## FORAGE RESEARCH UPDATES

**NORTH DAKOTA-Beef Cattle Performance Managed in Two Overwintering Environments** Jessalyn Bachler, Stephanie Becker, Kevin Sedivec, Michael Undi, North Dakota State University

Poor-quality forages are generally low in energy, protein, and minerals, and can impair rumen microbial function, leading to poor forage intake and digestion. Utilization of poor-quality forages can be improved through supplementation.

We conducted a winter study with non-lactating pregnant black Angus beef cows to investigate methods of supplementing cows bale-grazing poor-quality hay. We also compared performance of cows kept on pasture with cows kept in a drylot. Poor-quality grass hay came from a CRP field of cool-season, wheatgrass species not harvested for several years. Methods of supplementation: adding good-quality alfalfa hay, corn dried distiller's grains with solubles, or hay treated with a liquid supplement. There were three blizzards the first year of the study, resulting in heavy snow accumulation, with snow depths >20" in places. Despite blizzards, cows were able to bale graze for 70 days before termination of the study.

Preliminary results suggest poor-quality CRP grass hay may not contain adequate energy, protein, and phosphorus to meet nutrient requirements of pregnant cows in early to mid-gestation. Body weight and body condition losses in cows supplemented with alfalfa hay or liquid supplement suggest these supplements did not provide the nutrients, particularly energy, required to meet cow requirements. A comparison of bale grazing and drylot cow performance suggests feed quality may be more important than housing in determining performance under extreme winter conditions. Weather events such as blizzards will not necessarily hinder bale grazing when proper precautions are taken to ensure access to water, feed, and shelter. This study will continue for two more years.