PETTISVILLE GRAIN CO.
Your Success. Our Future.

Monthly Newsletter – June 2021

Grain:

Annual Grain Bin Maintenance

"Gee, don't give me the right part YET – this is only my first trip."

Most farmers would know readily agree that there is a lot of maintenance required to operate a farm business. The to-do list for maintenance alone can be quite extensive with all of the equipment that is required to run a farm, and there is a standard time of year for most annual maintenance.

As for grain storage, farmers may tend to wait until late summer to get things ready for the upcoming harvest. GSI district manager Gary Woodruff recommends moving the timetable for grain storage maintenance up this year. "Due to the incredibly strong demand for grain systems across the industry this year, it is not usual to experience longer delivery times, sometimes up to six weeks or longer, for parts," Woodruff said. "Waiting until late summer to discover you need to replace an essential part could put a timely harvest in jeopardy." He recommends that farmers begin evaluating their grain equipment now, so that farmers can rest assured their grain storage will be prepared for the 2021 harvest. He offered the following partial list of things to be sure to check:

- Check control boards, safety sensors, gas controls, and bearings for dryers
- Check chain conveyors, buckets and paddles, belting, motors, and grain bin augers to ensure that everything is in working order

All components of the material handling equipment and grain dryers are subject to needing repairs. It is important to ensure everyone's safety by checking these components early to be sure that there is enough time to get them fixed before they get used in the fall. Some additional tips to help inspect and prepare your grain bins, dryer, and fans to make sure that they are ready for harvest include:

- Make sure to turn off and disconnect, lock out and tag, or block off all mechanical, electrical, hydraulic, and pneumatic equipment before you begin working.
- Sweep and clean the interior of the bin.
- Inspect and clean all roof vents to allow airflow and proper ventilation.
- Inspect for leaks, rusting, and other deterioration of the structure.
- Ensure the dryer bin gas components are all in proper working order.
- Check to make sure the entrance door seals and secures properly.

Source: Farmers should get a head start on grain system maintenance | AGDAILY

Feed:

To Crack or Not to Crack, A Common Question

As grain and commodity prices shoot up, beef producers begin to look for other feedstuffs to find bargains. In many cases, there are no bargains to be found as commodity brokers know the value of the feeds they market. However, occasional opportunities do present themselves from plant shutdowns, shipping issues, and other various reasons. Yet, many folks look past the common feeds available such as corn, oats, wheat, distillers grains and other local feedstuffs hoping to save a few dollars. Corn is a constant in our area and should always be considered as an energy source in ruminant diets.

One of the first questions I get when I start talking about feeding corn to beef cattle producers is whether it has to be cracked or ground. Seems like an easy question with a simple answer. However, the impact of grain processing has been studied for decades and continues to be researched. The hammer mill was invented in 1840 to process grains for feeding. Flaking of corn was developed in 1962 to gelatinize starch and increase efficiency. Reviews on grain processing were presented in papers dating back almost 50 years by the National Research Council. Yet today, research continues to investigate the impact of grain processing on cattle performance.

A review paper on grain processing published around 25 years ago summarized research of finishing cattle and the impact of grain processing. Similar daily gains were noted when corn was fed whole or cracked. Intakes were slightly lower improving feed efficiency when grain was left whole. Ohio researchers published a paper in 2020 in which dry rolled corn was compared to whole shelled corn in finishing diets feeding a typical level of hay at 7% of the diet dry matter. Feeding dry rolled corn resulted in greater intakes which in turn led to close to an 8% or 0.25 lb/d increase in daily gains. Yet, feed efficiency, animal gain per unit of feed consumed, was similar between the rolled and whole corn. Keep in mind the work discussed above relates to finishing diets with low forage levels. Diet composition, feeds selected, hay level, feed additives and other factors can have an influence on performance.

The main site of starch digestion is the rumen and processing can influence the extent of digestion in the rumen. Processing can increase rumen starch digestion from approximately 60% to 80%. This increase in ruminal starch fermentation can increase the risk of ruminal acidosis and digestive upset. Maintaining sufficient forage intake is important to reduce this risk. Today, the substitution of low starch feedstuffs like corn gluten and distillers grains for corn or other grains reduces the risk of digestive upsets.

I normally cannot convince producers that feeding whole corn rather than cracked corn will result in similar performance. Producers always have the rebuttal that they see whole kernels of corn in the feces. Research conducted by Ohio researchers investigated the interaction of grain processing and forage or roughage level in finishing diets. The poor student working on this project determined the number of corn kernels fed, and wait for it, physically separated corn kernels from the manure! For both weanlings and yearlings, the percentage of whole corn kernels digested was similar at 92%. The weanling calves ate almost 19,000 kernels

of corn a day. Some quick math reveals that these steers excreted about 1,500 kernels of corn a day, about 1 pound of corn. Seeing this corn in the feces is the reason producers are convinced they must grind the corn. You are convinced now that you should process the corn, aren't you? This Ohio work also demonstrated that processing corn did not have an impact on digestibility of dry matter, starch, protein, or fiber. The authors mention a 44% increase in fecal starch excretion, a variable feedlot nutritionists monitor. This is a huge increase, right? Well, figures can be misleading and there was 100 grams more starch excreted in the feces. However, steers eating whole corn consumed 800 grams more starch compared to ground corn. Overall, total gastrointestinal tract starch digestibility was found to be similar at 93% for whole and 95% for ground corn. Previous research in Kansas revealed similar results with total GI tract digestibility of corn being 89% and 91%, whole and cracked, respectively.

What about performance on higher forage diets? North Dakota researchers investigated daily gains of yearling cattle from 900 to 1,100 lbs consuming a diet containing approximately 30% forage. Average daily gains for cattle receiving whole corn were 7% lower than cracked and 3% lower than ground corn. However, feed efficiency was better for whole corn. When 500-700 feeders were offered a receiving diet with 35% forage, gains were slightly higher for whole corn compared to cracked and gain efficiency was similar. These studies would seem to support the previous feedlot review with little or no benefit in processing corn.

In our area, cracked or ground corn is often significantly greater in price than whole corn. Further, if you can purchase whole corn at elevator price, it will often be much less than what one will pay from the feed dealer. In many instances, the cost of processing corn will likely not be recovered unless we are finishing cattle with low roughage diets.

I caution readers to consider the forage source and other diet components. If supplementing mature cows on the spring flush, the rapid passage rate and greater orifice for feed to pass out of the rumen will impact kernel digestion and processing corn will likely improve total tract digestibility greater than discussed above. Further, consider the risk of sorting. Cattle have the capacity to sort out larger feed particles, even the size of a corn gluten pellet. When using a loose mineral supplement or a protein source in a meal form like soybean meal or dried distillers grains, rolled corn may be needed to minimize sorting. This needs to be considered particularly if feed additives are in your mineral or meal protein source.

So, I ask you, process or feed whole?

– Dr. Jeff Lehmkuhler, Extension Professor, University of Kentucky