Golfers and golf courses benefit from the use of native grasses in roughs

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Some golfers may prefer a well-manicured golf course, highly-maintained with very green, very short grass that's easy to play off of. But, according to two recent studies at the University of Illinois, a naturalized landscape that incorporates native grasses benefits biodiversity, saves costs on pesticides and labor for the golf course, and could create a course which is just as challenging for golfers.

Matthew Mechenes, graduate student in the Department of Natural Resources and Environmental Sciences in the College of Agricultural, Consumer and Environmental Sciences conducted the studies.

"One benefit of using native plants is that they are perennial. Because they return year to year, there's no need for reseeding or replanting," said Mechenes. "They have fewer insects or disease problems than some exotics, they are more heat and drought resistant because they evolved in Illinois so they are very well adapted to the environment; they attract wildlife for food and forage for many native species; and also they are attractive and colorful."

He stressed that using native grasses is more economical for golf courses. "Establishing natural areas can reduce water consumption, mowing, pesticide use and labor. It doesn't eliminate them all together, but it can reduce them and golf course managers like to save on costs."

Mechenes' research focused on determining the best choice of native grasses to use on roughs -- the areas on either side of the fairway or

green that features slightly taller grass. "Many golf courses don't have any natural areas as roughs so we are trying to encourage them to consider incorporating them into the course landscape in order to make the course more challenging, but also to improve the setting by providing a more natural look rather than a highly manicured non-native setting," he said.

The research examined two warm-season perennial grasses which are native to Illinois -- blue grama and the Cody variety of buffalo grass. "We also used a combination of the two grasses because in previous research done at the University of Illinois it was shown that these two grasses had great promise for use in un-mowed roughs," said Mechenes.

In the first study, Mechenes looked at blue grama cultivars in order to determine which type provided the best coverage for the plots at the Landscape Horticulture Research Center in Urbana. Each of the plots had either 11 or 13 treatments of blue grama, buffalo grass or a combination of blue grama and buffalo grass. Each trial had three replications.

Once a week, Mechenes went out to visually inspect the plots and rate them by percent of coverage. The plots had minor irrigation needs and were mowed and applied with herbicide to reduce weed invasion. The first study was planted in the 2006 growing season and was repeated in June 2007. Mechenes said that the study in 2006 didn't receive a pre-emergent herbicide application and consequently had a lot of weed competition. The study in 2007 received a treatment of the herbicide Plateau and was much taller, greener, healthier-looking grass.

Some of the varieties had a hard time getting started but by the end of the growing season, but most had excellent coverage of 80 percent or more.

The goal of the second study was to find out which seeding rate provided the best cover using 4 different seeding rates and then repeated 5 times in each plot. 10, 20, 25, and 30 pounds of seed per acre.

"The results showed that blue grama and Cody buffalo grass had the best coverage – thick and beautiful -- and that the plots using 30 pounds of seed per acre established quicker but by the end of the study there was no difference in the coverage between the 20 and 30 pounds. So, the recommendation is to use 20 pounds of seed per acre because it's less seed, costs less and uses less labor to plant," said Mechenes.

Mechenes plans to create a website which will include information about numerous native grasses that would be appropriate for golf courses as well as information about non-native grasses which are currently used on most golf courses.

Some other advantages to planting native grasses Mechenes mentioned were that they solve some site problems such as areas that have erosion problems which native plants are more adapted to; and, it may be a public relations advantage when golf courses invite school children or scouting groups to come out and observe the natural wildlife, because the native grasses attract more birds and butterflies.

Mechenes did cite a couple of disadvantages. "You're obviously on a golf course, so slow play is an issue as sometimes these grasses grow very tall making it difficult to find your ball. And native grasses sometimes attract nuisance animals such as deer and rabbits that get in the way as well as bees, flies and mosquitoes."

Source: University of Illinois at Urbana-Champaign