



BeefTalk 683: In Search of Late-season Protein

SUPPORTING MATERIALS

Crude Protein Values NDSU Dickinson Research Extension Center		
Crested Wheatgrass	18 %	8.5 %
Early May Mid June		
Native Grass	13 %	7 %
Mid June Early Aug.		
Field Pea/Barley Mix	27 %	13.5 %
Mid July Early Sept.		
Stand Un-harvested Corn	18 %	10 %
Mid Aug. Mid Sept.		

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The center has been looking at various forages that may provide more protein than the traditional fall grasses through the incorporation of annual crops into the pasture rotations.

Cattle need energy to survive the big picture, but that survival does not mean much if their daily nutrition is not balanced. Growth requires the appropriate combination of many nutrients, including protein, minerals, vitamins and even water.

Good supplementation programs will help meet these needs. However, as the summer slowly shifts to fall, finding adequate protein is more of a challenge. In general, as cattle graze, there is an expectation that producers match the season of the year with the nutritional requirements cattle need.



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At the Dickinson Research Extension Center, Songul Senturklu, visiting scholar from Canakkale Onsekiz Mart Universitesi, BMYO, Canakkale, Turkey, measured the seasonal changes of protein by taking seasonal bimonthly forage samples. Senturklu found cool-season crested wheatgrass went from 18 percent crude protein in early May to 8.5 percent in early June.

The native grasses had 13 percent crude protein in early June but decreased to a low of 7 percent in early August. No wonder cows with calves like to graze cool-season grass in the spring and then switch to native grass in early summer.

The cool-season grass has ample protein to meet the protein requirements for cows in late pregnancy or early lactation. Native grass has excellent summer protein as well and will meet the requirements of most beef cows nursing calves into mid-July. High milk producing cows struggle to meet their daily nutrient needs before those cows that do not milk as well.

Cow-calf operations depend on the nutrients that plants produce to meet the late-calving and early lactation nutritional requirements for their cows in late spring and early summer. The same is true for other cattle types such as replacement heifers and grass calves.

Medium- to large-frame grass yearlings may have slightly less crude protein requirements than the beef cow nursing a calf, so the early grass pastures meet those requirements as well. Of course, those requirements are reflective of the gain desired.

In recent years, the center has been running grass yearlings, and 2 pounds per day seems to be a reachable goal in terms of body weight gain. If a producer was to desire greater gains, the protein requirement will go up, but so will the energy requirement.

The center's cattle consistently have had around 2 pounds per day of average daily gain. They are given all the cool-season grass they can consume in May. This is followed by putting the cattle on native grass in early June. Likewise, the replacement heifers have done well.

The challenge in beef systems comes once plants start to mature and prepare for fall. These plants dry down as fall arrives and no longer have enough measureable crude protein to sustain early summer gains. Thus, the search for protein. Cattle operations readily supplement in the winter by feeding hay or, if grazing, putting out a winter grazing supplement. The cows would go hungry very quickly without a supplement. Even an uninformed rancher should get the message that the cows are hungry.

However, fall is different because the cattle tend to fill up to satisfy their hunger but still not meet all their daily nutrient requirements, particularly protein. The center has been looking at various forages that may provide more protein than the traditional fall grasses through the incorporation of annual crops into the pasture rotations.

There are many forages that have yet to be evaluated thoroughly, but Senturklu measured the seasonal change in crude protein for a field pea and barley mixture, as well as corn. In these samples, Senturklu found the field pea and barley mixture to have 27 percent crude protein in mid-July, followed by 15.8 percent in mid-August and then decreasing to 13.5 percent in early September. By adding four to six weeks of a field pea and barley crop mixture to the pasture rotation, available crude protein increases.

In addition, unharvested corn also was evaluated. The corn had 18 percent crude protein in mid-August that gradually decreased to 10 percent in mid-September and was down to 7 percent by early October.

By grazing annual agronomic crops, livestock producers can find some windows of increased available crude protein to feed cattle. The cow and calf will appreciate the increase in available nutrients, and the grass yearling certainly will benefit from the added crude protein.

The key is making the economics work. The perpetual question is: "Why not just harvest the grain?" Good question and more on that next time.

May you find all your ear tags.

Your comments are always welcome at <http://www.BeefTalk.com>. For more information, contact the NDBCIA Office, 1041 State Ave., Dickinson, ND 58601, or go to <http://www.CHAPS2000.com> on the Internet.

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