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### Feeding cotton gin byproducts to beef cattle highlighted

*Animal safety and performance when cotton gin byproducts are fed to gestating cows are presented in a recent article in Applied Animal Science*

**Champaign, IL, September 26, 2022**—Cotton byproducts are an available form of livestock feed. To generate more knowledge about this feed source, [Applied Animal Science](#) recently put out a Call for Articles about Cotton Byproducts for Beef Cattle. The resulting five articles add much to the discussion and appear in the October and December 2022 issues of the [journal](#). “The articles address use of cotton gin byproduct and safety for pregnant cows; protein utilization, gossypol content, and semen quality when feeding whole cottonseed; use of whole cottonseed in beef finishing diets; and grazing cotton crop residue in late gestation,” said David K. Beede, PhD, Editor in Chief of *Applied Animal Science*.

One of the articles focused on the feeding of loose or baled cotton gin byproduct to gestating beef cows in the Southeast United States. Scientists at Auburn University in Alabama and Clemson University in South Carolina researched animal performance and safety characteristics when offering cattle cotton gin byproduct feed. They also considered the effects of different processing methods. Their findings are presented in the new [article](#).

The researchers studied gestating cows over a 60-day period in which half the cows were fed loose cotton gin byproduct and the other half received baled cotton gin byproduct. The article explains that some commercial gins bale their cotton gin byproduct to facilitate use by beef cattle producers. The scientists evaluated feed intake, body weight, body condition score, and several indicators of health and found that cows offered the loose gin byproduct consumed more, whereas those offered the baled gin byproduct had greater body condition scores. “Both treatments, loose and baled, were able to maintain cow body weight and condition score appropriate for stage of production throughout the duration of the study when supplemented daily with a mixture of corn gluten feed and soyhull pellets to meet target energy requirements,” said lead author M. K. Mullenix, PhD, Department of Animal Sciences, Auburn University, Auburn, AL, USA. Blood and neurological testing also revealed acceptable health conditions among the cows studied.



Caption: Cotton gin byproduct is a readily available feed source for beef cattle in the Southeast United States (Credit: M. K. Mullenix).

In addition to cattle performance and safety, other aspects of cotton gin byproduct feeding are discussed in the article. “Cotton gin byproduct consists of leaves, soil, stems, boles, burs, lint, and cottonseed leftover from the cotton ginning process,” explained Mullenix. The byproduct is often stored outside by cotton gins and can be baled, which might affect its nutritive value. The scientists also mention that byproduct might include residues from pesticides, herbicides, harvest-aid chemicals, or defoliants, although none of the cows’ blood parameters analyzed in this study suggested any animal health issues.

Cotton gin byproduct is an available feed resource in cotton-producing areas, and articles such as this one increase our understanding of its proper use. Mullenix concluded, “Both loose and baled gin byproduct can be used to maintain nonlactating, bred cows with additional energy-protein supplementation and provide an outlet for cotton byproduct waste to be used in beef cow-calf operations in the Southeast United States.”

The article appears in the October issue of *Applied Animal Science*.

The other articles that are part of the Cotton Byproducts for Beef Cattle set from the *Applied Animal Science* Call for Articles include the following:

“Cottonseed characteristics related to beef cattle consumption: Protein degradability, digestibility, and gossypol content” by J. L. Jacobs, D. B. Davis, M. K. Mullenix, J. C. Koebernick, S. M. Justice, S. L. Dillard, R. B. Muntifering, and R. L. Stewart Jr. 2022. *Appl. Anim. Sci.* 38(5):409–416. <https://doi.org/10.15232/aas.2022-02304>.

“Effects of whole cottonseed supplementation on performance, semen quality, and manganese superoxide dismutase concentrations in blood and semen of beef bulls” by D. B. Davis, A. L.

Jones, S. R. Hernandez, C. B. Welch, P. L. P. Fontes, J. J. Tucker, and R. L. Stewart Jr. 2022. *Appl. Anim. Sci.* 38(6):(accepted; will appear in the December issue).

“Using whole cottonseed to replace dried distillers grains plus solubles and prairie hay in finishing beef cattle rations balanced for physically effective neutral detergent fiber” by K. N. Schneid, A. P. Foote, P. A. Beck, G. L. Farran, and B. K. Wilson. 2022. *Appl. Anim. Sci.* 38(5):417–432. <https://doi.org/10.15232/aas.2022-02305>.

“Grazing cotton crop residue to reduce winter supplementation cost in late-gestation beef cows and assessment of the negative effects of gossypol on fermentation of mixed ruminal microorganisms” by D. B. Davis, S. R. Hernandez, H. M. Johnson, T. R. Callaway, and R. L. Stewart Jr. 2022. *Appl. Anim. Sci.* 38(5):433–440. <https://doi.org/10.15232/aas.2022-02302>.

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### Notes for editors

“Cotton gin byproduct: Effects on feed intake, quality, and safety for use in diets of gestating beef cows,” by J. L. Jacobs, M. K. Mullenix, J. C. Koebernick, S. L. Dillard, S. M. Justice, D. A. Tigue, S. P. Rodning, and R. B. Muntifering (<https://doi.org/10.15232/aas.2022-02288>), *Applied Animal Science*, volume 38, issue 5 (October 2022), published by FASS Inc. and Elsevier.

This article is openly available at <https://doi.org/10.15232/aas.2022-02288>.

Full text of the article is also available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext. 143 or [ARPAS@assochoq.org](mailto:ARPAS@assochoq.org) to obtain copies. To schedule an interview with the author(s), please contact Kim Mullenix at [mullemk@auburn.edu](mailto:mullemk@auburn.edu).

### About *Applied Animal Science*

*Applied Animal Science* (AAS) is a peer-reviewed scientific journal and the official publication of the American Registry of Professional Animal Scientists (ARPAS). In continuous publication since 1985, AAS is a leading outlet for animal science research and is indexed by Scopus and ESCI (Clarivate’s Emerging Sources Citation Index). The journal welcomes novel manuscripts on applied technology, reviews on the use or application of research-based information on animal agriculture, commentaries on contemporary issues, short communications, and technical notes. Topics that will be considered for publication include (but are not limited to) feed science, farm animal management and production, dairy science, meat science, animal nutrition, reproduction, animal physiology and behavior, disease control and prevention, microbiology, agricultural economics, and environmental issues related to agriculture. Themed special issues also will be considered for publication. [www.appliedanimalscience.org](http://www.appliedanimalscience.org)

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