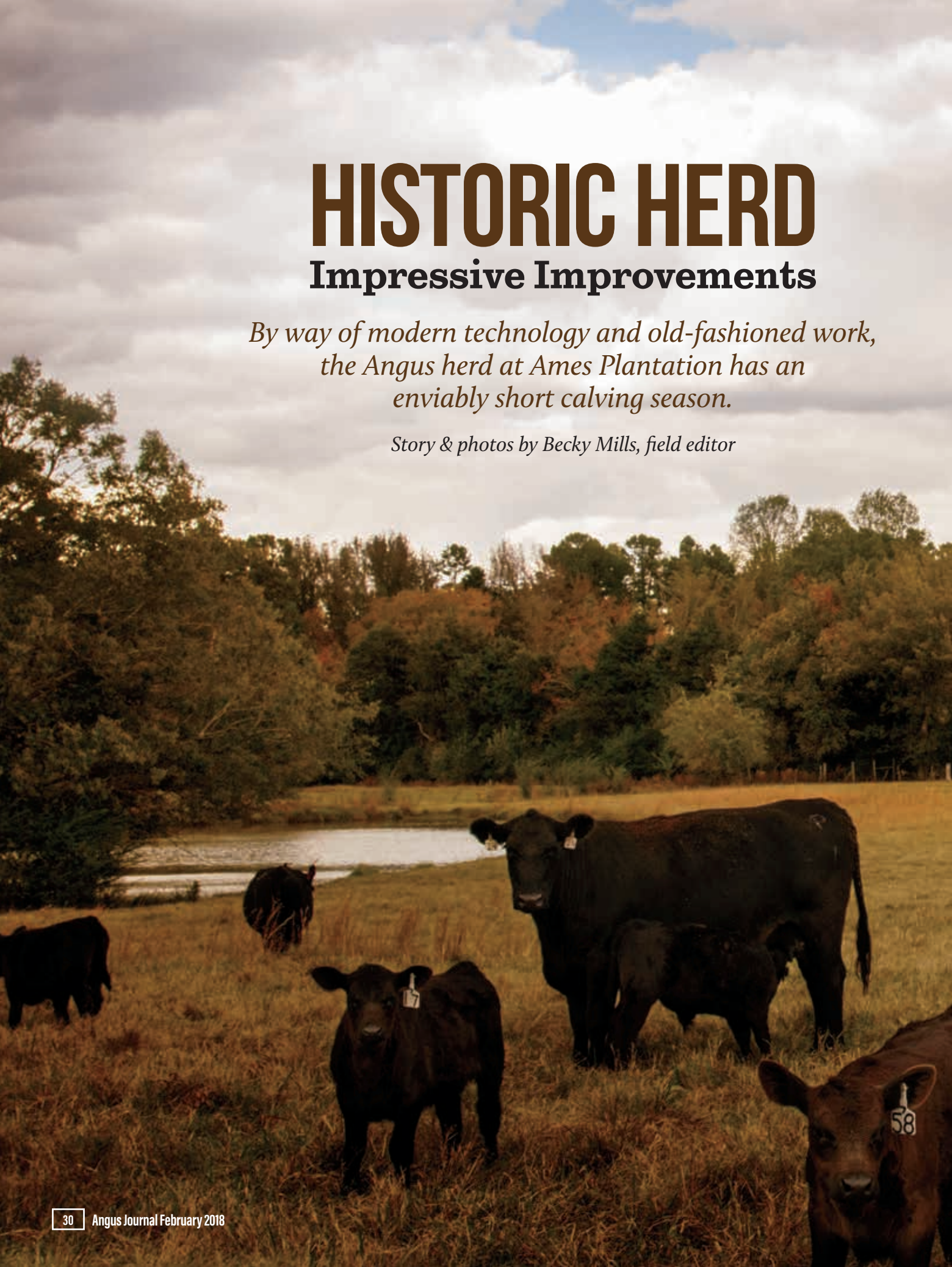
HISTORIC HERD

Impressive Improvements

By way of modern technology and old-fashioned work, the Angus herd at Ames Plantation has an enviably short calving season.

Story & photos by Becky Mills, field editor



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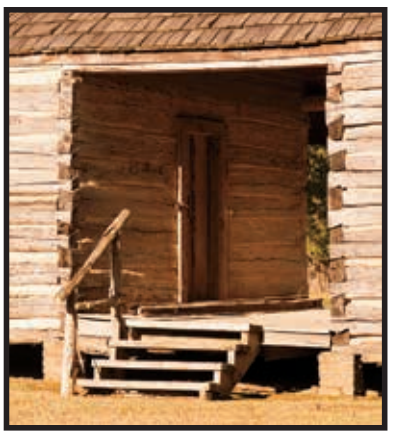
Impressive Improvements

The Manor House was built in 1847, then purchased, along with the plantation, by Hobart Ames in 1901.

As you drive down the dirt road to Ames Plantation, the first thing that hits you is the sense of history.

There are the kennels and stables, scene of the staging area for the famed National Championship for Field Trialing Bird Dogs, hosted on the Grand Junction, Tenn., property since 1915.



Log buildings have been brought in from around the plantation and restored for the Heritage Village.

Then, there is the breathtaking plantation house, built in 1847, that houses the oil portrait of Ames Plantation Beau, grand champion of the 1917 Chicago International Live Stock Exposition. Beau was a product of the Aberdeen Angus herd that Ames Plantation owner Hobart Ames imported from Scotland in 1913, making the operation the third-oldest Angus herd in the United States.

However, when herdsman Matt Backus opens the gate of one of the five pastures housing the cows that were bred and conceived to artificial insemination (AI), it isn't the history that hits you. It is the cookie-cutter, drool-worthy calves surrounding the cows.

"There are 22 cows in here," he says. "They were done calving in 10 days."

It is the same story in the other AI pasture. In the pastures where cleanup bulls settled cows, the calves don't look a whole lot different. Backus started calving the 140-cow registered herd and 25-cow commercial herd Sept. 18. By Oct. 24, only 10 cows still had to drop their calves.

The 32-year-old University of Tennessee (UT) graduate has been at Ames for six years. Some newcomers would have been perfectly content with the 75- to 90-day season, including the fact it was all natural service. Not Backus.

With the blessing of Rick Carlisle, director of Ames Plantation, and with guidance and hands-on help from UT Extension Beef Specialist Justin Rhinehart, who specializes in reproductive physiology, Backus dove into a synchronization and AI program.

The team uses the 7-Day Co-Synch + CIDR® protocol. On Day 0, a Controlled Internal Drug Release (CIDR) device is inserted into the vagina of all the cows and heifers. They are also given an injection of gonadotropin-releasing hormone (GnRH). On Day 7, the CIDR is removed and the females are injected with a prostaglandin. Approximately 60 hours later, Backus and Rhinehart AI the cattle.

Some producers add another step to the protocol and heat-check and breed any female that comes in heat during the 60 hours between the time the CIDR is removed and the time AI takes place. That isn't feasible at the 18,000-acre operation.

"The vastness of this place isn't conducive to heat-checking," Backus says. "Our longest push is 2 miles, and we work every cow on horseback."

As it is, he and Rhinehart do quite well, averaging a 60% conception rate the last six years.

While Backus admits synchronization and AI are labor-intensive, he says the results, both the genetic boost and the compressed calving season, are more than worth it. In six years, raw weaning weights have increased 63 pounds (lb.).

"Sixty pounds at $1.50 a pound is almost $100 a calf," he notes. He estimates the cost of synchronization and AI is around $50 a head. That includes the drug and semen costs, but not the cost of a technician since he and Rhinehart do the breeding.

Backus continues, "We started this whole AI thing knowing it was going to take time, but it keeps getting better." He only keeps bull calves that are AI-sired, and they serve as his cleanup bulls.

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Ames Plantation herdsman Matt Backus uses estrous synchronization and artificial insemination to produce uniform, quality calves.

In addition, he only keeps replacement heifers that are AI-sired.

"The bulls are more visually appealing and come with a stronger set of EPDs due to AI. The 5-year-old cows that are AI-bred also stand out. They are more moderate. We are trying to stay consistent with our selection and breeding. Long-term consistency beats short-term intensity every time."

Finding efficiencies

Backus and Rhinehart say the advantages of synchronization and AI just start with the genetic advantage. For Backus and his assistant, Dillon Goudy, their trips to the calving pastures are much more efficient.

"When I first got here, there were seven or eight pastures with cows in all different stages of pregnancy. We checked them three times a day, plus working calves."

That went on for the whole calving season. Then, Backus started sorting them by pregnancy status.

"Now, even the bull-breds come within four weeks. When they are through calving, we can get to other things, like fixing fence. Some of this fence was built during the Korean War," he says.

There are a few stragglers, but that is a matter of economics.

"I put the bulls in 10 to 14 days after we AI, but we leave the bulls in until late spring," Backus explains. "We sort the late pregnancies by preg-checking, and I'm not going to keep one that is only 30 days bred." He sells the late breds as bred cows, rather than at cull prices.

"In the last few years, I have a list of people who have bought bred cows," he notes. "At the final preg-check, I start calling people."

Management gateway

Rhinehart says a compressed calving season is a gateway to other good management practices.

"You can give vaccinations at the same time and the right time," he says. "You can manage the nutrition of the cow herd better. If you have dry cows and cows in lactation in the same pasture, you're going to feed one too much and one too little."

Marketing gets a big boost from a compressed calving season, the beef specialist says. "You can market uniform truckload lots, or, if you don't have enough calves for that, you can market in uniform groups of five or 10. There is a lot of data that shows if you sell groups of cattle that are similar in size, age and weight you get more per pound and per head. Plus, the earlier you get the cows to calve out, the heavier the calves are at weaning."

Reasons for improvement

While there is an impressive list of advantages to a shortened calving season, there is also a list of factors that make it happen.

Rhinehart starts with nutrition.

"It has a huge impact," he emphasizes. At Ames, the mature cows run on fescue and Bermuda grass pastures, along with overseeded ryegrass in the winter. They also get baleage made from ryegrass and wheat in the cool season, and millet in the summer, as well as dry hay. In addition, as soon as the heifers start calving, they get around 5 lb. per head per day of a 14% commercial feed with

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Majestic barns are spread across Ames Plantation.

Rich In HISTORY

While Ames Plantation herdsman Matt Backus is quick to use technology like estrous synchronization and artificial insemination (AI) to improve the herd, he gives more of the credit to the cattle owners.

"Dr. Carlisle (Rick Carlisle, director of Ames Plantation) and I both have the unwavering support of the Hobart Ames Foundation," he says. "We're able to do this because they own the cows."

Hobart Ames, a Massachusetts industrialist, bought the Grand Junction, Tenn., plantation in 1901, and he and his wife, Julia, used it for quail hunting, to entertain and to raise livestock and cotton. When Ames passed away in 1945, he left it to his wife.

Prior to her death in 1950, she set up the Hobart Ames Foundation so the plantation could continue to serve as the site of the National Championship for Field Trialing Bird Dogs, and as a Research and Education Center for the University of Tennessee (UT) AgResearch Division.

In addition to ongoing research; hosting the trial, which starts the second Monday each February; and on-site educational programs, the Ames Plantation Manor house is open for tours on the fourth Thursday of the month from March through October. Also, the Heritage Festival, featuring folk artists and musicians, is in October. It is hosted at the restored village near the plantation house.

For more information on Ames Plantation, see *www.amesplantation.org.*

AJ

Pictured in this oil painting, Ames Plantation Beau was grand champion at the 1917 Chicago International Live Stock Exposition.

Rumensin®, and continue to get it through the calving and breeding season.

Backus strives to maintain his cows at an average body condition score (BCS) of 5 to 6 on a scale where 1 is emaciated and 9 is obese.

"We start feeding baleage three to four weeks before breeding. Even if they aren't in that great a body condition, it tricks them into thinking they are because the plane of nutrition is going up. Just make sure the protein, energy and digestibility are right."

He adds, "Baleage is a great alternative to corn, silage or a commercial feed. We feed it like a regular bale, and there is no waste."

Rhinehart stresses that synchronization, as long as it has a progesterone component, plays a huge role. "It shifts them forward."

He also says, "Make sure you stay true to the protocol."

Backus agrees.

"Pay attention to the details," he advises. "Make sure you inject the whole dose of pharmaceuticals. If it is supposed to be 2 milliliters, and you only inject 1.8 milliliters, that's 10% she didn't get. All the little things add up to big things."

He also emphasizes, "Keep the cows calm. Use good stockmanship."

When it came to shortening the calving season, Backus had a head start, says Rhinehart. "He started with a good breeding season, and those cows had been selected for that environment for 40 years."

The specialist emphasizes, "Matt stays really, really true to culling females that don't fit in his breeding season. Over time, if a producer stays true to making cows calve in a window, they'll adapt."

Even though there is the argument that fertility is lowly heritable, Rhinehart still says selection is the way to make progress.

"Fertility is so influenced by the environment," he says. "When you select for cows that breed early in that environment, you select for cows that have the genetics to breed in that environment. It adds up."

He feels so strongly about it that he urges producers to only keep heifers that breed at the first of the breeding season.

"If producers have enough heifers, I recommend they breed one cycle AI, or turn in the bull for 20 days, then sell all the open ones for heavy feeders," he says.

Actually, there is one more factor that plays a role in the successful push to shorten the calving season at Ames Plantation, and that's Backus himself.

Says Director Carlisle: "I've been here for 37 years, and watched a gradual improvement in the beef herd. When Matt took over six years ago, the improvements have been fantastic. He has done an outstanding job."

For Backus, it is just part of the job.

"When I took over, I said if we're the third-oldest herd, we need to look like it," he says. "If it is worth doing, it is worth doing right."

Judging from those uniform calves, it looks like he is well on his way. AJ

RESEARCH
Front & Center

While Ames Plantation is a feast for the eyes, herdsman Matt Backus is quick to say, "This is a Research and Education Center. My first charge is to educate and do research for the cattle producers across the state."

Actually, the cattle at Ames are involved in research that will benefit producers across the country, not just in Tennessee. An example is a hair coat shedding study led by University of Missouri (MU) animal scientist Jared Decker.

"When cows shed their winter coats, they have more heat tolerance and are much more productive. They wean a heavier calf and breed back sooner," Decker explains.

In May or June, participating purebred breeders go through their cows and rate them from 1 to 5, a score of 1 being a cow that has completely shed her winter coat and is slick, and 5 being a cow that still has her winter coat. The breeders are turning in the ratings, as well as a DNA sample on each animal.

Decker and his team will use this data to identify genes involved in hair shedding. In addition to identifying those genes, he says their other goal is to create genomic predictions for hair shedding. As a bonus, the purebred breeders get free genomic profiling, adding accuracy to their expected progeny differences (EPDs) on the animals used in the study.

The herd at Ames is custom-made for this type of research.

"We have had records since AHIR® (Angus Herd Improvement Records) started," Backus says, "and now, we have DNA samples on all our animals."

Not to mention Backus has the DNA for research, too. His grandfather, Bill Backus, was a professor at the University of Tennessee Animal Science Department and actually did part of his research on feeding whole-shell corn at Ames Plantation.

AJ