

Reporting Abnormal Calves is an Opportunity for Proactive Breeders

by David Steffen, DVM, Ph.D., University of Nebraska

Curly calf syndrome

The widespread use of reproductive technologies has the potential to reduce the effective cattle gene pool and can result in the more frequent recognition of recessive defects. Those same technologies that have benefited — and continue to benefit — a breed may also increase the potential for economic harm when recognition of problems is delayed or ignored.

The investment in the bovine genome project and in molecular technologies creates a compensatory mechanism for reducing losses when breeders are proactive in reporting abnormal calves. The recent identification of a dwarfism gene through research supported by the American Angus Association is an example of what can be achieved.


Several important diseases have progressed from problem recognition to genetic testing in a relatively short time span (1-2 years). This could be accelerated with faster ascertainment of affected calf reports and cow families for sampling. Proactive producer reporting is critical.

Currently, researchers are seeking cases of “curly calf syndrome” for further investigation along with samples for DNA

studies from the pedigree. I first saw this condition in 2002 in a single pair of half sibs but there was no parentage information. I did not see another case in the next four years. Sufficient data has been generated the last two years to demonstrate an urgent need for genomic studies.

The spine is bent and twisted in affected calves. The calves are small and appear thin

due to limited muscle development. Legs are often rigid and may be hyperextended (common in rear limbs) or contracted. In some cases the rigid limbs result in calving difficulties. Additional unique features are recognized during laboratory examination.

Affected calves should be reported to the Director of Member Services, American Angus Association. 

To: Members of the American Angus Association
Breeders Using Angus Genetics

From: Don Laughlin
Director of Member Services
American Angus Association

Date: September 5, 2008

Re: Request for Assistance: Reporting Abnormal Calves

In March 2007, the Association received notice of the existence of a small number of calves born dead with bent and twisted spines. At our request, certain calves and necropsy reports were forwarded to David Steffen, DVM, Ph.D., at the University of Nebraska for examination. The Association has historically worked with Dr. Steffen on cases involving abnormal calves. Dr. Steffen in the past has rendered opinions on whether an animal's abnormality arises from a genetic defect, environmental factors or viral infections. Here, he was unable to reach any firm conclusion as to the cause of the condition and suggested monitoring the spring calf crop in 2008 for any further incidents of such calves being born. In April 2008, the Association received reports of an additional nine calves born with the same condition. Once again, a number of those calves were sent to Dr. Steffen.

On August 28, 2008, Dr. Steffen forwarded a notice to the Association that our Board has requested be posted on the Association's web site (www.angus.org) and published in the *Angus Journal*. That notice, which is set out here, calls on members of the Association as well as users of Angus genetics to be proactive in reporting as soon as possible any calves born with what Dr. Steffen calls “curly calf syndrome.” His notice describes the symptoms in detail and features two pictures.

If you have such a calf, please document it by taking a photograph and retaining a tissue or whole blood sample (purple-top blood tube) from the affected calf and its dam. Then, please contact Don Laughlin, director of member services, as soon as possible at 816-383-5140 or at dlaughlin@angus.org. Likewise, if in the past you have had such a calf, please also inform Don Laughlin of that fact as well.

The Board of Directors of the Association wants to emphasize that it intends to be aggressive in determining the factors causing this abnormality. It has sought the advice of prominent scientists and it is providing them with access to DNA and requested pedigree information. When any definitive information becomes available, it will be shared promptly with the membership. In the meantime, the Board urges any member with responsive information to contact Don Laughlin.



►Curly Calf Syndrome: Note contracted or extended limbs, curved spine and “thin” appearance of curly calves.

