What is the nutritional value of corn fodder/stover (stalks, shucks, and left over grain after harvesting)? What is it worth?

Dennis W. Hancock,
Extension Forage Agronomist,
Crop and Soil Sciences Department

The quality of corn stover/fodder (and other such crop residues) is quite variable. One thing that we can do to help improve quality and uniformity, if we have in mind to bale it, is to disengage the chaff spreader. This will dump a higher proportion of husks/shucks and leaves in what amounts to be a windrow right behind the combine. A higher percentage of shuck and leaf content in the bale and baling soon after corn harvest will substantially improve quality. This helps cut down on damage to the baler belts, too. A high proportion of stalks can be difficult to bale and hard on equipment. Further, stalks are not very palatable (tasty) and cows will waste more. Mixing and grinding with grain would be the best route, but of course, that usually isn’t an option. If fed free-choice, the cows will sort out some of the better stuff and leave the stalks behind.

In general, corn stover is quite low in quality (see Table 1 below). It will be low in digestible energy and protein. Dry cows can probably maintain body condition on crop residues like this with a little protein and a mineral supplement. It would require a substantial amount of supplementation to provide enough energy and protein for a lactating animal, though. Supplementation recommendations would be similar to when straw is fed (i.e., 0.5 to 0.7% BW of 20% protein supplement for a dry cow and 1.1 to 1.3% BW supplement for a lactating cow).

If possible, graze the fields. There will be a pretty considerable decline in forage quality as grazing time increases (as a result of selective grazing). However, grazing is much less expensive than baling and feeding such low-quality forage.

Table 1. Expected forage quality of common crop residues.

<table>
<thead>
<tr>
<th>Type of stubble</th>
<th>Crude Protein</th>
<th>Digestibility</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>4–7%</td>
<td>35–55%</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Grain Sorghum</td>
<td>5–7%</td>
<td>35–50%</td>
<td>0.8</td>
<td>1.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

* AUM/Acre (Animal Unit Month per Acre) is the amount of forage required to sustain one 1000 lb mature cow of average milking ability with a young calf for 30 days. Source: Watson et al., Emergency and Supplemental Forages, Kansas State University, July 1993. [link]

So, what is it worth? Well, pricing crop residues can be really problematic, because the quality is so variable. It is advisable to price it relative to bermudagrass or tall fescue bales. If it is relatively good quality stover (CP = 7% and Digestibility = 55%), then it will be about 80-90% of the cost of low-quality bermudagrass or tall fescue. If it is poor quality (more likely), of say CP = 4.5% and Digestibility = 40% or less, then it would likely be worth about 50-60% or less of what a bale (ton) of low-quality bermuda/fescue bales would be worth.