News Column
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For Release 07/30/18
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AMMONIATING WHEAT STRAW

Years ago, when I was still the Extension Agriculture Agent in Clay County, I ticked off a group of feed salesman by writing about the virtues of ammonia treatment of wheat straw and other low quality forages.

I think I said you could ammoniate wheat straw and increase protein, digestibility and intake, or you could pour a molasses type product on it, "and get absolutely nothing for your money." They didn't like that comment and I won't make that mistake again!

But I was right.

Treating wheat straw with anhydrous ammonia turns filler into quality feed. Wheat straw will normally have about 3% protein. After ammoniation, the protein will be about 8-9%.

Ammoniation of wheat straw also increases digestibility by 10-15% and increases intake by 15-20%. The increase in intake allows for more energy and protein consumption, thus allowing cattle to stay in better condition.

The most common method of treating straw with ammonia is to create a 3-2-1 pyramid of bales 12 to 13 bales long and cover it with a 40 ft. by 100 ft. sheet of 6 mil black plastic. Edges of the plastic need to be covered with dirt to keep the plastic sealed to the ground so the ammonia won't escape.

Bale size will determine the size of the bale stack. With today's larger bales, many produces are making flat topped pyramids – leaving the top bale off – because the 40 foot wide

sheet of plastic won't cover a bigger stack. It is important to cover at least a foot of plastic with dirt, and some prefer two to three feet to hold the plastic in place.

Application requires a length of pipe attached to the end of the hose on the anhydrous tank so you can slide the hose under the plastic and seal again with dirt. Most producers pre-weigh the amount of anhydrous they want to apply and then turn the valve on slowly so the bales can absorb the gas over a longer time.

The amount of anhydrous applied to wheat straw ranges from 2 to 3 percent. The standard has been 3 percent, but more recent research suggest that 1.5 to 2 percent will do about as much good, especially during hot weather.

If you're shooting for 3 percent, that's 60 pound of anhydrous ammonia per ton of forage. If you have 900 pound bales and 72 bales in a stack, that's 64,800 pounds or roughly 32 tons. Multiply times 60 pounds per ton and you need about 1,900 pounds of anhydrous to treat the stack.

The treatment process works better during hot weather. The time needed for maximum treatment effect ranges from only a few days in 90 degree temperatures to up to 45 days in cold winter temperatures.

Most producers will leave the plastic on the stack until a couple of days before they are ready to feed it, or until it blows off. With Kansas winds, plastic sometimes blows off before we would like, one reason why it is better to treat bales during hot weather when only a few days are needed for maximum effect.

Ammonia treatment is a very effective means of increasing the feeding value of poor quality forages. At today's prices, ammonia to treat a ton of forage will cost about $15 and plastic will cost about $10, for a total treatment cost of $25 per ton. Add that to the value of your

wheat straw and you can make some reasonably good quality feed for $50 to $75 per ton. In a year like this, when feed is expensive, that's a good deal.

If you have questions, you can reach me at the Riley County Extension Office at 785/537-6350. Or, you can send e-mail to gmcclure@ksu.edu.

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