The Stabilizer Breed

By Lee Leachman

The Stabilizer breed is a multi-breed composite developed by Leachman Cattle Company. The breed is based on research done by the United States Department of Agriculture (USDA) at their Animal Research Service (ARS) at the MARC, Clay Center, Nebraska. The Stabilizer breed is a blend of British and Continental inputs. The original formation was 25% of four breeds each – Red Angus, Hereford, Simmental, and Gelbvieh. The Stabilizer combines the fleshing ability, marbling, and moderate size of the British breeds with the muscle, milk, and growth of the Continental breeds. As a four breed composite, the Stabilizer retains 75% of the F1 hybrid vigor and thus allows producers to crossbreed with simplicity.

The MARC (Meat Animal Research Center) started a project in 1973 called the Germ Plasm Utilization (GPU) project. The research project was led by Dr. Robert M. Koch, Dr. Larry Cundiff and Dr. Keith Gregory – three scientists widely regarded as world-wide leaders in crossbreeding research. The goal of the GPU project was to study the impact of hybrid vigor or heterosis on all production traits. As part of this project, the government station developed three different multi-breed composites populations to see how hybrid vigor was retained in multiple generations of composite x composite crossbreeding. The composites where named Marc I (¾ Continental, ¼ British), Marc II (½ Continental, ½ British), and the Marc III (¼ Continental, ¾ British).

The research at the MARC showed several advantages that come from crossbreeding. Most importantly they showed that hybrid vigor has a large impact on beef cattle productivity. The research demonstrated an 8% improvement in weaning weight when a purebred cow is mated to a bull of a different breed. The research also showed that crossbred cows are far more productive than purebred cows. The benefits came in multiple areas including more milk production, better body condition, faster re-breeding, and a longer productive lifetime. In total, the crossbred cows weaned 23% more weight than did purebred cows.

Historically, crossbreeding requires the use of complicated mating systems to keep the hybrid vigor effect. Scientists designed rotational systems using three breeds. However, such systems were too complicated. Furthermore, they resulted in wide swings in breed composition, and prevented breeders from having a uniform, well adapted herd. As an alternative, the researchers at MARC developed multi-breed composites. Their study confirmed that such composite breeds retain hybrid vigor in proportion to the number of breeds used – using more breeds generates more retention of hybrid vigor. The Marc II composite, with four breeds, retains 75% of the F1 hybrid vigor. Thus, breeders can breed composite bulls to composite females and keep most of the available hybrid vigor.

As scientists developed the composites at Clay Center, Dr. Gregory was asked to help a private commercial cattlemen, named Pat Vinton, build a composite program in central Nebraska. Based on research work, Dr. Gregory recommended that Mr. Vinton develop a composite patterned after the Marc II. Thus, Pat started with two different herds of females where he crossed Red Angus with

Simmental and Gelbvieh with Hereford. He then used the resulting F1 bulls over the females in reciprocal matings to build the mix of 25% from each breed. In 1988, Lee Leachman visited the Vinton herd in Nebraska to inspect the cattle. Lee was so impressed with the herd that he convinced Mr. Vinton to send bulls to Leachman Cattle Company for sale. Unfortunately, Mr. Vinton passed away unexpectedly less than two years later. This led to the eventual sale of the Vinton herd to the Tessari family ranch near Baab, Montana, where it remains today as the foundation herd in the Leachman Stabilizer program.

Since 1988, Leachman's have made many changes in the foundation Stabilizer population to increase their profitability. The original herd was mostly red with white faces and had a large percentage of horned cattle. The cattle lacked sufficient pigmentation on their udder eyes. Using solid red and black, polled Simmental x Angus and Gelbvieh x Angus hybrids from the Leachman herd, the breed color was made more solid with an increase in pigmentation and the polled gene coming as well. In terms of trait selection, the breed was initially selected for improved post weaning gain. Then pressure was put on carcass merit to increase ribeye area and marbling. Finally, downward pressure was placed on birth weight. The resulting population resembles Angus in many ways, while still retaining hybrid vigor.

Despite the merit of the Stabilizer's original breed mix, Leachman decided to open the mix of the composite to allow for the use of the best possible bloodlines. In the late 90's, this meant the absorption of the Leachman Rangemaker line that included Angus, South Devon, Tarentaise, and Salers into the Stabilizer herd. In more recent years, top crossing using purebred Angus, Gelbvieh, and Simmental herd sires has been used to rapidly incorporate the most advanced purebred lines. Currently, Leachman is working to incorporate Shorthorn and South Devon lines to take the place of the original Hereford breed inputs. Today, the Leachman Stabilizer population ranges from 3/8 British – 5/8 Continental to ¾ British – ¼ Continental. The three primary breed inputs continue to be Angus, Simmental, and Gelbvieh.

Since 1988, Leachman has marketed over 9,000 Stabilizer bulls. Customers from across the United States are successfully utilizing Stabilizers to improve their bottom line. The Stabilizer breed is also popular and growing in the UK and in New Zealand. Most Stabilizer customers utilize the breed to simplify their crossbreeding program. The breed is used to produce crossbred females that thrive under most temperate conditions found in the United States. A number of the largest Stabilizer customers are utilizing the breed to produce ideal feeder and carcass cattle. The Stabilizer's combination of muscle and marbling is unique in the industry as they marble far better than any Continental breed and have muscling and yield that is superior to Angus. The current selection pressure on the Stabilizer herd emphasizes selection for feed efficiency through the use of Leachman's feed efficiency EPD and for $Profit.