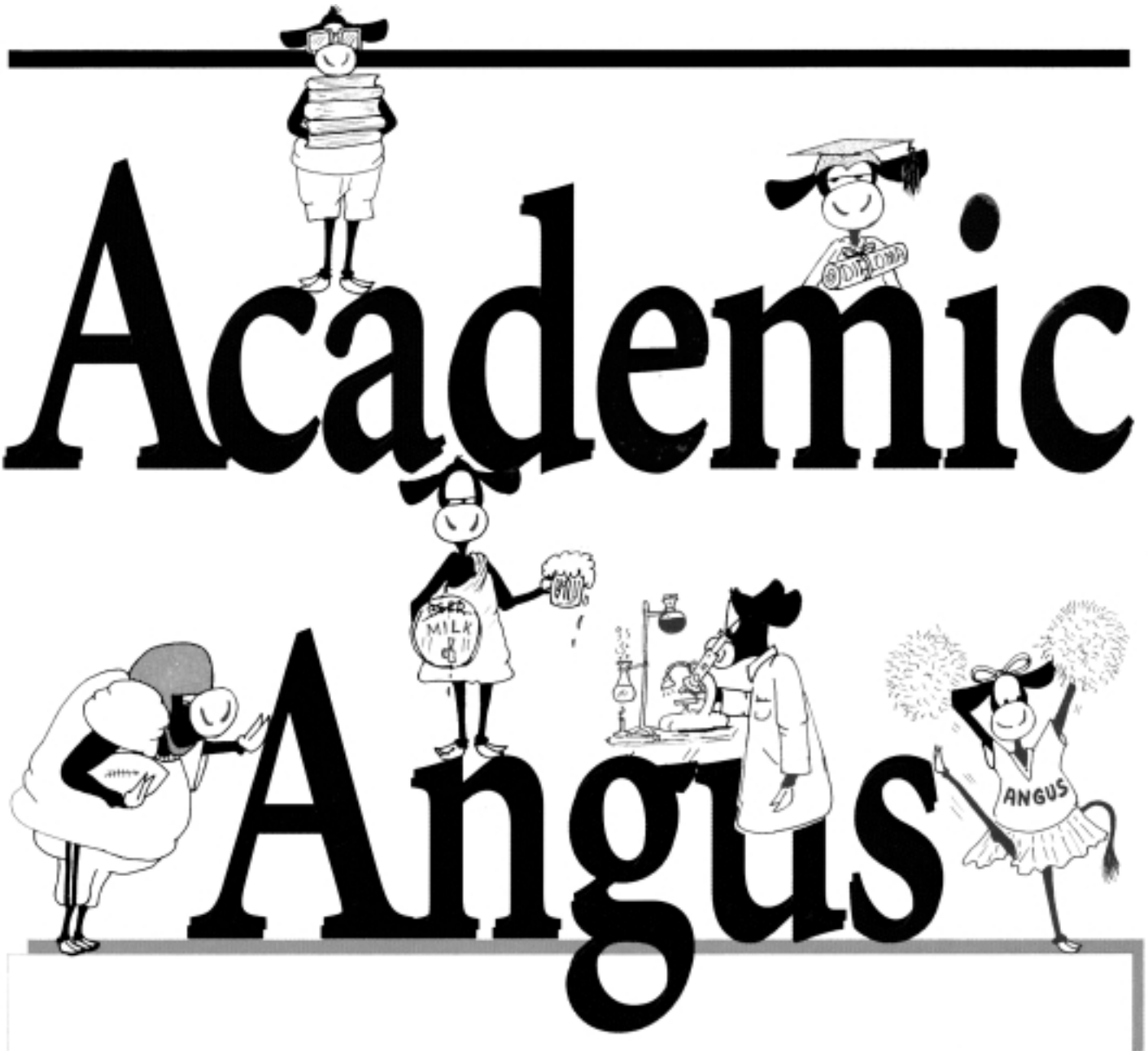
Academic Angus



Angus herds and genetics play an important role in teaching, research and beef porduction at land-grant universities across the country. In part III of our series, we feature the beef programs of the University of Illinois, University of Missouri and New Mexico State University.

CONTINUED ON NEXT PAGE

Breeding efficient cattle that will survive the harsh winters and dry, hot summers is the goal of New Mexico State University (NMSU). Meeting this goal are Angus cattle.

The University manages a herd of 25 Angus on their ranch near Carona in the high piñion, juniper and grassland of central New Mexico. Because of severe drought conditions the Angus herd was moved 200 miles north from the University Ranch near Las Cruces to the current location in 1990.

Selecting for efficiency of traits, not maximization, has been Neil Burcham's theory since he started managing NMSU's Angus herd in 1986.

"I want a herd that is labor free and has a 100 percent calf crop," Burcham says.

To achieve this, Burcham breeds cattle which will thrive in their environment, selecting for low birth weight, low milk and optimum growth. Easy calving, low input, disease resistant females are what comprises NMSU's herd.

The Angus serve as a source of bulls to use in their research projects and secondly as a teaching tool for beef production and other University classes.

The Angus herd was developed at NMSU in the mid-1970s for use in a crossbreeding study. New Mexico Angus breeders who donated animals to initiate the herd were Frankie Flint, Tucumcari, and Charles Pruitt, Crossroads.

Today only one female in NMSU's herd is not University bred. Although they maintain a fairly closed herd they infuse new genetics by the use of artificial insemination (AI). They AI all of their Angus females using sires that meet their selection criteria. Bulls used in their program must have a birth weight expected progeny difference (EPD) of less than 0 and a milk EPD of between 0 and 10.

"We select against milk," Burcham says. "Milk is second hand grass; heavy milkers need more grass." Because of the lack of rainfall and feed, lighter milkers will survive better in their area of the country

Gene Parker has been the University's cattle ranch superintendent for more than 30 years. During his tenure with the University he has found it's important to raise females which adapt to their environment and management.

"We need females that can survive on low inputs and low supplementation," he says.

Other important traits in their part of the country are calf vigor, temperament and longevity.

"Longevity is very important," Parker says. "With the cost of developing replacement heifers they need to last 10 years in our herd."

Burcham says another important trait is unassisted births. Their heifers and cows need to be able to lay down and have a calf without any assistance. If they can't they'll probably lose their calf, possibly die themselves or find themselves on the way to the sale barn. NMSU is currently using a bull that has had zero assists being bred to 100 first-calf heifers.

With extreme temperature variations ranging from below 0° F. in the winter to above 100° F. in the summer, immunity to sickness is important. They use an aggressive vaccination program and with selection they decrease the susceptibility to sickness. They do not use bulls which showed excess stress during the weaning process.

Data is collected on all Angus offspring and reported to the Angus Herd Improvement Records (AHIR) department of the American Angus Association. Burcham believes this practice is an important and viable process. He uses the data to chart the improvement of their herd.

Since 1987 they have lowered their birth weight EPD from 1.8 to .4, while increasing yearling weight EPD from 10 to 31.

Burcham aggressively culls the NMSU herd to increase efficiency. Any females who do not calve by 25 months of age and who need help during the birthing process are culled.

Because of their dedication to collecting data and strict selection criteria, the University each year has several cows named Pathfinders by the American Angus Association. In 1997 Burcham predicts they will have more than five cows meet the Pathfinder standards.

Ideally, Burcham would like all of NMSU's cows to be Pathfinders — calve before 24 months of age unassisted, calve every year and wean a calf heavier than the herd average. He'd like to see a female wean a calf that weighs more than 50 percent of her body weight.

With an average annual rainfall of less than 14 inches and at an elevation of 6,000 feet, NMSU cattle have to survive on little grass and with an extreme range of weather conditions. Burcham says elevation has more effect on weather in New Mexico than latitude.

Before calving and until the grass is green, the herd is supplemented minimally. Although the cows don't receive high levels of energy during this time, NMSU has an impressive post-partum conception rate. Since 1990 they've only had three open females.

During their 65-day breeding season in 1996 they had no rain and their cattle had average body condition scores of three, but they still had a 100 percent conception rate.

The cow herd begins calving in late January. First-calf heifers are managed by the students in the beef production class at the University.

After weaning, the calves are shipped to Las Cruces. The heifers are placed on irrigated pasture for development and AI. The heifers are shipped to Carona for summer grazing and return to Las Cruces for calving.

Bull calves are placed on a feed test. After coming off test the University selects bulls for its commercial herd and a cleanup bull for the Angus herd; the remaining bulls are sold in the University sale managed by NMSU students.

The sale is held in April at the NMSU Horse Farm in Las Cruces. The students help organize and conduct the bull and Quarter Horse sale.

Although Burcham would like to see the Angus herd size increase, with current market prices he doesn't see expansion

NEW MEXICO STATE UNIVERSITY ®

New Mexico State University is a land-grant university located in Las Cruces. The University offers 19 doctoral programs, 47 master's degree programs and 71 baccalaureate degree programs.

Fall 1996 enrollment was 14,748, with 1,320 in the College of Agriculture and Home Economics and 248 animal science majors.

(above) Managing New Mexico State's Angus herd from (l to r) are: Shad Cox, research technician; Gene Parker, ranch superintendent; and Neil Burcham, University professor. Cox and Parker live near Carona and manage the day-to-day operations of the ranch.

NMSU's Angus herd has to survive the harsh winters and hot, dry summers of central New Mexico, Raising cattle that are labor free and have a 100 percent calf crop is the University's management goal,

of the herd any too soon. The University also has 270 head of commercial cows and 80 replacement heifers at the Carona ranch, and has a herd of Brangus at the University Ranch near Las Cruces.

As the herd progresses, Burcham wants it to become known as a source of labor free, fertile, low-cost cattle. He wants to supply bulls for producers in their area that will excel in New Mexico's challenging environment.

-Angie Stump Denton