has also found a receptive audience in the Colorado Master Gardener community. The simplicity and precision of the kit makes it very attractive not only to these diligent gardeners but also to the public they advise. It cuts out the guesswork of watering by allowing them to program their irrigation systems according to seasonal conditions.

For those who experienced the severe drought conditions of 2001-2002, the effects of these years have not been forgotten. Reich claims that the more the public experiences drought, the harder it will be for us to ignore the consequences.

"For people who care about maintaining a healthy green lawn in drought conditions, the LISA kit will become an invaluable tool," Reich says. Once drought conditions inevitably hit, these homeowners will be prepared to meet these water supply challenges head-on with help from Colorado State University Extension.

"It's only when the well runs dry that we will know the true worth of water."

— Benjamin Franklin

10 Steps to a Healthier Lawn

1. Be sure all maintenance issues are resolved. Do not audit until they are.
2. Select representative lawn section. Take soil core to measure root depth.
3. Space out steel stakes in a grid spaced at half the separation between sprinkler heads. Keep stakes two feet clear of sprinkler heads.
4. Place catch-can in support stakes so rims are horizontal.
5. Manually run irrigation zone(s) that waters cup area (audit section) using 5 minute increments until most catch-cans contain at least 25 ml of water.
6. Record catch-can volumes and repeat steps 1-5 for other (representative) sections of your lawn.
7. Go to LISA website: www.ext.colostate.edu/lisa
8. Enter data in Setup and Data pages (Manual Entry requires slightly more lawn knowledge).
9. Translate Watering Schedule to Irrigation Controller.
10. Enjoy a healthier lawn, more free time, and a cheaper water bill.

Severe drought is an inevitable consequence of living in the west. While building large reservoirs and constructing effective water delivery systems are capable of mitigating immediate drought conditions, they can only be effective for so long.

With over 30 percent of the contiguous US experiencing moderate to exceptional drought, communities across the nation are finding creative and effective ways to conserve water. LISA complements this trend by providing urban water users with a tool that accurately measures the efficiency of their sprinkler system.

Contact Information

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