



## Ben Beckman

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### Kernel Processing

Besides planning for a proper storage site and pack this silage season (this is my final plug to figure out how you want to cover the pile!), we need to develop a plan now to assessing the quality of chop as the harvest comes in. This is especially true for kernel processing.

Energy from corn silage comes in a large part from the grain itself, specifically starch set down in the kernel. Protecting this valuable store of energy is the outer seed covering, and it does its job well. In order to counter act this, many modern choppers are fitted with a kernel processor, two opposing, ridged cylinders that roll and physical crush or damage the grain and stalks, improving digestibility. Setting these rollers at the right distance apart is critical. Too close and we have excess ware on the machine, too far apart and kernels aren't broken and digestibility is decreased.

Lab tests to determine kernel processing levels are great to run for those formulating exact diets, but they give us information after the fact. If the processing rollers weren't set correctly to begin with, knowing so at feed out time won't improve the situation any, we are just able to adjust rations accordingly.

The only sure way to catch an issue and make adjustments on the go is to be sampling silage as its harvested and assessing processing. To do this, grab a 32 oz. cup and at least once an hour, grab a sample from the pile. Next assessment can be done in two ways. The quick method is to spread the sample out on a flat surface and go through the kernels. A card table out of the way but near the pile is a great option here. Count all the kernels that are  $\frac{1}{2}$  or greater in size.

A more intensive method that can be argued as more through is to put the sample into a bucket of water. The kernels will sink to the bottom and stalks and leaves will float. Skim/drain off the top layer and again count any kernels that are  $\frac{1}{2}$  or greater in size.

For both methods, the goal is to have 2 or fewer whole or  $\frac{1}{2}$  size kernels in your count. Anything over that and word can be passed to the chopper to adjust the processing.

For those who don't have access to a kernel processor, keeping chop length short can help accomplish similar results. Typically  $\frac{3}{4}$  inch cut length is the sweet spot for choppers running a processor in terms of fiber particle size for the ration. Shortening that down to  $\frac{3}{8}$  inch for machines without a processor will do more kernel damage and maintain similar fiber particles. For those who don't have to worry about particle size, mostly our beef producers, dropping down to  $\frac{1}{2}$  inch will damage even more kernels and provide the additional benefit of getting a good pack.

Planning for silage harvest is critical for success, but just developing the plan doesn't help if it isn't followed through. Figure out now who will be responsible for checking things like kernel processing, packing, and moisture. How often will these be checked? If something is off, how will information get back to the chopper? A plan without follow-through helps no one.

So this year, keep an eye on kernel processing as silage harvest picks up. Get your 32 oz. cup ready and assign someone the task of taking samples throughout harvest to catch problems quickly so they can be corrected. Using the table or water methods, look for no more than 2 kernels  $\frac{1}{2}$  size or larger per cup. With a bit of planning ahead and follow through, this year's harvest can be the best one yet!

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