

# Pasture Blends for New Plantings in Massachusetts

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## Rationale:

The proper pasture species selection is crucial for a productive and nutritious pasture. Selection is dependent upon several factors including, climate, soil drainage, stocking density, and type of grazing animal. All forage species are classified as either grasses, legumes or forbes. In Massachusetts, cool-season perennial grasses combined with a legume such clover, alfalfa, or birdsfoot trefoil are best adapted for our area. Many farmers contact UMass Extension and USDA-NRCS seeking information and recommendations on pasture species and varieties suited to Massachusetts soil and weather conditions. The objective of this research project is to provide improved information on forage species, varieties and blends, and through their adoption in pasturing, bring increased economic benefit to farmers.

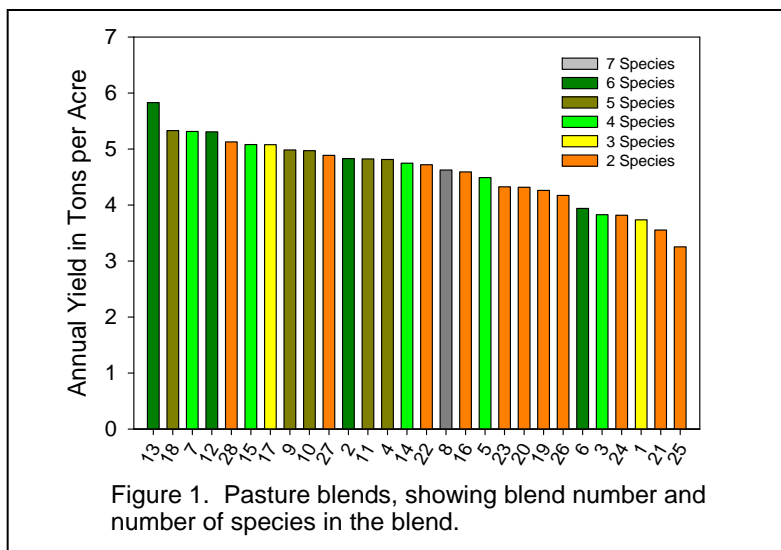
## The Plots:

Twenty eight pasture seed mixes/blends were seeded in August 2007 in Massachusetts. Species included were legumes – white clover, red clover, birdsfoot trefoil, and alfalfa, and grasses – orchardgrass, perennial ryegrass, meadow fescue, tall fescue, festulolium, bromegrass, timothy, and Kentucky bluegrass. In Massachusetts these species were seeded as two to seven species mixtures. Eighteen of these were commercial blends and 10 were mixtures of either perennial ryegrass and Alice white clover or orchardgrass with Alice white clover.

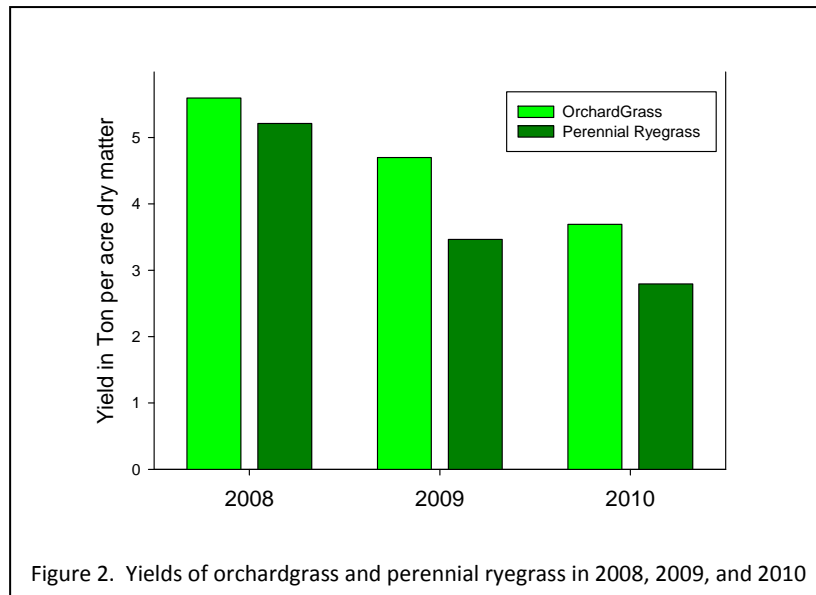
## Results of Three Years' Grazing:

Cattle were intensively grazed in each block for approximately one day per month beginning in May and ending in October or November. Samples of available pasture were clipped just prior to each grazing. Available dry matter quantity and quality were estimated from the samples. Figure 1 shows average annual yields of dry matter per acre in each of the 28 pasture blends. Also shown in Figure 1 is the number of different species in each blend. In general, blends with a greater number of different species

out performed those with fewer species. Statistical analysis showed no significant interaction between harvest year and pasture blend related to dry matter yield; that is, the trends shown in Figure 1 are similar in all three years of the project.



The ten blends that were a mix of white clover with either orchardgrass or perennial ryegrass are of interest in comparing different cultivars within a species, as well as for comparing yields of orchardgrass and perennial ryegrass. Figure 2 shows that orchardgrass has yielded more dry matter than perennial ryegrass. Also shown is the yield reduction of both over the three years of the project.



The plots have been intensively grazed to 3-4 inches, but have been allowed to regrow to a height of approximately 10 inches before cattle are grazed again. 2008 was an especially wet summer, so that may explain some of that year's high yield. We are hoping to find other reasons for the yield declines.

### **2011 Experiment:**

This year we have been taking inventory of which species are persisting, which are dying out, and which are invading adjacent plots. We are also measuring quality parameters including protein, calcium, magnesium, potassium, phosphorous, ash, and fiber.

For more information about this research project contact Stephen Herbert, [sherbert@cns.umass.edu](mailto:sherbert@cns.umass.edu).