

Efficiency can be viewed as an outcome but is sometimes easier to understand as an activity carried out within resource categories. Management endeavours to make decisions based on known best practices to achieve the highest output per unit of input. An efficient result means that output is maintained with inputs being lower. In order to see this, good records need to be kept and studied. The area of feeding has been recognized as significant in what it adds to cost of production and deserves special attention. This article will concentrate on feed aspects but also recognize that 65% of operating cost is not feed related and proper structure in these cost elements will also contribute to overall efficiency.

When we talk about feeding animals the term we apply to our feed supply is feed efficiency (F.E.) and represents units of feed required per unit of gain. Efficiency of the cow herd is best understood when expressed as cost for feed per cow per day since maximum gain is not the target. As we gain efficiency the cost per cow per day declines. So much has been said and written about this term that we tend to go over it quickly. In a feed lot situation it is not difficult to measure but in the gestation and lactation phases it is less well captured. Weather variations can alter the feed requirements as does stage of gestation so frequent record updates are important.

Storage

To capture efficiency of forage use the number of bales produced and purchased for the year is the start point. Total bales used divided by the number of cows bred can be a way to calculate cost annually. Storing properly and feeding to best advantage comes next. In areas where frequent rain is common place used tires in the area designated for storage then place bales on top of them. For distant cattle wintering areas consider locating bales there for easier feeding. This helps with retaining quality in the forage. In drier areas this is not necessary. In places where it is advisable to carry over bales such as droughty areas, store bales in a dry, well drained place and tarp to protect from rain and sun exposure. Deterioration in stored forage is least when the bales are protected from the elements. Quickly removing them from the field and stacking together reduces



exposed surfaces. Highline has both round and square bale lifters which can get the job done fast protecting your winter feed supply.

Testing and feeding

Next determine the various groups to be fed and use a good ration balancing program to set diets and forage needs. Identify best hay lots according to feed test results, for the highest nutrient need animal group based on the NRC requirements recognizing these will be minimums for the animal.



A standard feed test in Canada costs between \$45 and \$75. Along with this a water analysis helps to understand how to balance the mineral package. Always monitor body condition score as a check on the adequacy of the diet. Consider carefully how the diet is presented to your animals.

Benefits of Chopping

Grazing as long as possible is desirable but when the feeding period starts, look at the positive effects of chopping medium and low quality forages on nutritional status and economics. Consumption improves for chopped forages by not allowing sorting with consequent refusal of the coarser pieces. Chopping reduces particle size and homogenizes the pieces so the diet is consumed more readily by the herd. Reducing waste is an efficiency move which maintains animal body condition on less overall forage. Anecdotally Highline BalePro users report reductions of 20% to 25% in winter forage use when chopping. Feed utilization improves in this case over feeding long hay. Waste reduction is one component and improved rate of passage is another. As consumed material passes through the digestive system faster more diet can be consumed so daily intake of energy and protein can be accomplished on lower quality hay. The benefits are better utilization of low quality forage while maintaining body condition. Chopping forages yields more productive use from harvested forage reducing the dependence on grain to meet energy needs of the gestating and lactating animal. The return on investment for a Bale Pro shows it to



be an efficiency tool for saving time and maximizing nutritional and economic return from the total annual forage supply. It delivers a nutritionally sound ration in precise amounts so as not to over or underfeed the herd.

Benefits of blending

An additional step in increasing efficient use of forage supplies is by blending forages. This is of special advantage in years where forages are low quality, in limited supply or high priced. The calculated financial benefits of blending 1:1 by weight of hay and crop residues can reach feed cost reductions per cow of 25%. Highline has introduced the CFR 1251 Bale Pro which can blend hay, crop residue and grain to match all categories of nutrient requirements for the gestating or lactating animal. This can be done in a single pass which is a great time and fuel saver over making two passes with the CFR 650 or CFR 651 single bale processors to deliver the separate forages. Blending in grain is precise with the grain tank option and it is properly scarified for optimum digestibility. Homogenization of the diet is accomplished when the ingredients pass through the chopper.



Some parts of North America do not have access to straw or high quality crop residues so it is necessary to examine what is available and use it to blend down the nutrient levels accordingly. When hay is imported it is usually high nutrient dense material and expensive. Blending it with Bahia or Bermuda grass can reduce cost significantly while extending the imported hay supply over a greater period of time. Chopping the forages prevents sorting and encourages consumption. To discuss how this could work for your operation please contact a Highline Territory Sales Manager through your local dealer or Highline Manufacturing through our website.

Summary

- **Store** forages properly to avoid both dry matter losses and buildup of mould
- **Test** feed to avoid over formulation.
- **Chop** forages to reduce sorting losses and encourages intake.
- **Blend** ration ingredients through the chopper to homogenize and scarify grain.
- **Supplement** the herd with grain to prevent loss of body condition.