



## CANADIAN HEREFORD ASSOCIATION

5160 Skyline Way NE, Calgary, Alberta, T2E 6V1  
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# Genetic Abnormality Screening Policy

The Canadian Hereford Association currently institutes a **mandatory DNA testing policy** for four (non-lethal) genetic abnormalities, being;

Diluter/Rat-tail - the dilution gene causes cattle with a black coat colour 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.

Idiopathic Epilepsy – age of onset 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 or increased physical activity. 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. Seizure episodes may last from several minutes to more than an hour.

Hypotrichosis – 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 susceptible to rubbing. The haircoat colour will sometimes appear frosted or silverish. The tail switch may be underdeveloped.

Maple Syrup Urine Disease – (lethal) Calves are typically born without symptoms but by 2-4 days of age become slow, dull and eventually recumbent. The calves will often throw their heads back, lying on their side unable to rise. These calves may have some swelling of the brain at autopsy, but diagnosis requires laboratory investigation. The calves have a defect in an enzyme that breaks down complex amino acids in the diet and the buildup of these in the body creates the urine odor and brain damage. The disease name comes from the smell of urine observed in human babies (not always noted in calves).

The policy involves **all animals submitted** for DNA testing, including AI sires, donor dams, and walking bulls. The Canadian Hereford Association will have the right to publish the results and the policy became effective in 2010.

This policy is consistent with a similar policy implemented by the American Hereford Association and is a joint North American surveillance program for the benefit of Hereford breeders and the cattle industry.

### Mandatory Testing Policy Guidelines

1. All DNA samples submitted will automatically be tested for the four abnormalities.
2. There is **no additional cost** to the member for these new DNA abnormality tests. The cost will remain at \$57.00/sample, which includes normal parentage verification, or DNA profiles, genomic profile and the screening for the genetic abnormalities.
3. The Canadian Herefords Association will **publish all known carriers** of the four abnormalities on the Canadian Hereford Association website.
4. The Canadian Hereford Association will not accept DNA test results for parentage, or genetic abnormalities from any other laboratory or company, other than the specific service provider to the Canadian Hereford Association.

## Important Information



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The Canadian Hereford Association currently institutes a **voluntary DNA testing policy** for one (lethal) genetic abnormalities, being; Mandibulofacial Dysostosis - The anatomic features overlap with a variety of other facial defects and can include cleft palate, brachygnathia (short jaw) and campygnathia (crooked jaw or face). The unique and consistent hallmarks of the condition include unusual bilateral skin tags just behind the corner of the mouth. These tags are attached to an unusual bone formation. There may be additional skin tags near and/or below the ears. A ridge of Meckel's cartilage, a structure usually present only during embryonic development, is retained in these calves and attaches to the skin tag. This cartilage is encased in bone as it is followed from the skin tag toward the base of the ear. This bone attaches specifically to the zygomatic process of the temporal bone (just above the articulation of the jaw). The calves' ears are sometimes slightly small and floppy. Muscles of the jaw are underdeveloped, and calves may have an elongate oral opening appearing as an exaggerated smile. The nursing reflex is present, but nursing is not vigorous. Calves with the additional cleft palate, severely shortened or crooked jaws are debilitated in ability to nurse. Calves with the defect are live born but are not able to thrive.

### Voluntary Testing Policy Guidelines

1. Due to the added cost of testing for MD this is currently a voluntary test, therefore MD must be requested to receive a result.
2. The cost is \$26.00/sample for the MD test.

## Managing Genetic Abnormalities

The CHA Board has introduced policies, **which are not mandatory**, but are options to help breeders manage these abnormalities within their herds.

- A. The Canadian Hereford Association will not report carriers on **unregistered** animals. Breeders are advised to DNA test any calves designated as replacements or sale animals, prior to registration, so breeders can remove carriers and the results will not be reported on the Canadian Hereford Association web site. If a member decides to register a carrier, the animal will be reported on the web.
- B. The "Agreement for Sale of Purebred Herefords" and the corresponding "Terms and Conditions" document has now been revised to include a Genetic Defects Policy. The policy reads as follows;  
Seller will be responsible for informing buyers of all known information relative to genetic abnormalities.  
Buyer will assume all risk associated with the purchase of known and unknown genetic abnormality carrier animals provided the seller has disclosed all known information relative to said genetic abnormalities.  
Seller is not responsible for any new genetic abnormalities that are recognized by the Canadian Hereford Association after the sale of an animal or genetic material.

Please contact Stephen Scott if you require additional clarification or information.

A copy of the "Agreement for Sale" and "Terms and Conditions" can be found on the CHA website or by contacting the CHA office. [www.hereford.ca](http://www.hereford.ca) [herefords@hereford.ca](mailto:herefords@hereford.ca) Phone: 1-888-836-7242

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