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Developmental Duplication (DD)

The Angus Society of Australia, with the assistance of Dr. Jonathan Beever (Professor, Department of Animal Sciences, [College of Agricultural, Consumer and Environmental Sciences](#), University of Illinois), has been investigating the cause of calves born with extra limbs/heads (polymelia) since 2011. This research has led to a newly identified recessive genetic condition called Developmental Duplication or DD. Dr. Beever has identified the genetic mutation that causes this syndrome in beef cattle and developed a DNA test to help identify carrier animals and avoid affected calves. To date, only 20 affected calves have been reported. From low occurrence of affected calves and the higher probable frequency of the mutation in the Angus populations, Dr. Beever concludes that in most instances the cow suffers early abortion and the chance of seeing affected calves is low. The most common result is open cows because of embryonic loss with the less common result being calves born with more than four limbs and/or one head. As both of these results impact producer profitability, a DNA test is now available as a tool to identify carrier animals so that cattlemen might avoid breeding them. Please be aware that similar cases have been reported in other beef breeds, both Bos Taurus and Indicus; this is not an Angus-specific issue.

Although the impact of this mutation will be much lower in the Canadian Angus population than the American and Australian Angus populations, the Canadian Angus Association Board of Directors takes anything that can affect member profitability seriously. The Board of Directors will consider the implications of this genetic condition and the best interest of the breed and members and will advise our membership on the approach that will be taken. AI companies are already working with Dr. Beever to ensure that genetics currently being marketed are tested.

Scientific advances in the field of genetics, our membership's ability to manage such conditions and the likelihood that the scientific community will continue to identify additional genetic conditions in all breeds in the future are some of the factors that the Board will consider. We will keep you advised on the Board's approach as it occurs.

Dr. Beever has tested 1,099 Angus bulls at the University of Illinois. The list of tested animals with a Canadian Herd Book impact is linked below. At this point, only Black Angus cattle have been tested.