What is the Value of Hay going to be this Year?

What is the value of hay going to be in winter? A question many Manitoba producers try to figure out annually. Supply and demand theory usually indicate that with reduced hay supply, both the demand and the price should be higher than average. Fair enough, but how high is too high? The answer will depend on the price of other feed sources and the comparable value of hay.

Four main formulas will do all the calculations for most producers:

- **Total Digestible Nutrient (TDN) $/LB** = $ per unit / (lbs per unit x % dry matter (DM) x % TDN)
- **Equivalent Dry Hay Value (TDN Basis) $/TON** = 2000 x % hay dry matter x % hay TDN x cost of TDN ($/lb) for comparable feed on a dry matter basis.
- **Crude Protein (CP) $/LB** = $ per unit / (lbs. per unit x % dry matter x % CP)
- **Equivalent Dry Hay Value (CP Basis) $/TON** = 2000 x hay % dry matter x hay % CP x cost of CP ($/lb) for comparable feed on a dry matter basis.

For example: $5.50 per bushel barley, which tests 11.5% moisture and 83.1% TDN. The cost of TDN $/lb = $5.50 / (48 lb x 0.885 DM x 0.831 TDN) = $0.1558.

Total Digestible Nutrient

On a TDN basis, the comparable value of alfalfa grass hay, which tests 12.6% moisture, 13.1% CP and 57.6% TDN, can be calculated by multiplying the pounds of TDN of the hay times the cost of TDN for the alternative feed.
2000 x 0.874 dry matter x 0.576 hay TDN x $.1558 barley cost of TDN = $156.86 per ton.
If you can buy this alfalfa grass hay for less than $156.86 per ton, it is a cheaper source of energy than barley. If it is a higher price, you would be better of buying barley as your feed energy source.

Another example: $300 per ton corn DDG, which tests 10% moisture and 28% CP. The cost of CP $/lb = $300 / (2000 lb x 0.90 DM x 0.28 CP) = $0.595

Crude Protein

On a CP basis, the comparable value for the same alfalfa grass hay, can be calculated by multiplying the pounds of CP of the hay times the cost of CP for the alternative feed.
2000 x 0.874 dry matter x 0.131 hay CP x $0.595 corn DDG cost of CP = $136.25 per ton.

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If you bought this alfalfa grass hay for more than $136.25 per ton, it is a more expensive source of protein than corn DDG.

Knowing the analysis of your feed options and understanding comparable prices is key to making good decisions to feed your livestock in winter.

Additional Resources

Manitoba Agriculture's FeedPlan — Feed Ingredient Cost Calculator (Excel) calculates the feed value on a cost-per-pound basis of TDN and CP for various feeds based on their market value. Producers can then use the values to calculate the comparable feed value to determine which feed ingredient has better value.

For more information on production costs, Manitoba Agriculture Guidelines for Estimating Hay Production Costs (Excel or PDF).

Contact us:

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