

Formal Field Tour – Part 1

Stop 4: Effects of Mowing Height and Spreading Perennial Ryegrass on Annual bluegrass Encroachment and Divot recovery.

Brian Davis court

9:40 to 9:50 am

Introduction: In efforts to improve the use of perennial ryegrass breeders have developed spreading (stoloniferous) cultivars. These spreading cultivars repair from divoting, unlike conventional perennial ryegrass, and can be maintained at a lower mowing height. Accelerated recovery and the ability to be maintained at a lower mowing height are important traits for reducing *Poa annua* encroachment under conditions of extreme wear. Non-spreading varieties of perennial ryegrass will suffer from rapid *P. annua* encroachment when mowed below 1.5" and require frequent repair seeding in divot conditions. Spreading ryegrasses form a network of stolons or pseudo-stolons to spread and fill in exposed soil and damaged areas. The formation of these stolons may be determined by season, eg. Natural Knit most readily forms its pseudo stolons in the spring.

Objective: Evaluate the effects of spreading perennial ryegrass cultivar on annual bluegrass encroachment.

Results: Four years after establishment Natural Knit had the lowest percentage of annual bluegrass encroachment, 10% (Table 1). All other cultivars, 'Fiesta 4', 'RPR' and 'SR 4600' had significantly greater amount of annual bluegrass encroachment, 30 to 35%. An inverse correlation between mowing height and annual bluegrass encroachment was also observed (Table 1). The 2.0" mowing height provided the greatest perennial ryegrass cover followed by the 1.25" height and finally the 0.625" height, which had the highest infestation of annual bluegrass.

Table 1: Effects of perennial ryegrass cultivar and mowing height on percent (0-100%) of perennial ryegrass and annual bluegrass cover 4 years after establishment from seed, Corvallis, OR July 2014.

Cultivar	% Perennial ryegrass	% Annual bluegrass
'Fiesta 4'	70.2 ^z b ^y	29.9 b
'Natural Knit'	89.9 a	10.1 a
'RPR'	72.2 b	27.8 b
'SR4600'	64.6 b	35.4 b
Mowing height	% Perennial ryegrass	% Annual bluegrass
0.625"	58.9 b	41.2 b
1.25"	77.4 ab	22.7 ab
2.0"	86.5 a	13.6 a

^xStratified sampling was used to determine the mean perennial ryegrass and annual bluegrass percentages (0 to 100%); ^yMeans followed by the same letter are not significantly different according to Fisher's protected LSD ($\alpha=0.05$).