WISCONSIN – Dual Purpose Perennial Forage & Grain Kernza Research Update

Valentin Picasso, University of Wisconsin

Intermediate wheatgrass (*Thinopyrum intermedium*) is a perennial cool-season forage grass bred for large seed size and yield becoming the first perennial grain crop in the US. Commercial interest in Intermediate wheatgrass grain (Kernza®) has swelled and demand is greater than farmers' supply. Kernza production has great potential to improve agricultural sustainability compared to annuals because its extensive root systems reduce soil erosion and nutrient leaching, while simultaneously increasing farmer incomes due to decreased annual inputs and costs. Ongoing agronomic trials are determining best management practices for maximum grain yield. However, the capacity to manage Intermediate wheatgrass as an integrated crop/livestock system to produce forage for livestock and grain for humans remains unknown. Forage provides another revenue stream, reducing economic risks. Because Intermediate wheatgrass grain is harvested in mid-summer, there is potential to harvest or graze its forage in the spring and fall, but little is known about the impact of grazing timing on grain and forage production.

In a recently funded NCR-SARE grant, researchers and farmers from Wisconsin and Minnesota are working together to measure: 1) Intermediate wheatgrass grain yields after being grazed in spring, fall, or both seasons; and 2) forage yield, forage quality, and animal performance from grazed Intermediate wheatgrass. Improved Kernza seeds were planted this fall at four on-farm sites in Minnesota (Belle Plaine and Roseau) and Wisconsin (Dodgeville and Viroqua), and at two university research farms (UMN-Morris and UW-Lancaster). Alfalfa and red clover are legume companions for Kernza at the experimental research stations. Grazing treatments will start next spring, and measurements will be collected over two years.

This project responds directly to farmer-driven questions about production as a dual-purpose crop for grain and livestock. Preliminary results from experiments at Arlington Research Station (Wisconsin) established in Fall 2015 confirmed Kernza can suppress spring and fall weeds very effectively without the need for herbicides. Forage production and quality of Kernza were considerably high. Grain was machine harvested with commercial size equipment, demonstrating the feasibility of this promising new crop for the region. After the grain harvest, hay can also be harvested for livestock systems. Early spring and late fall grazing are options that are still being researched in this project.