Producers Can Manage Genetic Defects In Cattle

LEXINGTON, KY.

Several cattle breeds have experienced occurrences of genetic defects. The most well-known defect is Arthrogryposis Multiplex, also known as Curly Calf Syndrome in the Angus breed. University of Kentucky College of Agriculture Beef Specialist Darrh Bullock said genetic defects have caused quite a bit of concern in the past few years among seedstock producers and now concern is spreading to the commercial industry.

"When dealing with genetic defects, it's really important to know the facts so you can make wise selection decisions," he said. "The defects that we are currently dealing with are lethal genes, which means if an offspring gets a copy of the gene from its sire and its dam, it will express the gene, and that will result in death or other symptoms associated with the gene."

However, Bullock emphasized that if a calf gets a copy of the gene from only one parent, it will not show any signs of the disease but will be a carrier for that defective gene.

Producers can protect their cattle and breeding programs by getting simple DNA testing done.

"All they have to do is send a blood sample, hair or semen to a certified lab approved by the breed association of the animal," Bullock said. "If the animal tests positive for the genetic defect, it is a carrier and can pass that defect on to its offspring."

He said that testing positive doesn't necessarily mean a producer will see an animal expressing the genetic defect, but the possibility for that animal breeding to another carrier exists. Producers have to take extra precaution in their breeding programs to make sure that doesn't happen.

If a producer mates a carrier dam to a carrier sire, there is a 25-percent chance the calf they produce will have the genetic defect, a 50-percent chance the calf will be a carrier of the defective gene and a 25-percent chance the calf will not have the defect at all.

"If you mate two animals that have been tested defect-free, there is no chance of producing a carrier calf," Bullock explained. "If you only buy genetic-defect-free bulls, there is no possibility that you have a genetic-defect calf, but if you have carrier cows in your herd, it will be possible to have a carrier calf."

Bullock said the bottom line for commercial cattlemen is that if they think they may have potential carrier cows in their herds, they should select bulls that have tested free of genetic defects.

"For commercial cattlemen, the best way to avoid genetic defects is to have a good cross-breeding program," he added. "Seedstock producers need to follow their breeds' recommended practices and conduct testing according to their guidelines." Δ