



Ruminant Nutrition Notes

Extension Animal Husbandry

North Carolina State University

Whole Cottonseed Should be Explored By Carolina Cattle Producers

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Because the cotton crop has increased across the Carolinas in the last ten years, many producers have started using whole cottonseed in their cattle feeding programs. If you haven't tried cottonseed yet, you should explore this option that has been rapidly adopted by so many cow calf and stocker producers.

Whole cottonseed has an excellent nutritional value, averaging 22% protein, 96% TDN and .5% phosphorus. This combination of nutrients, wrapped up in an easy to feed package that doesn't need to be ground, makes cottonseed the ideal supplement for many of our producers. It is essentially equivalent to a mixture of 30% soybean meal and 70% corn and has a similar dollar value. Almost every fall cottonseed is priced well below the actual value of its nutrients. Cottonseed is also equal to or better than many of the protein supplement blocks and licks on the market and is much cheaper.

There are a couple of rules to use when feeding cottonseed to any group of animals. First, the level of cottonseed fed needs to be limited and no animal should have access to more than their share. This means that bunk space needs to be adequate (1.5 ft/head) or if it is fed off of sod it needs to be spread out enough so that all animals can comfortably eat at the same time. The reason intake needs to be restricted is because of the toxin gossypol and the oil in cottonseed. Cattle should also be started slowly until they all have adjusted to cottonseed. Mixing with a little sweet feed or dry molasses will help get them started. If these rules are followed there should not be any problems associated with cottonseed.

Brood cows should be started on cottonseed 30 to 60 days before they calve (winter or spring calvers) or as soon as you would normally start providing a supplement to fall calvers (when body condition starts to decline). Cows should be fed between 2-5 lbs/head/day depending on the quality of your hay or pasture. In general, cows should never be fed cottonseed at a rate of over .5% of their body weight/day. With typical forages cows will rarely need more than this level of supplement.

First calf heifers will often need grain in addition to the maximum amount of cottonseed from calving until the end of the breeding season. A ration of 4 lbs of cottonseed and 2-4 lb of grain works with typical forages. A free choice mineral supplement with a high level of calcium relative to phosphorus and at least 20% calcium should be sought out for feeding with cottonseed to provide a proper balance of calcium and phosphorus.

Feeding can be done every other day if desired, but it is best to feed cottonseed on a daily basis. Feeding can be continued until adequate grazing is available in the spring, and usually cows will quit eating cottonseed when this is the case. We don't recommend that cottonseed be fed to bulls before the breeding season, because gossypol may effect bull fertility. Once the bull is with the cows it should not be a problem for him to eat cottonseed.

Growing calves can be fed cottonseed as well, but recent research at NCSU shows that the level they can handle is lower than for brood cows. Our research has shown that cottonseed should be

limited to about 15% of their diet or about .33% of body weight. This amounts to about 1.5 lbs/day for light stockers or about 2.5 lbs/day in the winter feeding program for developing replacement heifers. This level of cottonseed along with 2 to 5 lbs of grain will be a good ration for growing calves fed good quality hay.

One thing that has kept some producers from trying cottonseed is handling. Handling is different than for bagged feed, but is really not more difficult. Storage needs to be in a pile under a shed where the seed can be kept dry. Since it comes in bulk, the labor needed to unload bagged feed is eliminated. It can be delivered to the cows in 20 or 32 gallon heavy duty plastic trash cans, which is just as convenient as bagged feed. Because it has a density of about 3 lb/gallon these size containers hold about 60 and 90 lbs which is a reasonable amount to be moving. Another advantage to handling feed in this way is that there are no feed bags to be disposed of. The fact that cottonseed can be fed off sod is another advantage over many other types of feed. The system I like best is to unroll a round bale (or part of a round bale) and feed the cottonseed on top of it.

Cottonseed is a high value/low price product of our area that cattlemen should take advantage of. Limiting feeding rates and spreading it out are firm rules that will allow the successful use of this valuable feed. For more information on feeding cottonseed and other locally available byproduct feeds contact your local extension office.