



Biography:

Dr. Colin Palmer is an Associate Professor of Theriogenology (Animal Reproduction) at the Western College of Veterinary Medicine. Originally from Nova Scotia, Dr. Palmer worked in mixed practices in Ontario and British Columbia and has owned/operated a practice in Saskatchewan. Dr. Palmer along with his wife Kim and children Lauren, Emily and Carter run a herd of purebred Red Angus cattle under the KC Cattle Co. name.

Every spring I think of an old line passed down from my father to me – “A wet May and dry June are what you need for a good hay crop”. This year record low levels of precipitation were set for many areas of the prairies for both May and June with a couple of frosts in June doing their best to clobber already suffering plants. One of our hay fields yielded a third of the production of last year; however, others are much less fortunate experiencing complete hay crop failure. My pessimistic side figures the perfect hay growing year has not been seen in a while - too wet, too cold, too dry and too hot seems to be the best way to describe what has occurred over the last several seasons. Hey! Making of the best of a less than perfect situation is what we are good at, right?

Two of the many great things about our industry is the ability of our animals to utilize feedstuffs that are useless for most other beasts, and that most of the cattle are neighbored with an even larger crop sector. Many crops have been hit hard by the drought conditions leading to poor emergence and delayed maturity. A late August or early September frost is a not all that infrequent in most jurisdictions so a crop demise may be the salvation for the cattleman. Even without frost damage some crops look so bad that harvesting for forage should be considered saving the cost of combining and grain handling. Given the feed value of the crop, the available tonnage and the dollars in the cattle sector these days a poor growing season could be turned into a win-win for the beef producer and the grain farmer.

Information regarding time to harvest, crop values, and ration balancing are available from ag industry specialists and websites; however, there is almost no limit to what can be fed including field peas and canola. Field peas offer an excellent source of protein and even if the crop has been harvested the pea vines or straw can be baled and used as cattle feed. Peas are best harvested (highest feed value) when the pods first start to wrinkle. Canola is ideally harvested late flower to mid-pod, but has a tendency to take several days to dry down and because of the high sulfur content it must be used with other feeds. Sulfur can be directly poisonous to cattle, but this usually occurs with accidental exposure to elemental sulfur. Naturally increased sulfur concentrations in feed are most likely to interfere with copper and selenium availability. If cut at the right stage canola can be comparable to alfalfa hay, but its value declines substantially with plant maturity. Too much canola forage and cattle do not perform very well so limiting it to no more than 50% of the ration is a good idea.

Winter Feed Alternatives

Cereal crops intended for green feed should be harvested at the late milk to soft dough stages, but if they have been hit by a hard frost then about 10 days should elapse to allow the nitrate levels to decline in the plant. Nitrate may also accumulate in any heavily fertilized crop unrelated to a frost situation, for example - corn and canola. If you are concerned about nitrate levels submit a representative sample of harvested material for analysis. Concentrations greater than 1% definitely require feed management; however, animals should not be exposed to large quantities of feeds containing more than 0.5% nitrate if they have not been consuming nitrate containing feed already. Feeding smaller amounts frequently is better than feeding a large amount in 1 or 2 feedings. Mixing higher nitrate forages with low nitrate forages through grinding and mixing is the best way to handle nitrate intake. Offering a high nitrate bale and a low nitrate bale at the same time is a recipe for disaster. Animals should be carefully exposed to nitrate containing feeds over 1 or 2 weeks. Damp or wet nitrate containing feeds are particularly dangerous as the nitrate has already been converted to the more toxic nitrite. Nitrates by themselves irritate the gut lining causing gastroenteritis; however, it is nitrite produced from nitrate before ingestion, or within the rumen that is more lethal. Nitrite is more toxic to cattle than sheep because sheep are better at converting nitrite to ammonia in the rumen. Nitrite competes with oxygen for attachment to hemoglobin in the blood, thereby preventing the movement of oxygen to the tissues effectively suffocating the animal. The most common signs are trouble breathing – gasping and rapid shallow respiration; muscle tremors; staggering and blue/ purple mucus membranes. Animals eventually go down and exhibit convulsions before death. Signs of toxicity occur within 6 hours of ingestion with death occurring within 12 to 24 hours.

Cattle producers may also consider including cereal straw in the ration. Straw is usually readily available and with a proper feed analysis can be incorporated into most cattle rations with the addition of supplementary protein, mineral and vitamins. When considering the typical yield of straw, the fertilizer value, baling costs and so on straw will pencil out as a much cheaper alternative to hay this year.