

Spring Annual Ryegrass Management when Overseeded into Warm-Season Perennials such as Bermudagrass

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Introduction

Fall overseeding provides not only an extension of the growing season but a boost in the nutritional value of the forage diet. Nevertheless, spring regrowth of warm-season grasses has been stunted in warmer than normal years with partial stand loss when annual ryegrass was overseeded in warm-season grasses like bermudagrass.

Maintaining an open canopy (achieved by closely grazing the pasture) is critical in early

spring to guarantee the light conditions that warm-season grasses require. Controlling the cool-season peak growth can be achieved through a combination of methods targeting removal of the cool-season grass early in the spring season. The challenge is to manage the onset of early warm-season conditions when you want to maximize the production of cool-season annuals like ryegrass.



Figure 1. Bermudagrass (center clump by arrow) affected by annual ryegrass overseeding in warm spring (surrounding clumps).

Spring Competition in Overseeded Pastures

Overseeding cool-season grasses in warm-season perennials in the fall is a practice commonly done to overcome the winter shortage of forage and extend production. Seeds of cool-season annuals are broadcast into an existing pasture or sod instead of planting into a prepared seedbed. However, overseeding cool-season

annuals such as annual ryegrass into permanent pastures may present some problems if not properly managed. Excessive growth if not controlled through timely mowing or grazing will create a severe shading competition condition that will affect the emerging warm-season grass in spring (Figure 2)



Figure 2. . Bermudagrass in Spring with no cool-season competition (left). Ryegrass canopy with potential damaging shading effect over bermudagrass if not removed in a timely manner (right).

Grass Growth as a function of temperature.

The growth of the cool-season grasses extends over a wider range of temperatures, which in warmer springs allows for annual ryegrass to be

more abundant creating competition for light, nutrients, and water. This period is represented by the small triangle in Figure 3.

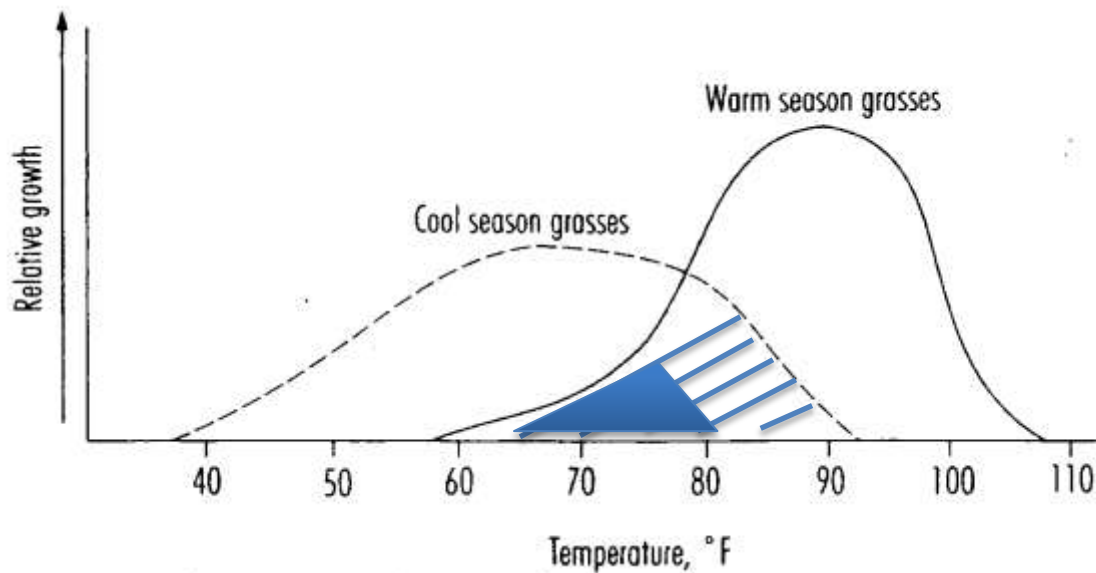


Figure 3. Cool-season grasses such as annual ryegrass (dotted line) are productive over a wider temperature range compared to warm-season grasses like bermudagrass (solid line). Source: Adapted from IPNI, 2007.

Cool-season early removal management

The objective of this strategy is to eliminate or reduce ryegrass or cool-season competition when conditions for growth and tillering of warm-season grass (bermudagrass) are starting (small triangle). These conditions will occur usually with daytime average of 65°F or night time temperatures of 60°F. This removal can be achieved by herbicide application, close grazing of the canopy, or close harvesting. If using herbicides, above and below ground elimination of the cool-season plant will be achieved. If grazing or harvesting for hay, stubble height or grazing intensity will be critical to guarantee conditions for warm-season bermudagrass or bahiagrass regrowth to occur.