

Non-Chemical Control of Weeds in Turf

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Prevention of initial weed infestation in newly seeded sports fields may be enhanced by the choice of grass species, cultivar or establishment procedures. The objective of these management procedures is to rapidly establish a competitive cover to prevent the encroachment of weed species.

The above GTI researchers compared eight seed sources, in addition to commercial sod, to establish turf on a bare soil at the former GTI research field at Cambridge. Seeding was done on July 31, 1991 and the turf was maintained under standard management procedures.

Observations at establishment indicated significant differences between seed sources in the rate of attainment of a dense turf cover (data not provided). In 1993 the plots were rated on three occasions between July 15 and Sept. 13 for broadleaf weed and annual bluegrass content. The visual rating was done on a scale of 1 to 5, with 5 being a heavy infestation of more than 50% of the plot area.

The data show significant differences between seed sources (Table 1). The most efficient weed suppression procedure was sodding which provided a near weed-free environment for two years. While the cost of sodding a sports field may be excessive for some situations, the reduced weed control required in the initial years of use

should be factored into that cost. The weed suppression by the sod is an excellent example of the competitive ability of a dense turf. Of course it is imperative that the sod be weed free at the beginning.

The use of a named cultivar of Kentucky bluegrass also had a significant effect on weed suppression, reducing the broadleaf weeds by 68% and annual bluegrass by 44% of the weed content where commercial seed was used. Levels of weed infestation, similar to commercial seed, were observed where several different of-the-shelf lawn mixes were used.

The comparison of a named cultivar of perennial ryegrass with common seed, however, did not show any advantage for the named cultivar in suppressing broad leaf weeds. Annual bluegrass infestation, on the other hand, was reduced by 36%.

Annual bluegrass appeared to be the most prominent weed at this site. No herbicide is available for the removal of annual bluegrass from a Kentucky bluegrass sports field. Furthermore, annual bluegrass is an inferior species with regard to wear tolerance. The use of nursery sod, therefore, becomes a more viable cost alternative to seeding where annual bluegrass is known to be prevalent at the field. Again it must be emphasized - *the sod must be weed free.*

Table 1: The effect of seed source and method of establishment on broadleaf and annual bluegrass content two years following establishment.

Seed Source	Broadleaf Weeds	Annual Bluegrass
	(Rating of 1 to 5 ; 5 = 50%+ ground cover)	
Sod	.07	.05
Bare Soil	1.77	2.35
Kentucky bluegrass (Princeton)	.40	1.40
Kentucky bluegrass (Commercial)	1.25	2.50
Perennial ryegrass (Repel)	0.95	1.50
Perennial ryegrass (Common)	0.55	2.35
Lawn Mix #1	0.85	2.20
Lawn Mix #2	1.10	2.20
Lawn Mix #3	1.70	2.80
Lawn Mix #4	1.25	2.65

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GRASS CLIPPINGS

Poa annua (annual bluegrass) is a weed grass that grows in every state in the United States, in Canada, and throughout the entire world. It seeds profusely and can germinate without a period of dormancy. It is called "annual" because after germinating it can produce seed within two months. However, it is actually a perennial because under favourable conditions it produces shoots from nodes on each stem until the plant is killed by some environmental factor such as cold temperatures or drought.