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### Exploring byproduct feeds used in US beef production

*The use of common and potential alternative feeds in the beef industry is reviewed in a recent article in Applied Animal Science*

**Champaign, IL, October 10, 2022**—Byproduct feeds are a significant feed source for livestock in the United States. “Byproduct Feeds in Southeastern Beef Cow-Calf Operations” was the topic of the July 2021 Bill E. Kunkle Interdisciplinary Beef Symposium, and articles that resulted from presentations at the symposium will appear in the October and December issues of [Applied Animal Science](#). “Use of alternative feedstuffs for beef cattle is the umbrella topic of four articles about the feeding characteristics and management of a number of byproducts, including soy hulls, sweetpotatoes, whole cottonseed, and cotton harvest residue and about increased opportunities to use byproduct feedstuffs as supplements from the bourbon distillery and craft brewery industries. Otherwise, these feed byproducts might be wasted or put in landfills,” said David K. Beede, PhD, Editor in Chief of *Applied Animal Science*.

One of the [invited reviews](#) from the symposium discusses the use of byproduct feeds in southeastern US beef production systems and potential feed sources that require more research to become accepted feeds. “Use of major agricultural processing byproducts, including those from cotton, soybeans, corn, and wheat, have come to make up much of the concentrate fed in many beef systems,” said author Matthew H. Poore, PhD, Department of Animal Science, North Carolina State University, Raleigh, NC, USA. He describes in the review how materials evolve from a waste product to a byproduct and then to a coproduct, and defines each of these stages. Soybean meal, commonly used in the livestock feed industry, is presented as an example.

Byproducts that have undergone extensive research and are now in common use in southern beef production systems, such as soybean hulls, corn gluten feed, wheat middlings, distillers grains, brewers grains, cottonseed, and cotton gin byproduct, are characterized in the article. Dr. Poore presents what is known about the protein and fiber content of these byproducts, and current recommendations on supplementation with each of these alternative feeds. Other waste products, such as those from sweetpotatoes, have not yet been thoroughly researched but are potential feed sources. “Sweetpotatoes (*Ipomoea batatas*) are an important crop in the South, providing several different waste streams that may

be useful in animal feeding,” said Poore. In the article he reviews experiences and discoveries from feeding the byproducts from sweetpotatoes, which remain challenging to use safely.



Caption: Whole cottonseed is a byproduct feed available in the southeastern United States often fed to beef cattle (Credit: M. H. Poore).

The four invited reviews from the Symposium also discuss ways to determine the feed value of byproducts and considerations when establishing a byproduct-based feeding program. “Information on your locally available byproducts, including total amounts available, seasonality of supply, variation in typical analysis, potential associative effects when mixed with other ingredients, and storage challenges, should be well understood,” Poore recommended. Many potential feed sources still need to be extensively researched, but, as shown in the articles, much information is available on the use of byproducts as feed for beef cattle.

The articles appear in the October and upcoming December issues of *Applied Animal Science*.

The other articles that resulted from presentations given at the Bill E. Kunkle Interdisciplinary Beef Symposium, “Byproduct Feeds in Southeastern Beef Cow-Calf Operations,” Southern Section of ASAS annual meeting, Louisville, KY, July 2021, include the following:

“Invited Review: Using whole cottonseed and cotton harvest residue in southeastern US beef cattle diets: Quality, intake, and changes in feed characteristics” by M. K. Mullenix, R. L. Stewart Jr., J. L. Jacobs, and D. L. Davis. 2022. *Appl. Anim. Sci.* 38(5):447–455. <https://doi.org/10.15232/aas.2022-02301>.

“Invited Review: Rise of craft distilleries in the southeastern United States increases bourbon-distillery feedstuffs as supplement for beef cattle” by J. W. Lehmkuhler and E. S. Vanzant. 2022. *Appl. Anim. Sci.* 38(5):456–465. <https://doi.org/10.15232/aas.2022-02299>.

“Invited Review: Rise of craft breweries increases beef cattle supplement availability” by D. D. Harmon and K. P. Phipps. 2022. *Appl. Anim. Sci.* 38(6):(accepted; will appear in the December issue).

The October and December issues of *Applied Animal Science* (volume 38, issues 5 and 6) also present a set of articles specifically addressing use of cotton byproducts in beef cattle production systems.

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### **Notes for editors**

“Invited Review: Use of byproduct feeds in southeastern US beef production systems,” by M. H. Poore (<https://doi.org/10.15232/aas.2022-02307>), *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.2022-02307>.

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@assoqh.org](mailto:ARPAS@assoqh.org) to obtain copies. To schedule an interview with the author(s), please contact Matthew Poore at [matt\\_poore@ncsu.edu](mailto:matt_poore@ncsu.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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