Produce Six More Bags of Cow Cake By Harvesting Forage at the Optimum Time

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As traditional June rains arrived in some parts of the Northern Plains, other sections remain devoid of precipitation, creating the usual pattern of wet-versus-dry checkerboards across the agricultural landscape. As you move from square to square, a common question is: ìWhen should this field of hay be harvested?î

That question is becoming complicated as new annual hay crops arrive on the scene and merge with the traditional perennial grasses and legumes. In particular, oat is a good crop to look at and Pat Carr, agronomist at the North Dakota Dickinson Research Extension Center, has some interesting data that is relevant to many of our forage crops and crops in general.

By evaluating harvesting date of the oat variety Dumont, the impact of time of harvest can be better understood. Dumont oat was planted for three years and harvested at four different time periods: when the plant started to head, when the kernels were milky ripe, when the kernels were soft dough and when the kernels were at the hard dough stage with drying leaves.

Understanding forage crops really requires the producer to note the obvious changes that occur as the crop matures. This year annual crops are running a little behind schedule, with the winter type crops approaching heading and the early spring annuals primarily in the jointing stage, essentially stem extension. Many of the oat plants are enjoying these last days of June waving their many leaves in the wind awaiting the green flag to initiate one last reach for the sky, commonly called jointing. In mammalian terms we would call this the teen years.

Jointing is relatively quick. In fact the entire life of an oat plant is relatively quick, making it all the more important to pay attention. Over three years, Dumont oat averaged 1.5 tons per acre when cut at heading, 2.3 tons per acre when cut with full milky kernels, 3 tons per acre when cut with soft doughy kernels and 2.8 tons per acre when cut with hard doughy kernels with drying leaves. But, there is more to the story than forage quantity. You also have to consider forage quality.

Dumont oat averaged 14 percent protein at heading, 11 percent protein when cut with full milky kernels, 10.5 percent protein when cut with soft doughy kernels and 9 percent protein when cut with hard doughy kernels with drying leaves. In pounds of protein per acre, cutting at heading produced 420 pounds, increased to 506 pounds at the milk stage, increased again to 630 pounds when cut in the soft dough stage and decreased to 504 pounds when the kernel is hard and the plant starting to dry down.

Some, and I certainly donít mean all, producers really only consider two plant stages: growing and baled. In reality, effective forage harvesting means understanding the growth stages of whichever annual or perennial crop that is growing and harvesting at the best compromise between quality and quantity.

Based on this oat study, the optimum harvest time produced more than six 50-pound bags of 20 percent protein cow cake more than the next best alternative. In reality, for oat, you should hay somewhere between the development of a full, milk-popping kernel and the soft dough stage. Of course this compromise only occurs on one day of haying season, so stay alert, and as the season progresses, make sure the early high-quality hay is stored, ready for next years calves and milking cows.

And once the peak season is passed, just keep on putting up hay because, like it or not, winter is just around the corner. May you find all your ear tags.

Your comments are always welcome at *www.BeefTalk.com*. For more information, contact the North Dakota Beef Cattle Improvement Association, 1133 State Avenue, Dickinson, ND 58601 or go to *www.CHAPS2000.com* on the Internet. In correspondence about this column, refer to BT0097.

Dumont Oat Forage and Crude Protein Yield

Developmental Stage	Tons/Acre	Protein %	Protein lbs/acre
Heading	1.5	14	420
Milk	2.3	11	506
Soft dough	3	10.5	630
Hard dough	2.8	9	504

Source: Carr, P.M., 1999 NDSU Dickinson Research Center Annual Report