Forage Research Update

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MINNESOTA - Seeding Tall Fescue or Perennial Ryegrass With Alfalfa Shows Promise in Northern Minnesota

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In August 2004, an alfalfa-grass mixture field study was seeded at the North Central Research and Outreach Center in Grand Rapids, MN, and harvested 4 times each year during 2005 and 2006. The 2006 data have not yet been summarized, but the 2005 data show interesting things.

The treatment design was complex, including 2 alfalfa varieties (Baralfa 32 vs. Baralfa 42) each mixed with 2 different varieties of tall fescue (Barcarella vs. Bariane), 2 different varieties of perennial ryegrass (BG-34 vs. an experimental turf-type WHxTQ), and one variety of orchardgrass and reed canarygrass. Mixtures of alfalfa with tall fescue or perennial ryegrass were seeded in 3 different proportions of 2 to 1, 1 to 1, and 1 to 2 of alfalfa:grass. Nitrogen fertilizer (40 lb N/ac/harvest or 160 lb N/ac/yr) was applied to the grass-dominant seedings and a set of 1:1 plots to assess the response of these mixtures to N fertilization.

The figure shows yield and species composition data. In 2005, greatest yields (avg. 5.0 ton DM/ac) were obtained with alfalfa-tall fescue mixtures fertilized with 40 lb N/ac per harvest. These mixtures produced 50% more forage than alfalfa grown alone (avg. 3.3 ton DM/ac), and maintained good alfalfa content (avg. 48% alfalfa) despite receiving 160 lb N fertilizer/ac/yr. Alfalfa-tall fescue mixtures without N (avg. 4.1 ton

Figure 1. *2005 Total Yields (4 harvests) of Alfalfa-Grass Mixtures at Grand Rapids, MN (Seeded Aug. 2004; avg. over 2 alfalfa varieties; % composition visually estimated).*