

# Cotton byproducts could offer beef producers an excellent feedstuff for drought survival or winter feeding.

Story and photos by **Becky Mills**

**A**re you looking for a byproduct to get your herd through the drought? Or maybe an economical supplement to lower your winter feeding costs? Cotton could be the answer.

And surprise — cotton is no longer just a Deep South crop. According to the National Cotton Council, more than 12 million acres stretch from Virginia to Kansas to California, providing feeding opportunities for cattle producers from one end of the country to the other.

## Grazing stalks

First on the list, if you're lucky enough to live in cotton country, are cotton stalks. They're as close to a free lunch as your cows are likely to receive. Simply string up a strand of temporary electric fence and you've got instant grazing.

"Last year we got 45 days of grazing on 300 acres of cotton stalks with 300 head of brood cows," says Cuthbert, Ga., producer

Bobby Lovett. He says the grazing was especially valuable because it was a dry fall.

"This is the third year we've grazed the stalks," he continues. "We knew from past experience they would eat the cotton attached to the stalks and eat the waste cotton around the modules. We didn't realize they would eat the burrs, too, but they absolutely clean up the stalks.

"A side benefit is in a warm year the cotton will put back on green leaves, and they'll eat them. They don't like them as much as the cotton, but they'll eat them."

He adds, "By the time of year the cows are going on cotton stalks, our Bermuda and Bahia grass pastures are pretty well playing out. That's another reason it is so advantageous."

While Lovett's cattle did get 45 days from grazing the stalks, that's probably a little on the optimistic side

most years. University of Georgia animal scientist Robert Stewart says a rule of thumb is one acre of cotton stalks for one dry cow for 30 days.

He says cotton stalks can provide pretty fair grazing. "In a trial we did, dry, pregnant cows actually increased in body condition score (BCS). Grazing the cotton stalks had a 0.2-pound per head per day advantage over feeding hay."

## Variables

While the 30 days of grazing per acre per cow is a guideline, Virginia Tech animal scientist Mark McCann says that is highly



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variable. "Clean fields don't offer as much grazing as fields with grass and weeds."

He also says that west of the Mississippi, cotton is often picked with a stripper rather than a conventional cotton picker, which leaves almost nothing but stalks. That translates into less grazing quality and quantity.

He adds, "A little protein supplement will help if they have grazed it down to the mature stems. It is kind of like low-quality hay." Lovett only grazes his cows on cotton fields that are adjacent to a permanent pasture. He keeps hay out and uses it to gauge when the cows have stripped the cotton — they don't eat the hay until the cotton is gone.

While a field of cotton stalks can be a boon, McCann warns, "Be very conscious of what pesticides and herbicides have been sprayed on the cotton."

Lovett adds that grazing cotton stalks can also be a challenge with cows that are calving because it is hard to find the calves to tag them. However, he comments, "The cows have to come out of the cotton field to get water, so they bring the calves with them."

### **Feeding cotton byproducts**

When it comes to cotton byproducts, though, whole cottonseed is probably the star in the line up.

"Whole cottonseed is a complete protein and energy source," McCann says. "It averages 88% dry matter (DM), 22% protein, and 100% TDN (total digestible nutrients). It is more than a dry cow needs."

As a bonus, he says it can also be fed on the ground, doing away with the need for troughs. However, he says the lint on the

seed means it can't be run through an auger and has to be handled with a tractor-mounted bucket or front-end loader.

"We've been using whole cottonseed for 15 years or more," Lovett says. "It supplies all the protein for any feed situation we come up with. The fat is an added bonus."

However, he agrees with McCann. "One of the problems is how to handle it, but I think we have that whipped." At first, employees shoveled the cottonseed on the ground from the back of a pickup truck. Now, they pick it up at the gin in an old silage wagon and pour it directly into troughs.

For mature brood cows, he limit-feeds it every two or three days, and the cows eat 2 or 3 pounds (lb.) per head per day.

For first- and second-calf heifers, Lovett feeds it free choice. "They need all the help they can get to rebreed. Whole cottonseed is

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excellent to keep their body condition up,” he says, “Apparently, according to the Extension service and our experience, they will not overconsume it. They eat around 4 pounds per head per day.”

He cautions, “It will not work by itself. We always have something to go with it, either hay or limited grazing.”

He also uses the commodity in mixed rations for weaned calves, bulls and replacement heifers. Using a mixer wagon, employees blend it in a mix of 50% to 70% homegrown grain sorghum or shelled corn with the remainder being whole cottonseed. They also include minerals with the mix.

Wes Williamson, Okeechobee, Fla., has been using whole cottonseed in his operation for more than six years. “We feed

straight whole cottonseed and will feed the brood cows up to 5 pounds per head per day,” he says.

He uses an old feed wagon to put it out into troughs made from pipe salvaged from the phosphate industry.

“Sometimes we mix the cottonseed with another byproduct, usually citrus pulp, and a mineral pack,” he adds. “For heifers, we mix it half and half with citrus pulp.”

McCann says there are limits to the amount of whole cottonseed one should feed.

“Whole cottonseed is 20% fat and we try not to feed more than a pound of fat to a cow. So, we should probably limit it to 5 or 6 pounds per head per day.”

Gossypol, a component of the seed, can also cause toxicity in calves. “We try to limit it to 3 or 4 pounds per head per day in calves,” he says.

In some situations, gossypol has been linked to semen quality problems in bulls fed high levels of cottonseed. Williamson says that two winters ago, when it was extremely dry, his bulls apparently overconsumed the whole cottonseed-citrus pulp mixture and had sterility problems.

“We saw the problem in the Brangus bulls exclusively,” he comments. “None of the Angus bulls exhibited any symptoms.”

McCann also says producers need to figure out the economics of feeding whole cottonseed compared to other available byproducts in their area. “If you are close to a source of corn gluten, soybean meal or a brewery, it probably wouldn’t pay to feed whole cottonseed.”

Williamson, who has to have the commodity shipped 400 or 500 miles to his south Florida operation, pays \$120 to \$130 a ton. However, he says, “It is 23% protein. That is still the very best buy per unit of protein I can get.”

Lovett pays \$60 to \$70 a ton when it is picked up at the gin, which is only 10 miles from his farm.

### Gin trash

If you are close to a gin, there is another cotton byproduct that is usually free for the taking. Gin trash is made up of the burrs off the bolls, small amounts of leaves and stalks that make it through the cotton picker with the bolls, and shreds of cotton.

McCann says gin trash averages around 11% protein and 47% TDN, but he warns, “The nutrient content varies widely from gin to gin.”

He continues, “It is a cheap and plentiful roughage source and equals fair to poor hay, but the dirt content can dramatically reduce the palatability.”

He also says, “A lot of gins wet it, then it molds. Handling is a problem, too. It is dusty and won’t move through an auger. It has to be moved with a bucket or mixer wagon. It also needs to be protected from the rain.”

Lovett tried gin trash as a hay substitute two different times, but says, “It was too much of a problem for what we were getting out of it. It had been exposed to the weather, and in some cases they had wet it down at the gin. It deteriorated, and the cows didn’t want to eat it. I think it would be worth more if you could protect it from the weather.”



► Bobby Lovett says cottonseed helps keep his first-calf heifers in shape to rebreed.

► Below: While the 30 days of grazing per acre per cow is a guideline for grazing cotton stalks, Virginia Tech animal scientist Mark McCann says that is highly variable.

