Turfgrass Best Management Practices

Water Conservation: half-empty or half-full?
Regional Webinar Series
May 3, 2011
Use of Drought Resistant Bermudagrass Cultivars for Landscape Water Conservation

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Water Conservation Regional Webinar Series
Southern Region Water Program
May 3, 2011
Introduction

• BMP’s for turf management concerning water use and conservation
  – Raise mowing height
  – Proper fertility – based on soil testing
    • OSU SWFAL - http://www.soiltesting.okstate.edu/
  – Proper irrigation frequency, timing, quantity
    • OSU Simple Irrigation Plan - http://sip.mesonet.org/
  – Use of improved cultivars
    • Today’s topic
Introduction

• Use of drought resistant cultivars
• Bermudagrass is the most widely used turf in Oklahoma
  – Is a warm-season grass and a drought resistant species
• Tall fescue is the most widely used cool-season turf in Oklahoma, especially in eastern OK, and on shady sites
  – Requires intensive management
  – Requires about 2x’s as much irrigation water during the growing season
Introduction

• Turf bermudagrass cultivars have differential response to drought stress
Introduction

• Turf bermudagrass cultivars have different water use rates
Goals and Objectives

• Goal is to increase the use of more drought resistant turfgrass cultivars in the landscape

• Objectives are to:
  – Measure and explain differences in drought response of several turf bermudagrass cultivars
  – Measure and explain differences in water use rates of several turf bermudagrass cultivars
  – Promote the use of the most drought resistant turf bermudagrass cultivars in OK and the southern region of the United States.
Target Audience

• Sod Producers
• Home Builders
• Golf Courses
• Parks and Recreation
• Sports Fields
• Homeowners
• University Extension
Water Conservation Principles

• Reduce the quantity of treated municipal water applied in the landscape
  – Reduce irrigation requirements of turf areas
• Promote the best cultural practices to produce high quality turfgrass under reduced irrigation
• Selection and use of drought resistant turfgrass cultivars
Research to Extension
Research

Evaluation of bermudagrass water use rates

Bermudagrass lysimeter in field plot
Evaluation of leaf firing resistance among bermudagrass turf cultivars
Extension

Practical Turf Areas

- Tall Fescue
- Kentucky Bluegrass
- Ryegrass
- Hybrid Bermudagrass
- Zoysia grass
- Common Bermudagrass
- Buffalograss

Turfgrasses vary in their need for irrigation. Selecting the right species is very important. Below are common turfgrass species used in Oklahoma listed in order of water needs from highest to lowest:

Practical turf areas suggest that turf grasses be used as a planned element in the landscape. Avoid impractical turf use, such as long, narrow areas.
Extension

• Traditional
  – Workshops
  – Fact Sheets

• Survey Work
  – Perceptions
  – Consumer preference
  – Willingness to pay for certain attributes
    • Dr. Tracy Boyer, Dr. Chanjin Chung
Collaboration

- Oklahoma Water Resources Research Institute
- Oklahoma Center for the Advancement of Science and Technology
- Oklahoma Turfgrass Research Foundation

- USDA NIFA SCRI
  - Texas A&M University, Oklahoma State University, University of Florida, University of Georgia, North Carolina State University,
Program Success

• We have begun to develop an understanding of which bermudagrass cultivars perform the best under drought or limited irrigation
  – Sod strength
  – Cold tolerance
  – Disease
  – Insects
  – Aesthetics
Program Challenges

- Sod Producers
- Home Builders
- Specifications

- Quick-fix perception – find the grass that you don’t have to water, mow, or fertilize, but will still outcompete weeds, act as vegetative buffers/reduce surface runoff, etc.
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