MINNESOTA– Pasture Systems Research for Organic Dairies

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Profitability of grazing farms relies on pastures producing a uniform supply of high-quality forage throughout the grazing season. However, pasture is often in short supply during mid-summer and late fall which may restrict grazing and require feeding of stored forage. Productive pastures are especially critical for organic dairy cattle, which require a minimum of 120 days of grazing with 30% of their DMI coming from pasture. A solution is to develop a grazing system incorporating both cool-season and warm-season pastures. At the West Central Research and Outreach Center organic dairy in Morris, MN, Brad Heins and his graduate student, Katherine Ruh, compared forage yield and nutritive value characteristics of a full-season, cool-season grass pasture system (perennial ryegrass, orchardgrass, meadow bromegrass, meadow fescue, alfalfa, white clover, red clover, chicory) with a combined cool-season/warm-season grass pasture system (brown midrib sorghum-sudangrass, teff). Holstein and crossbred certified organic cows grazed 22 hours/day from May through October and were moved to a new paddock every two days.

Averaged for three years, across the grazing season, forage yield was 38% greater for the combined cool-season plus warm-season system than for the cool-season pasture system alone, due to greater forage yield during the summer months compared to cool-season species. Crude protein was greater for cool-season perennial grasses compared to warm-season annual grasses and forage milk per ton was similar for the two systems. In addition to the production benefits, farmers need to consider the potentially greater input costs associated for annual forage establishment.