

Curly Calf Syndrome or Arthrogyriposis Multiplex

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What are the symptoms?

- Newborn calves typically are born dead or may live for a short time.
- Calves will have a curved spine, extended limbs (especially the rear legs), thin appearance, and lack of muscle development.

CAUSE = Appears to be genetics

- Simple recessive gene, where both parents are carriers for the recessive gene and the calf inherits both recessives. Since the parents are just carriers, they will not show symptoms.
- The recessive genes cause a mutation where a segment of DNA is missing that is code for two different genes.
- One gene, in particular, is expressed during a critical time in the development of certain nerves and muscles of the calf resulting in the characteristic symptoms.

How many calves have been diagnosed with Arthrogyriposis Multiplex (AM) or Curly Calf?

Between Sept., 6 & Sept. 15, 2008, 48 calves were reported with characteristics of AM or curly calf, 47 were linked back to a specific Angus bull, GAR Precision 1680, on both sides of the pedigrees of the calf.

Chance of occurrence?

- If one parent is a carrier of the recessive gene and the other parent is normal, the calf has a 50% chance of being a carrier—but all calves will appear normal.
- If both parents are carriers of the recessive gene, the calf has a 25% chance of inheriting both recessive genes and develop AM or curly calf syndrome. The calf has a 25% chance of being normal and a 50% chance of carrying the recessive gene.

		Bull
Cow	C	c
C	CC	Cc
c	Cc	cc

Prevention

- Do not cross two parents each with the recessive gene, which requires a genetic test to determine if they are carriers.

DNA Test Development

- Dr. Beever at the University of Illinois has developed a DNA test for AM or curly calf, which they continue to test the accuracy of.
- They have been able to test 736 sires thus far and continue to test more. A list of the sires tested and the results of the test are listed at the website: http://www.angus.org/NAAB_release.pdf

Sources:

Steffens, 2008. Reporting Abnormal Calves is an Opportunity for Proactive Breeders.

Beever, 2008. Likely Presence of Lethal Genetic Defect in a Specific Line of Angus Cattle. & An Update on Arthrogyrosis Multiplex in Cattle.

American Angus Association Updates