

What Happens At The Mill?

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— Although grain is an everyday part of agriculture, few stop to think about the process that helps to make feed ready for the feedbunk.

At Mark Hershey Farms, Inc., a mill that has been in operation since 1956, that process is part of day-to-day business. The mill offers custom feeds and pellets, steam flaked and/or ground grains, and grain drying and storage.

According to website information at www.markhersheymill.com, Mark C. Hershey — the founder of the mill — was a pioneer in perfecting the process of steam cooking whole soybeans that could then be flaked/rolled (called “soyflakes”), and ground.

The steam cooked and flaked soybean is sought after by customers since the soyflake retains nutrients (35 percent protein) efficiently. Additionally, valuable fat is not

burned off in the steam cooking and rolling process.

Flaked grain is also in demand since they will mix with pellets, and stay mixed, so the entire ration is more appetizing to livestock, according to David Bates, controller. The mill also steam cooks and flakes or rolls corn, barley, and oats.

Customers can purchase steam flaked/rolled soybeans, corn, barley, and oats in bulk or bags.

Donald Smith, mill cooker, steam flakes the grain that comes from local farmers, “as the supply holds up,” said Smith. “We buy all the local that we can, depending on the year.”

Steam rolling, according to Smith, allows the animal to receive more total digestible nutrients (TDN).

“The corn is softer and easier to digest. It must be steamed to soften it or it won’t roll — it would bounce otherwise,” said Bates.

The corn is stored in bins or dumped in by trucks, when it is cleaned by being shaken through a large screen. Every truckload is sampled for moisture content.

Smith prefers the corn to be at 14-14.5 percent moisture, “because if it’s too dry, it breaks up more,” he said. “The best corn for rolling is crib dry.”

At the mill, “we only fill the bins later in the year, such as November, when the moisture gets down to about 20 percent,” he said. However, “new varieties tend to get dry faster, so we can put the corn in the bins sooner.”



Corn is unloaded into this large screen to remove any debris.

The moisture content remains consistent throughout the steaming and flaking process — “it comes out with nearly the same reading,” said Smith.

After being unloaded and moisture-tested, the corn then comes down a pipe, goes into an elevator, and is moved into the steam cooker. An auger moves it through the steaming process — where it moves through 212 degrees of pure steam — for 10-12 minutes.

Next, the corn goes through two 18-inch rollers, applying 1,500 pounds of pressure to flake the kernels.

“Every kernel should be broken,” said Smith. “That makes the nutrients more available.”

The 60- and 30-horsepower boilers generate the steam.

“From the time I start the machine” until the time the steam-flaked corn comes out and begins cooling, 25 minutes have elapsed.

According to the Mark Hershey Farms Website, producers are finding that finer-ground corn offers easier digestion for livestock, so the grinding process is also important at the mill.

Equipment on the property also has the ability to coarse grind corn, which is used in poultry feeds.

Mike Meyer, mill supervisor, explained the corn grinding process.

When the corn first comes off the truck, it is moisture tested.

Approximately 15 percent of the corn that the mill grinds is mixed into feed, with 85-100 percent fine ground for bulk sales, said Meyer. For the flaked corn, the breakdown is 50/50 — put into feeds and sold in bulk.

According to Meyer, the corn is gravity fed into the hammer mill, then ground through a 3/32-inch or a 5/32-inch screen.

The screen sizes are different for soybeans and soyflakes, explained Meyer.

The size of the screens depends on how fine the customer wants the product. Generally for livestock, customers prefer a fine-ground corn so the nutrients are more readily utilized. The coarse-ground corn is used in poultry feeds.

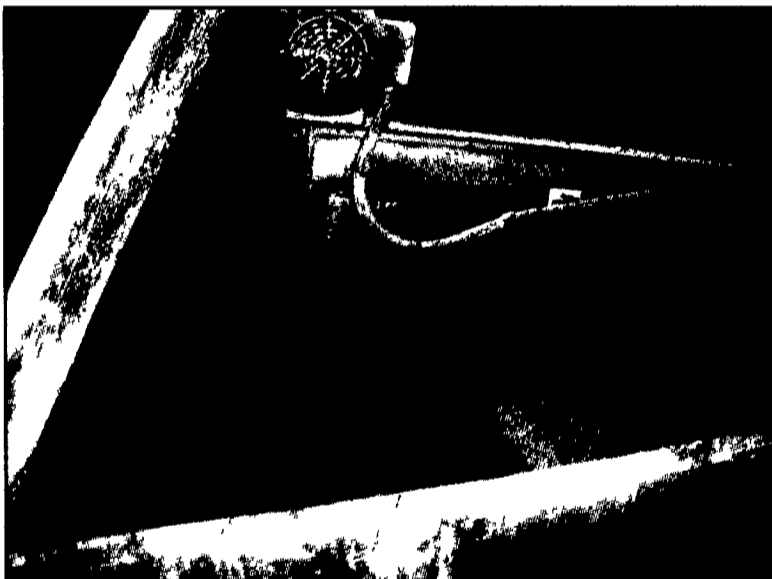
After the corn goes through the hammer mill, an auger takes it out and dumps it into an elevator that distributes it into bins.

“I prefer if the corn is 14 (percent moisture) or under to grind,” said Meyer. “Fifteen is borderline. It will mold.” Higher moisture gives the corn a shorter shelf life, as far as the length of time in the bin.

More than half of the customers use ground corn, according to Meyer.



Donald Smith weighs out 250 grams of corn to measure the moisture content.



Newly-flaked corn, still hot, comes out of the auger.



Mike Meyer, mill supervisor, oversees the corn grinding process.



Smith displays rolled corn.