

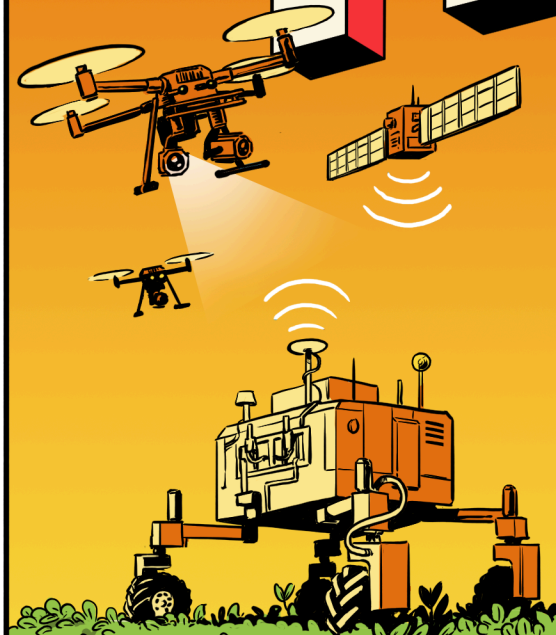
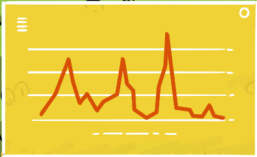
INCREDIBLE FEATS OF PLANT BREEDING

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**WATER-WISE TURFGRASSES
HIT THE MARKET
AND MAKE A SPLASH!**



TEAMWORK, tenacity, and tough testing environments make **DROUGHT-RESISTANT** turfgrasses a reality!



SEE INSIDE FOR DETAILS!

THE IDEA

Turfgrasses provide many ecosystem services, including stormwater runoff management, cooling, air quality improvement, and noise and glare reduction. With global heating and more frequent and longer droughts, maintaining **functional and beautiful turfgrass landscapes** without straining resources is critical. To meet this challenge, six public turfgrass breeding programs joined forces to develop drought-resistant cultivars of the four most popular **warm-season turfgrasses**: bermudagrass, St. Augustinegrass, seashore paspalum, and zoysiagrass. The collaboration created opportunities for large-scale testing and selection for **drought resistance** and other important traits across diverse environments. To develop widely adapted grasses that not only survive but thrive with less water, all breeding lines were screened in trials at multiple locations across the southern US. The best-performing lines advanced to replicated trials in a range of managed stress environments, where additional traits like **salinity resistance**, shade tolerance, and sod production characteristics were evaluated. This coordinated, multi-step process ensured that only the most resilient and highest-quality grasses advanced to the next stages.

THE IMPACT

With 15 years of support from USDA's National Institute of Food and Agriculture across three funding cycles, the **six-University consortium*** has released **14 new drought-tolerant cultivars**, now grown on over 19,000 acres in the US, Australia, Brazil, Japan, Mexico, and Spain. New bermudagrasses TifTuf® and Tahoma 31® show up to 20% better drought resistance than Tifway 419, the industry's old standard; and Zoysiagrasses Brazos® and Lobo® show up to 38% improvement in drought tolerance over the popular cultivar Zeon. The consortium's new varieties not only save water but are also more visually appealing, with **increased resilience to pests, shade, and salinity**. For example, St. Augustinegrass Cobalt® outperforms standard cultivars Floratam and Raleigh not only under drought but also under 63% shade. With water increasingly scarce and costly, and outdoor watering restrictions increasingly common, these new resilient cultivars help turfgrass managers and homeowners keep their landscapes green while saving much needed resources.

DID YOU KNOW?

Warm-season grasses are super cool! Compared to cool-season grasses, their relatively low water requirements come from a savvy combination of morphological traits and physiological mechanisms, including robust root systems, **C4 photosynthesis**, and in some species the presence of rhizomes. These characteristics allow warm-season grasses to **survive longer without water**, go dormant during drought conditions, and rapidly recover when water becomes available again.

THE TEAM

