

Comparison of Tall Fescue (*Cyperalis: Gramineae*) to Other Cool-Season Turfgrasses for Tolerance to European Chafer (*Coleoptera: Scarabaeidae*)

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Abstract

Three cultivars of tall fescue, *Festuca arundinacea* Schreb., were compared with three cultivars each of fine fescues (*Festuca spp.*), Kentucky bluegrass (*Poa pratensis L.*), and perennial ryegrass (*Lolium perenne L.*) to evaluate tolerance to root-feeding by European chafer grubs, *Rhizotrogus majalis* (Razoumowsky). Potted turfgrasses were infested with initial densities equivalent to 33 or 66 grubs per 0.1 m² on 19 August 2000. More grubs were added in late September and October, bringing the total to 66 or 143 grubs per 0.1m². Plant growth, root loss, weight gain, and survival of grubs were measured. The experiment was repeated in fall of 2001 with an initial density of 66 grubs per 0.1m². The proportion of root mass lost as a result of grub feeding was a function of turf species, root growth, grub survival, and grub growth during the test. Grubs gained the most weight and consumed the most roots when feeding on fine fescue. Fine Fescue suffered the greatest percentage of root loss in 2000, despite having the most rapid root growth and largest mass in control pots. **Cultivars of tall fescue appeared to be the most tolerant of grub feeding, having the smallest reduction in root mass in both years.** Data from fine fescue, Kentucky bluegrass, and perennial ryegrass cultivars were not as consistent as tall fescue, because for some cultivars root growth and grub survival were different between years. We also found that grubs increased in mass by 20% when the mass of available roots was doubled.

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