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The Grassy Knoll: Can We Improve Long-Rough and Naturalized Areas on Golf Courses?

This photo of Cantigny Youth Links shows a mix of different-height grasses, including some natives like little bluestem.

Most new courses today are built with many environmental concerns in mind, including providing or maintaining some "native" or "naturalized" grasslands, savannas/woodlands or wetlands. These areas are intended to provide habitat for wildlife, especially insects, birds, rodents and other small animals. Unfortunately, these areas can be very unfriendly to the average to below-average golfer, especially if the vegetation is long and thick and close to the line of play.

You have seen "The Look"—the mounds, knolls, swales and bunker banks in transitional areas are seeded to fescue mixes or blends, and then allowed to grow unfettered to seed head formation.

On most holes, what we see is a gradual transition from fairway to intermediate rough to a primary or long rough, which might be unmowed or rarely mowed. On newer courses in Illinois, the long-rough or naturalized areas often consist of a blend of fine and/or tall fescues, or a bluegrass/ryegrass/other grass blend. These long-rough areas are meant to invoke the look and feel of Scottish links golf; in fact, one of the popular fescue seed blends is called "Scottish Links." You have seen "The Look"—the mounds, knolls, swales and bunker banks in transitional areas are seeded to fescue mixes or blends, and then allowed to grow unfettered to seed head formation. If you hit your ball into those tall, thick grasses, you know how penalizing this form of rough can be.

Many older clubs have also abandoned expansive mowed rough areas to establish unmowed naturalized vegetation, usually Kentucky bluegrass, tall fescue and ryegrass. Besides going for "The Look" that newer courses have, many older courses also want to provide more natural habitat for wildlife. A major contributor to this move to unmowed roughs and "naturalized" vegetation has been the International Audubon Society and their Audubon Cooperative Sanctuary Program for golf courses. It's been good for

(continued on page 10)

bugs and birds, but maybe not so good for those of us who stray from the fairway!!!

But does growing fescues or blue/rye blends to full height really work for long roughs in Illinois? Of course, there are issues of lost balls and slow play—most "naturalized" areas are now marked or played as lateral hazards, to avoid the stroke and distance, lost-ball rule. But weed control and other aesthetic concerns are also issues, because of invasive species like Canada thistle, clover, chicory and Queen Anne's lace. These aggressive aliens can out-compete desired grasses and increase the labor and chemical costs for their removal. Moreover, selectively controlling these broad-leaved weeds in mixed grass/forb plantings is particularly difficult.

Since "naturalized" fescue roughs have come into fashion, superintendents have shared a number of other concerns with us. For example, thinning and death of fine fescues have occurred in sites that remain too wet or consist of heavy, compacted, poorly drained soils. Most of these fescues are better adapted to dry sites with light (sandy) soils than to wet, clayey soils (Illinois is not Scotland!). Long roughs that are in wet sites or have heavy, compacted soils will probably be more successful if other plant species (grasses and forbs) are established there.

More recently, another question has come to light. Several Chicago-area superintendents have requested information on the possibility of creating unmowed but still playable roughs. There is a growing desire for rough areas that are tall and rarely mowed (and have "The Look"), but are also thin or "open" enough to find your ball and play a recovery shot.

At present, we have no answers to these questions and finding a solution could be a difficult task. Here is WHY. For the most part, our soils hold moisture and have decent fertility. Plenty of weed seeds from the soil "seed bank" are waiting to move in from surrounding unmaintained

(continued on page 12)

Table 1.
Ornamental exotic and native grasses for rough areas (tentative list).

Andropogon gerardii	Big Bluestem
Bouteloua curtipendula	Side-oats Grama
Bouteloua gracilis	Blue Grama
Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster's Feather Reed Grass
Calamagrostis canadensis	Bluejoint
Chasmanthium latifolium	Northern Sea-oats
Deschampsia cespitosa	Tufted Hair Grass
Elymus canadensis	Canada Wild Rye
Eragrostis spectabilis	Purple Love Grass
Festuca glauca 'Elijah Blue'	'Elijah Blue' Blue Fescue
Helictotrichon sempervirens	Blue Oat Grass
Hierochloe odorata	Vanilla Grass
Hordeum jubatum	Foxtail barley
Hsytrix patula	Bottle-brush Grass
Miscanthus 'Giganteus'	Giant Miscanthus
Miscanthus 'Purpurascens'	Flamegrass
Miscanthus sinensis 'Gracillimus'	Maiden Grass
Miscanthus sinensis 'Sarabande'	Sarabande miscanthus
Miscanthus sinensis 'Variegatus'	Variegated miscanthus
Miscanthus sinensis 'Zebrinus'	Zebra Grass
Panicum virgatum 'Dallas Blues'	Dallas Blues Switch Grass
Panicum virgatum 'Heavy Metal'	Heavy metal Switch Grass
Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass
Phalaris arundinacea 'Picta'	Gardener's Garters Ribbon Grass
Phragmites australis	Common Reed
Saccharum ravennae	Ravenna Grass
Schizachyrium scoparius	Little Bluestem
Sorghastrum nutans	Indian Grass
Spartina pectinata	Prairie Cord Grass
Sporobolus heterolepis	Prairie Dropseed

This photo of Orchard Valley shows tall fescue and fine fescue on mounds. This and the shot of Cantigny reflect a couple different ways that newer courses are striving for "The Look" of naturalized, pseudo-prairie, Scottish links (what architect Dick Nugent originally dubbed Prairie Links golf).

areas. Most years, we get enough precipitation (even without supplemental irrigation) for many weedy species to thrive and for unmowed sites to be densely vegetated.

Three questions, then, beg answering.

1) What species should we be planting—natives, fescues?

2) How are we going to keep weeds out of a naturalized rough that is planted to a low density of desirable grasses/forbs?

3) What seeding rates and final plant densities will be required to establish a rough from which you can find and extricate your golf ball?

All good (tough) questions! In work started this autumn at the Midwest Golf House Complex, we have initiated research and demonstration areas in an attempt to identify grasses and management techniques better suited to long roughs or out-of-play areas. For example, we recently established a study in which (reportedly) Roundup-tolerant hard fescue and tall fescue varieties were planted at varied seeding rates. Our objective is to create a rough that is tall and rarely mowed, but is also "open" and "playable." Roundup will be applied to control weeds that invade the plots, hopefully without killing the desired grasses. As the study unfolds, we will determine the species, planting density and herbicide-application schedule for an acceptable tall rough.

We also started planting a large demonstration area to display more than 40 turf and ornamental grasses (both natives and "exotics"—see Tables 1 and 2) in a long-rough or unmowed, naturalized setting. These grass plots will be 10 x 15 feet, and easily accessible for viewing along the first hole of the course. In September, we seeded 10 of the turfgrasses; the remainder will be planted next spring and early summer (seed and plugs). Along with the grass demonstrations, we also hope to install two areas of short, native prairie mixes available from a Wisconsin nursery. All of these areas will be available for viewing by golf turf managers and other personnel once established.

Table 2.
Seeded grasses for rough areas.

Agrostis alba	Redtop
Agrostis palustris	Creeping Bentgrass
Agrostis tenuis	Colonial Bentgrass
Buchloe dactyloides	Buffalograss
Dactylis glomerata	Orchardgrass
Festuca arundinacea	Tall Fescue
Festuca longifolia	Hard Fescue
Festuca ovina	Sheep Fescue
Festuca rubra	Creeping Red Fescue
Festuca rubra ssp. commutata	Chewings Fescue
Lolium perenne	Perennial Ryegrass
Phleum pratense	Timothy
Poa compressa	Canada Bluegrass
Poa pratensis	Kentucky Bluegrass
Poa trivialis	Rough Bluegrass

Finally, other unmowed rough areas at the Midwest Golf House's three-hole Short Course will be planted to a fine fescue blend and will provide an opportunity to initiate management studies in the future. Is there a management scheme that will allow these long-rough areas to be playable? While it remains to be seen, we do intend to try a few different fertility, mowing and PGR regimes.

Other opportunities abound. One creative suburban superintendent suggested using PGRs on tall native grasses in an attempt to create a playable rough. Others have suggested unusual native species, as well as plant mixes, to include in future plantings. If you have used a plant mix that works well in your roughs, or have devised a management scheme that is successful, please let us know.

"The Look" does not come without some perils, namely, weeds (thistle) and a tough lie to play from!