

BeefTalk: Hay Quality Means Correct Harvesting

Developmental Stage	Tonnes/acre	Protein %	Protein Pounds
Heading	1.5	14	420
Milk	2.3	11	506
Soft Dough	3	10.5	630
Hard Dough	2.8	9	504

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Dumont Oat Forage and Crude Protein Yield

Hay production in wet times can be difficult.

Although somewhat delayed, the haying season is upon us, so the thought of winter feed, despite ongoing heat and rain, needs to be reintroduced.

What a world of extremes. In the northern Great Plains, tall, swaying fields of perennial grass and legumes are just waiting to be swathed for hay, while in the southern Great Plains, nothing but bare ground. Life is not fair, but life goes on.

Back at the ranch, some of the Dickinson Research Extension Center's small grain hay, which is winter-seeded triticale and hairy vetch, will yield almost 5 tons per acre. The soft dough is around 12.5 percent moisture. For typical dryland production, those are some big numbers. Let me repeat, big numbers that are provided by rain.

Rain has brought difficulty to many, but, at least for this piece of the pie, goodness prevails. Hay production in wet times can be difficult. The guide we use at the ranch says not to put up any hay that has a moisture content of more than 14 percent. Likewise, hay keeps growing and maturing, and the effect on quality can be huge.

It goes without saying that rule No. 1 is to put up hay at the right moisture level. Too much moisture is just a quick turn to waste management. In other words, all that expense and time to harvest poor-quality hay quickly only means the bales will be hauled out as self-digested manure.

Worse yet, the bales start heating and catch on fire, and the whole works goes up in smoke. As a safety measure, get some space between hay storage rows or piles so if one does go up in flames, the whole year's supply does not go with it.

The bottom line, moisture test the bales and do not put up wet bales.

The other side of the coin is hay quality. Part of the rush is to time harvest with maximum quality and maximum quantity. Anyone who has harvested hay knows that the combination of quality and quantity are opposite attractions. As quantity goes up with maturity, quality goes down.

The trick is to know what type of cattle one is feeding and what is needed in terms of pounds of energy and pounds of protein.

At the center, a good example was a field of Dumont oats that was harvested by Pat Carr, agronomist at the center. By evaluating the harvesting date, the impact can be better understood.

Dumont oats was planted for three years and harvested at four different times: 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 requires the producer to note the obvious changes that occur as the crop matures. The entire life of an oat plant is relatively quick, which makes it more important for producers to pay attention.

During the three years, Dumont oats 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.

However, 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 was hard and the plant started to dry down.

As producers learn to manage forage, they have a better understanding of plant growth and the balance between growing and baled. In reality, effective forage harvesting means understanding the growth stages of the annual or perennial crop that is growing and harvesting at the best time to bring about a compromise between quality and quantity.

The haying season is a good time of the year. Whether feeding the finished product to one's own cows or putting the product on the market, poor hay is a waste product that no one wants to buy, so spend some time doing the correct things to put up good-quality hay.

May you find all your ear tags.