



The completed garden at the GTI.

Common & Uncommon Grasses Take Root in GTI Display Garden

Peter Purvis, GTI Station Manager & Rob Witherspoon, GTI Director, University of Guelph

Over a beer at “Shakies” (the Shakespeare Arms, a local turf student and staff watering hole), Rob Witherspoon confided in me an idea of his that had been brewing for a long time: “What if there was a site at the Guelph Turfgrass Institute (GTI) that would include representative plantings of many cool and warm season turf grasses that we could use for teaching and research – and what about a putting green with different grasses that people could practice on?” And so the Turfgrass Species Display Garden was born.

We know that Kentucky bluegrass, creeping bentgrass, perennial ryegrass and the fine fescues are the four main species of grasses used in Ontario. Unfortunately, there has been limited investigation into the suitability of alternative turfgrass species for use in sports fields, golf courses, sod production, parks, roadsides, landscape sites or other

turf areas. Fortunately, new turfgrass cultivars are constantly being developed and tested, but often an existing species may be all that a sports field manager requires for a specific application. Are there existing turfgrass species that can withstand drought or wet conditions, harsh winters, low fertility, disease pressures and many other extreme conditions yet retain good quality and recuperative potential? The



Several weeks after planting.

answer to this question is critical given the challenges of climate change, watering and nutrient restrictions, and pesticide bans.

The objective of the Turfgrass Species Display Garden is to establish a long-term research and teaching site that includes side-by-side representative plantings of a wide range of cool and warm season turf grasses. The garden will provide several benefits, including:



Preparation of the garden.

- A site where sports field, park and turfgrass managers and golf course superintendents have access to a comparison of a wide range of cool and warm season turf grasses, both in their natural and maintained forms;
- An educational resource for faculty, extension specialists, students, industry professionals and the general public;
- A source of mature and established plant material for greenhouse and student research projects; and
- A means of informal annual evaluation of the short and long term performance of various common and uncommon turfgrass species grown under southern Ontario conditions.

Construction of the Turfgrass Species Display Garden began in August 2009 with much of the work being done by student interns from the University of Guelph Turfgrass Management program. The area was first sprayed with glyphosate, then the sod was stripped off and garden areas rototilled. Twenty species of cool season grasses (Table 1) were planted in September. Grasses were planted in 1-m wide, side-by-side rows with a divider in-between each row to reduce spreading of the grasses. Two-thirds of each species was mowed and the remainder left unmown so the grasses could be viewed in their cultivated and natural forms. A series of paths and benches were constructed throughout the garden for easy access to the grasses and all species were well labeled.

A putting green was also planted in five separate sections, each containing a different species of fine-type turf (Table 2). Putters and golf balls are left on site so that visitors can practice putt as they evaluate the different grass putting surfaces. A selection of warm season grasses was planted in June, 2010 (Table 3). It will be interesting to see how these warm season grasses handle our southern Ontario winter. The official dedication of the garden took place at the Guelph Turfgrass Institute's Research Field Day in August, 2010. Please come and view the new garden and see if you can incorporate any of these grasses into your golf course or turf areas. Visitors are always welcome.

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Table 1: Cool season grass species planted in the Turfgrass Species Display Garden.

Grass (common name)	Species Name
Fairway Wheatgrass	<i>Agropyron cristatum</i>
Crested Wheatgrass	<i>Agropyrum desertorum</i>
Redtop	<i>Agrostis gigantea</i>
Creeping Bentgrass	<i>Agrostis stolonifera</i>
Smooth Bromegrass	<i>Bromus inermis</i>
Orchardgrass	<i>Dactylis glomerata</i>
Sheep Fescue	<i>Festuca ovina</i>
Red Fescue	<i>Festuca rubra</i>
Chewings Fescue	<i>Festuca rubra</i> var. <i>commutata</i>
Hard Fescue	<i>Festuca trachyphylla</i>
Tall Fescue	<i>Lolium arundinaceum</i>
Perennial Ryegrass	<i>Lolium perenne</i>
Annual Ryegrass	<i>Lolium perenne</i> ssp. <i>multiflorum</i>
Western Wheatgrass	<i>Pascopyrum smithii</i>
Timothy	<i>Phleum pratense</i>
Canada Bluegrass	<i>Poa compressa</i>
Kentucky Bluegrass	<i>Poa pratensis</i>
Texas Bluegrass Hybrids	<i>Poa pratensis</i> × <i>Poa arachnifera</i>
Rough Bluegrass	<i>Poa trivialis</i>
Weeping Alkaligrass	<i>Puccinellia distans</i>

Table 2: Grass species planted in the putting green.

Grass (common name)	Species Name
Annual Bluegrass	<i>Poa annua</i>
Colonial Bentgrass	<i>Agrostis capillaris</i>
Creeping Bentgrass	<i>Agrostis stolonifera</i>
Fine Fescue Mix	<i>Festuca trachyphylla</i> ; <i>Festuca ovina</i> ; <i>Festuca rubra</i> ; and <i>Festuca rubra</i> var. <i>commutata</i>
Velvet Bentgrass	<i>Agrostis canina</i>

Table 3: Warm season grass species planted in the Turfgrass Species Display Garden.

Grass (common name)	Species Name
Sideoats Grama	<i>Bouteloua curtipendula</i>
Blue Grama	<i>Bouteloua gracilis</i>
Buffalograss	<i>Buchloe dactyloides</i>
Bermudagrass	<i>Cynodon Dactylon</i>
Zoysia Grass	<i>Zoysia japonica</i>