

Publications and Resources

- ⇒ 'Cactus Clippings'
for Professional Turf Managers
- ⇒ 'Turf Tips'
for Homeowners
- ⇒ Turfgrass, Landscape, and Urban IPM
Research Summary
- ⇒ Online Mailing Lists and Web Updates



Annual Events

- ⇒ Turf Field Day at Karsten Turf
Research Facility in Tucson, AZ
- ⇒ Summer Short Course
- ⇒ Seasonal Seminars and Workshops
- ⇒ Field Research Demonstrations

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From the Cactus to the Little Leagues, sports fields across the Southwest benefit from the research conducted by The University of Arizona turf program.

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*Turfgrass Research,
Education, and Extension*

*Arizona's
Grass
is Greener*



Practical
Impacts of
Turfgrass
Research from
Arizona's First
University

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Introduction

The University of Arizona Turfgrass Research, Extension, and Education program aims to be the preeminent authority for desert turfgrass science. The foundation for establishing itself as the premier desert research, teaching, and extension center is concentrated at the University of Arizona Karsten Turfgrass Research Facility in Tucson, AZ. The 8 acre research center built in 1991 through the support of the College of Agriculture and Karsten Manufacturing Corporation is comprised of turfgrass research plots which include the world's largest monolith lysimeters set to turf. A weather station-based computer controlled irrigation system provides for precise irrigation control for turfgrass drought and water use studies.



Field trials are established on golf courses and sports fields statewide, providing turf managers with onsite data that complements research from the Karsten Turf Facility.

A multi-disciplinary research faculty with expertise in plant sciences, weed science, plant pathology, breeding, biometeorology, soil science, irrigation management, water quality and entomology deliver quality teaching and extension to students and turfgrass clientele. The faculty and students generate findings unique to desert turfgrass science. Outreach education to professional golf course superintendents, sports turfgrass managers, and landscape professionals is grounded in meaningful, practical, and applied research. The University of Arizona is recognized globally for training undergraduate, graduate students, and professionals for arid turfgrass science and management in Arizona, the surrounding region and other arid regions of the world. No other land grant institution in the western United States offers significant research, outreach, or curriculum for students and clientele.

Impacts

Turf Variety Trials

The challenges of Arizona's climate has led researchers to investigate the management and stress tolerance of turfgrasses for arid and semi-arid regions. Heat, salinity, and drought stress tolerance are of particular concern.

⇒ NTEP Trials

The National Turfgrass Evaluation Program (NTEP) sponsors identical field trials in strategic locations across the country. The Karsten Turfgrass Research Facility contributes to NTEP by determining the adaptability of cultivars to southwest desert conditions. Turfgrass quality characteristics such as color, density, smoothness, uniformity, vigor, and pest and disease resistance are evaluated.

⇒ New Grasses for Desert Turf

The University of Arizona is pioneering the development of an experimental turfgrass species called saltgrass. **Saltgrass** can grow with water that has half the salt concentration of ocean water. Deep roots allow saltgrass to maintain good quality for up to 2 weeks between irrigations during the summer. Saltgrass grows well under extremely poor soil conditions and can tolerate traffic.

Seashore **paspalum** is another salt-tolerant turfgrass being utilized in many maintained turf settings, including golf course greens, tees, and sports fields. Ongoing research is comparing the performance of both saltgrass and seashore **paspalum** against standard bermudagrasses.

Fall Overseeding/Spring Transition

Winter turfgrass is overseeded in the early fall season when bermudagrass becomes **dormant**. In the spring, bermudagrass transitions back for the summer. Cool season grasses, such as perennial ryegrass, are being evaluated at the Karsten Turfgrass Research Facility, for their performance.

⇒ Overseeding Research

The optimum amount of perennial ryegrass seed planted in the fall was determined for bermudagrass fairways on golf courses. Excessive amounts of **seed** can result in poor bermudagrass transition the following season. Not using enough seed took longer to establish a winter turf.

⇒ Herbicides to Aid Transition

Several new herbicides have been tested and proven useful in eliminating winter **ryegrass** from bermudagrass that is beginning to grow in the spring.

Water Issues

Water quantity and quality are critical issues in our desert environment.

⇒ Irrigation Efficiency

University of Arizona researchers devised **guidelines** for more efficient water use on golf courses and home lawns based on weather data.

⇒ AZMET

The Arizona Meteorological Network uses **weather stations** throughout the state to collect data that enables the generation of turf water use estimates.

⇒ Salinity

The accumulation of salts in soil, a problem resulting from **effluent** or **reclaimed water** use, is being studied by University of Arizona researchers to improve conditions so that turfgrasses can be grown to meet the quality demands of golf courses, sports fields, and landscapes.

Pest Management

Turf managers battle many biological pests and try to integrate all economical and environmentally compatible practices to reduce their detrimental effects.

⇒ Insects

Key insect pests have been identified and are being monitored to provide turf managers the critical decision-making information for initiating control measures. **Beetle** and **grub** populations were identified in Arizona that do not exist anywhere else in the United States.

⇒ Diseases

University of Arizona researchers have determined practical solutions against the fungi that is destructive to turfgrass. The disease, "**Rapid Blight**", once a ruinous turf-devastating nightmare, is now easier to avoid by planting appropriate types of grasses and using effective chemicals based on University research.

⇒ Weeds

Common turf weeds like **crabgrass**, **nutsedge**, clover, and **Poa annua**, are eliminated in a more timely and efficient manner by using improved chemical and cultural control practices perfected by collaborations between University and industry professionals.