

CHA Genetic Abnormality Reporting Policy

Physical and functional abnormalities are present in all breeds of cattle. The full disclosure of genetic abnormalities is useful information to the membership and their customers, as it allows breeders to minimize the impact of any problems or eliminate the defect from the breed.

The Canadian Hereford Association will seek the services of a Genetic Consultant(s) to diagnose abnormalities as being genetic or non-genetic in origin. An annual report outlining the diagnosis of genetic defects will be filed with the Board of Directors of the CHA.

The CHA will list animals that are carriers of genetic defects provided there is documentation on at least two confirmed cases produced by an animal with parentage verification by DNA. These animals will be listed in the Annual Report of the CHA and on the CHA website.

Reporting Physical Abnormalities to the CHA

1. Any CHA member or commercial breeder who becomes aware of a possible physical or functional abnormality in a CHA registered animal or an offspring of a CHA registered animal shall contact the CHA office at 403-275-2662.
2. Upon receiving notification of a possible abnormality the General Manager will provide the breeder with an Abnormality Report form which is to be completed and returned to the CHA. The breeder will also be provided with instructions for collecting and submitting for analysis any blood or tissue samples from the animal(s) in question.
3. The CHA will refer the Abnormality reports and samples to a genetic consultant for analysis. The genetic consultant is responsible for determining whether a particular physical abnormality is genetically transmitted & will provide a written report to the CHA.

Notification to Owners of affected animals and/or Parents of affected animals

Once an abnormality has been confirmed and parentage has been verified, all owners of record of the abnormal animal(s) and owners of record of the parents of the abnormal animal(s) will receive a letter from the CHA describing the abnormality, & if it appears to be genetic, the steps planned to determine if the parents are carriers of the abnormality.

Upon confirmation that a CHA registered animal has produced a sufficient number of abnormal progeny, being at least two (2) confirmed cases, so that in the opinion of the genetic consultant the animal is a carrier of a genetic defect, the CHA will notify by registered mail the owners of record of the confirmed carrier, of the CHA's intent to designate the animal as a confirmed carrier. The owners of record will have 30 days to respond & then the animal will be listed as a carrier on the CHA website and in the CHA Annual Report to the membership.

It is the responsibility of the breeder/owner of the confirmed carrier to inform their customers that have used the carrier, of the problem & suggest solutions.

Classification of Genetic Abnormalities

The CHA recognizes the following physical abnormalities have been confirmed to be genetic in origin:

- Class (Non-Lethal) – Hypotrichosis
- Dermoid
 - Diluter/Rat-tail
 - Idiopathic Epilepsy

- Class (Lethal)
- Snorter Dwarfism
 - Maple Syrup Urine Disease
 - Internal Hydrocephalus

Questions regarding any abnormality or if you suspect you may have seen such symptoms in your herd, contact the General Manager of the CHA at 403-275-2662.

Description of Defects

Class I (Lethal)

Defect	Symptoms of Abnormality	Mode of Inheritance
Snorter Dwarfism	Undersized, short-legged, short bodied animal, usually potbellied with noisy breathing. Several different types include a broad-headed, bulging forehead kind, and a long and mature headed kind. X-ray of 10 day old dwarf may show abnormal lumbar vertebrae.	Most cases are simple autosomal recessive; some forms incomplete dominance.
Maple Syrup Urine Disease (Neuraxial Edema)	Calves will be of normal size at birth. May not be able to get up or lift head. A sudden touch or loud noise may cause a vigorous extension of the legs and neck. Contraction (muscle spasms) may last one or two minutes and can be made to reappear.	Simple autosomal recessive.
Internal Hydrocephalus (Water Head)	Excess fluid is present in the brain which may result in a bulging forehead. Calves are usually born dead or die shortly after birth. Some cases may be environmental. Needs careful diagnosis.	Simple autosomal recessive.

Class II (Non-Lethal)

<u>Defect</u>	<u>Symptoms of Abnormalities</u>	<u>Mode of Inheritance</u>
Hypotrichosis (Hairlessness)	Partial to almost complete lack of hair. Affected calves are often born with very short, fine kinky hair that may fall out leaving bare spots or areas particularly susceptible to rubbing. The condition may vary in expression as the animal matures and is usually less noticeable in older animals. The haircoat color will sometimes appear 'frosted' or 'silverish'. Tail switch may be underdeveloped.	Simple autosomal recessive.
Dermoid (Feather eyes)	Skin-like masses of tissues occur on the eye or eyelid. Animals may become partially or completely blind.	Polygenic.
Diluter/Rat-tail	The dilution gene causes cattle with black coat color to be diluted to grey, and red to be diluted to yellow. Rat-tailed calves are usually mouse grey, have short, curly and sometimes sparse hair and lack normal tail switch development	Dominant.
Idiopathic Epilepsy	Age of onset (occurrence of the first seizure) can be variable, ranging from birth to several months of age. Occurrence and persistence of seizures may be influenced by environmental stressors such as temperature extremes (e.g. extreme cold during calving) or increased physical activity (e.g. processing at vaccination or weaning). Upon initial onset of seizures calves may appear to walk with a stiffened, irregular gait. During seizure episodes individuals will typically lie on their side with all limbs extended in a rigid state. Manual flexing of the limbs is possible, but return to the extended position occurs after several releases. Seizure episodes may last from several minutes to more than an hour.	Autosomal recessive. No anatomic abnormalities or histologic lesions detected.

Calf Abnormality Report

Detailed description of affected animal _____

I.D. No. _____ Sex _____ Date of Birth _____ Was calf a twin? _____

Is calf still living _____ If dead, give date of death _____

Cause of death if determined _____

Name, Address & Phone Number of Attending Veterinarian _____

Was birth normal? _____ If not, describe in detail _____

Name of dam _____ Registration No. _____

Has this dam had other abnormal calves? _____

Service record of dam for period when affected calf was conceived (Give complete record as shown and attach breeding receipts if available).

1st service

Date _____ Bulls Name _____ Registration No. _____

Prior service

Date _____ Bulls Name _____ Registration No. _____

Name of herd owner _____

Address _____

Phone No. _____ Email Address _____

I certify that this information is true and correct to the best of my knowledge and belief. The Canadian Hereford Association has my permission to use the above information as it may determine.

Signature of Owner Making Report

Date

Return to: Canadian Hereford Association
5160 Skyline Way NE, Calgary, AB T2E 6V1
(403) 275-2662