Grazing Cotton Residue to Reduce Winter Hay Feeding

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Late summer and early fall have been exceptionally dry. The USDA Drought Monitor indicated that 100% of the state of Georgia was experiencing some level of drought at the beginning of October. This is double trouble for producers because many have missed at least one or two cuttings of hay AND, the establishment of winter grazing is delayed. Many are buying hay and other feed resources to get them through the fall and winter months. A possible resource is grazing crop residue after harvest. Specifically, in many parts of Georgia, cotton residue may be an option.

What is it and are there any concerns?

In Georgia, approximately one million acres of cotton are harvested each fall. Upon harvest, material is left in the field (i.e. residue), including lint, seed and leaf, that has feed value to cattle. This potential feedstuff could serve as an excellent tool for beef cattle producers. Since cotton is typically picked in fall, this coincides with the current forage deficit that many are facing. The old "rule of thumb" states that you get 30 cow days/acre grazing cotton residue. However, harvesting technology has improved over the past 30+ years, leaving less lint and potentially decreasing these number of days. Additionally, there are chemicals used in cotton production that are not labeled for grazing. **Therefore, read the label, and if any chemical is used that has grazing restrictions, do not graze the cotton residue.**

Does it work?

During the fall of 2018-2020, a trial was conducted at the University of Georgia J. Phil Campbell, Sr. Research and Education Center, Watkinsville. Each year, two groups of pregnant, nonlactating cows were stocked on recently harvested cotton fields at a rate of one cow per acre. Two additional groups of pregnant, nonlactating

Table 1. Nutritive value of Bermudagrass hay and cotton residue.

Item, %	Bermudagrass Hay	Cotton residue
Protein	12.3	23.5
TDN	55	52
NDF	62	66
ADF	37	57
Fat	-	7.0

cows were fed hay only for the same amount of time for comparison. Based on the previous "rule of thumb" this should carry them for 30 days. Hay was provided to the cows on cotton residue after two weeks of acclimation to the cotton residue. Table 1 show the nutrient value of the cotton residue compared to the Bermudagrass hay that was fed. After 30 days, cows from both groups were weighed and daily feed take was estimated based on hay disappearance. The results are presented in Table 2. Although the cotton residue did not solely carry the cows for 30 days, it did decrease hay needs by 64% and reduce hay cost by $39.60 per cow over the 30-day period. Also, cows did not gain as much weight during the 30 days, but they did maintain enough condition to allow them to clave and rebreed in the subsequent calving/breading season.

Producers with access to cotton residue should consider it as a strategy to stretch out hay this fall. Weather and harvesting can affect the amount of cotton residue available. ***However, we recommend utilizing the 30 cow days/acre (or 1 cow/acre/30 days) and offering hay after 1-2 weeks grazing***. If you have questions on utilizing cotton residue to graze cattle this fall/winter, contact your local Extension office (extension.uga.edu, 1-800-ASK-UGA-1).

Table 2. Animal performance and economic comparison of hay only versus grazing cotton residue plus hay.

Item, %	Bermudagrass Hay	Cotton residue	Standard Error	*P*-value
Initial Weight (lbs)	1228	1235	25.8	0.858
End Weight (lbs)	1287	1274	26.0	0.701
AVG Weight Gain (lbs)	58	39	2.4	0.104
Hay Fed (lb/hd/d)	36	13	0.6	< 0.001
Hay Cost ($/hd/d)[1]	$2.07[a]	$0.75[b]	0.08	< 0.001

[ab] Differing superscripts with row indicate difference between means.
[1]A price of $115/ ton was used for economic calculations.

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