



Specific Comments About Interpreting Forage Analysis Reports For Corn Stover (Also Known As Corn Stalks And Corn Fodder)

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Many corn stalks and other crop residues are being baled around North Carolina in response to the drought related feed shortage we are experiencing. This sheet was developed to help you interpret results that are specifically important for corn stalks. For additional general information on interpreting your forage analysis report (for example for mineral levels) refer to **Interpreting Forage Analysis Reports for Beef Cows**.

Corn stover is in general a low quality feed. However, it is palatable to cows, and is a resource currently being harvested for cattle feed. A significant amount of corn with insufficient grain to combine has also been baled for cattle feed. Here are a few comments that will help you interpret your forage analysis report.

Dry matter, %. Dry matter percent for corn stover should be at least 80%, and 85 to 90% is ideal. Much of the material submitted to the lab thus far has been well below 80% dry matter and you can expect this material to heat and mold. Heating will damage the protein in the material, and the growth of molds will consume the higher quality carbohydrate nutrients, both of which reduce the feeding value. In some cases the material may reach a high temperature which could result in spontaneous combustion. Experience has shown that cutting the corn stalks with a disc mower or bush hog two to three days before baling will result in material suitable for baling. **Don't bale immediately behind the combine unless the material feels bone dry!** If you have access to a compost thermometer, taking the internal temperature of the bale several days after baling can help you decide how to handle it. Normally the temperature will reach around 110 to 120° F several days after baling and then it will gradually cool. If the temperature is over 120° F it indicates there probably was excessive moisture in the material at baling, and you should keep an eye on it. If it is 140° F or higher great care should be taken with the bales. They should not be placed in a shed due to the potential for fire. At a temperature of 170° F there is a high risk for combustion. Deterioration of wet bales will gradually occur, so if possible they should be fed immediately. If they are stored for some time, another sample should be obtained before they are fed to determine nutrient quality and aflatoxin levels. **Round bales of corn stover will not shed rain like grass hay, so it is critical to get the material out of the field and cover it with a tarp, plastic, or put it under a shed to prevent increases in moisture during storage.**

Crude Protein, %. As mentioned on the accompanying sheet, Adjusted Crude Protein should be used to interpret the need for protein supplementation of these materials. If this number is much below the Crude Protein % it indicates the material has probably suffered heat damage. If the dry matter is below 80% the material should be tested again before feeding because the Adjusted Crude Protein level is likely to decline during storage. Crude protein in corn stalks will normally be around 5%.

Aflatoxin, ppb. Aflatoxin is a great concern in the corn that was baled without combining that may have significant ears in it. During drought, aflatoxin can develop in the corn grain, and this can result in performance problems. Beef cows can handle up to 20 ppb aflatoxin in their diet.

Nitrate ion, %. Nitrate levels of over 0.25% are a concern, and over 0.5% is potentially dangerous. So far, most corn stalks analyzed have not been high in nitrate, but some of the whole corn material is high. If nitrate is higher than 0.25% see nitrate management guidelines available on the web site given below.

TDN, %. Total Digestible Nutrients is the most common expression of energy requirements for beef cows. Corn stalks usually will contain about 50% TDN. This is near the requirement for dry cows but well below the requirement for lactating cows. A commercial protein supplement (tub, block or lick) or 1 lb of soybean meal or cottonseed meal will usually result in a balanced ration for dry cows. Lactating cows will need additional energy supplement. For more information on feeding corn stalks see the guide at: <http://www.ces.ncsu.edu/disaster/drought>