

NAVAN VETERINARY SERVICES SEPTEMBER 2012 NEWSLETTER

As the years corn silage harvesting is underway, we expect to see a wide range in silage yields, silage qualities, energy levels and potential nitrate levels. There certainly are fields that appear almost normal despite the long periods of dry weather this summer. Other fields show very short, but mature plants that should produce decent quality silage, albeit reduced yields. A third scenario we have all seen is the poorly pollinated plants that have adequate height, but have small ears or even no ears.

Plants with reduced cob size will have reduced digestible energy levels as a result of reduced starch levels. These plants will, however, often have higher levels of protein and soluble sugars. Typically these plants will also have elevated levels of fibre and higher lignin (the undigested fraction of the NDF value). Lignin is important in slowing down the passage of feeds through the G.I. system of cows. Almost half of the energy content of a typical corn silage sample comes from starch, and according to OMAFRA consultants the Relative Energy Levels can also be as low as 65-85% of well eared corn.

The traditional visual cues for harvesting corn silage (1/3 – 2/3 milk line from tip of kernel) will not be as accurate when cob sizes are abnormal. Whole plant moisture content is by far the best way to determine proper times to harvest, approximately 10 chopped plants should be used in the analysis in a Koster Tester or microwave (not in the house, or it will be the last time you are allowed in the kitchen!) Heat damaged plants apparently look drier than they actually are.

Harvesting too wet can result in high levels of clostridium bacterial growth. This group of bacteria produces silage that stinks due to the high levels of butyric acid amines and ammonia. This usually happens when silages are less than 32% DM. (“Stone and Chase, Cornell, University”).

Harvesting too dry will result in poor packing, poor fermentation and corn grain that may be unavailable to the cow as it passes directly through the G.I. system.

A word of caution as nitrate levels can be very high in immature or drought stressed corn, with high levels in the base of the corn stalk. During proper silage fermentation, nitrate levels can be reduced by 25-65%. This requires at least 3-5 weeks of fermentation before feeding, according to OMAFRA forage specialist Joel Bagg. Feeding green chop can be particularly dangerous when feeding 5-7 days following a rainfall, as the plants are accumulating nitrates at that time. Acute death can occur from nitrate or nitrite toxicity. Sub-acute poisoning can cause reproductive problems including abortions – “OMAFRA Factsheet”. According to University of Illinois extension services, 25-35% of nitrate can be converted to ammonia and expelled as silo gas, another area of concern when dealing with immature and drought stressed corn.

Other hints as suggested by the same extension service re chop lengths are:

- 1) If corn silage is <33% DM increase the TLC (theoretical length of chop) to ¾” – 7/8” and open the rollers to avoid pulverizing immature kernels.
- 2) If corn silage is harvested between 33-38% CM the TLC can be ½” or lower depending on how you are storing and packing it.

Please note that farms in the Prescott Region are scheduled to participate in the Johnne’s testing program if desired. The date slot is between August 26 and October 6, 2012.