

A Gold Standard

The reasons for having Angus herds may vary, but three of the country's top ag universities agree: The breed has proved itself a winner on campus.

Story & photos by Ed Haag

It seems there are as many reasons for including Angus in university herds as there are universities in possession of Angus. These reasons range from the Angus breed possessing characteristics well-suited for research and teaching to a university's long-term commitment to the breed, beginning with the donation and receipt of some extraordinary lineages.

The availability of background data for research has also contributed to the presence of Angus in university herds, as has the breed's ability to generate a positive cash flow for the institutions.

But, there is more, says Brian Bequette, assistant professor of animal and avian sciences at the University of Maryland (UM). "Angus is today's gold standard for what the consumer wants in their beef products," he says, adding that it only makes sense to work closely with the genetics that will have the maximum effect on the industry.

The right stuff

Shanna Ivey, assistant professor and rumen researcher within the department of animal and range sciences, New Mexico State University (NMSU), believes that many of the same traits that make black Angus a great breed to raise commercially make it a superior breed for research and teaching. "NMSU has had an Angus herd since the 1970s," she says. "We find them both adaptable and real easy to work with."

Ivey sees the Angus breed's ability to breed down in size as an important feature for the NMSU herd. Summer temperatures that regularly exceed 100° F favor smaller-framed cattle.

"Our environment is tough on large cattle," she says. "By going with animals with a moderate frame size, we have a nice working model for teaching and doing research in our region."

Temperament is also a plus with the Angus breed, Ivey says. "We have both faculty and students working with these cattle. As teaching tools, they have to be willing to tolerate handling by several people as well as a whole lot of other distractions."

This is particularly true with the cannulated cattle on the NMSU campus. These Angus cows have undergone a surgical procedure to create a large permanent access hole into their rumen. A plastic plug fits into the opening to stop the spill of gastric juices and food. When the plug is removed,

students can observe the digestive process directly.

"What is required is an animal with a good disposition — one whose temperament won't change after the procedure," Ivey says.

"Cannulation is expensive, and there is a long recovery period.

We want these animals to be around a long time."

This brings us to longevity, another Angus trait, Ivey says. Cannulated Angus cows in the NMSU herd live more than a decade, breeding back successfully every year.

Information available

John Comerford, Pennsylvania State University (Penn State) beef cattle coordinator, says data availability was a major reason his university made a conscious decision to focus on the Angus breed a decade ago.

"At the time, there was a lot more information available on the Angus cattle than there was on the other major breeds,"

he says. "It was also a lot better organized and more comprehensive."

The fact that the American Angus Association was the first major breed organization to keep systematic and comprehensive records on its top animals and made that information available to researchers also contributed to Penn State's decision to focus on Angus, Comerford says.

He adds that keeping track of background

information such as birth, weaning, yearling and mature weights; carcass data such as lean yield, marbling and fat content; and reproductive data such as cow maturation, ability to consistently reproduce and ease of calving has played a critical role in beef research.

Because of this, Penn State faculty and staff have been collecting data on their beef herds for almost a century. Angus cattle were probably used for teaching and research since the establishment of its animal husbandry program in 1907. A 1920 Penn State catalog reported that the school maintained both Angus and Shorthorn herds.

Lineage data collected on its Angus herd during the decades has been successfully used by Penn State staff to advance its breeding program and has resulted in some extraordinary achievements, including two consecutive national champions, PS Princess 117 and PS Power Play.

Best return for the dollar

With a legacy of Angus champions to its credit, it is difficult for his university to ignore the financial benefits of sticking with the breed, Comerford adds. "There is a value-added component associated with the quality of the cattle in our Angus herd that does bring in additional revenue into our program," he says.



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For example, the Penn State production sale of Angus cattle in late 1979 grossed \$150,000, with Power Play's semen alone earning more than \$2 million during the next two decades. Although the university did sell interests in Power Play, it received substantial revenues from the one-sixth interest it retained.

In spite of Penn State's success at developing highly prized bloodlines, Comerford is quick to point out that its primary interest has historically been on research and education. "The records we have collected help us maintain an unbiased and clean data set," he says.

UM also benefits from the quality of its Angus herd. Scott Barao, Extension livestock specialist and program leader, notes that 15 of the 100 Angus sires cited as most influential by authors Tom Burke, Kurt Schaff and Rance Long in *Angus Legends: Volume I* came from UM's Wye Plantation herd.

The annual Wye Angus production sale has been hosted each April since 1978. In recent years, the annual event has generated more than \$100,000 in sales. "We sell at least 30 bulls each year and a limited number of females," Barao says. "There is always a lot of public demand."

To understand the importance of Maryland's herd to both university research and the Angus breeding community in general, one must look at its history.

Farm manger Jim Lingle and the late Authur Houghton Jr. founded the herd in 1938 as a privately owned seedstock operation. It initially consisted of 18 registered yearling heifers and one bull. Ten

of those heifers were half-sisters, sharing the same sire. No other females were introduced into the herd.

Between 1942 and 1958, Wye Plantation imported 19 bulls from the British Isles. Those bulls are responsible for about 75% of the germplasm now in the herd. The Wye Angus herd was closed to the introduction of additional germplasm in 1958. It was reopened for a brief period to half of the herd in order to complete a research project, but it has remained closed ever since.

"From that perspective, it is a very unique Angus operation," Barao says.

He is quick to note that this closed breeding population provides unique advantages in terms of conducting basic and applied beef cattle research. Individual animal variation, due to genetics, is significantly reduced, which improves the interpretation of research results. Also, the use of a limited number of bulls across a fairly homogeneous population of females results in larger numbers of individual sire groups of calves for study. Whenever individual variation can be reduced, the significance of scientific findings is improved, Barao says.

He goes on to point out that UM's working relationship with the Wye Plantation dates back to 1954, when faculty

member Willard Green agreed to supervise the first postweaning gain test of bulls on the farm. Since then, the tests have become an annual event and have evolved into one of the most comprehensive beef cattle performance evaluation programs in the nation.

"We have many years of performance data available," Barao says. "This is invaluable for research."

He notes these early evaluations also led to improved sire selection processes, which in turn led to a series of outstanding animals — ones that have had a lasting effect on the genetic makeup of the national Angus herd. From 1954 through 1977, when Green retired, the university participated in several research projects at Wye Plantation.

Two years later, in recognition of the outstanding working relationship he shared with the university and its faculty, Houghton gifted the Wye Angus herd to the state institution. The private, nonprofit University of Maryland Foundation was created to accept and hold the gift for use by the university, which remains the legal owner of the herd today.

Barao notes that the Maryland Agricultural Experiment Station (MAES) was charged with managing the herd on a daily basis, and it continues to do so

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► Temperament is a plus with the Angus breed, Ivey says, pointing out that many faculty and students work with the animals. It takes a calm animal to adapt successfully to the cannulation.

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today. With acceptance of the herd gift, the university agreed to make any animals deemed excess to research needs available for the general public in some equitable fashion. Its annual bull and heifer sale fulfills that obligation.

Industry benchmark

Bequette, who worked at Rowett Research Institute in Aberdeen, Scotland, for 10 years prior to joining UM, says the Angus breed's more desirable qualities make the animals

good research subjects. As a researcher in Scotland, Bequette was privy to studies investigating the relationship between grass-fed Angus cattle and marbling. From his observations, he concluded that the Angus breed is nothing less than an industry benchmark for flavor and tenderness and, as such, it offers the researcher an ideal model for study.

"Because of the way the Angus breed deposits its intramuscular fat, it provides us with a good-quality, flavorful meat," he says.

"That is the goal of much of our research today."

Bequette adds this goal is precisely the reason he selected Angus cattle as models for his current research project, one that involves exploring the relationships between genes, metabolism and the deposition of intramuscular fat. "It just makes good sense to start with a breed that represents the traits you are trying to isolate," he says. "With Angus, we know what we are getting."

