



## Muscle Weakness **FAQ**

Last year, farmers in several states suspected a genetic condition characterized by a calf’s inability to stand up or remain standing if assisted. This condition was initially referred to as **calf recumbency** but has since been updated to **Early Onset Muscle Weakness Syndrome**, or **MW**. According to current research, this disorder usually begins within the first two months of life, when calves exhibit muscle weakness, become unthrifty, and succumb to secondary health problems, such as pneumonia, or are euthanized.



### What is changing?

While there has been a gene test for this genetic condition since April 2023, the industry lacked a haplotype test for animals that have not been gene-tested. Beginning in December 2023, the Council on Dairy Cattle Breeding (CDCB) will be publishing the haplotype result on genotyped animals during the genetic evaluations.

All genotyped animals will receive a haplotype result for **MW**, but not all animals will have a gene test result. **Fortunately, our marketed AI bulls have gene test results for MW.**

### What is the source of truth?

There is the potential for an animal to have a conflicting MW haplotype result from the **MW** gene test result. **The gene test result is the source of truth to determine if a bull is a carrier or free of this genetic condition because it has the highest degree of accuracy.**

### What does the MW haplotype classification mean?

The haplotype result will be abbreviated **HMW** followed by a number to indicate the result. The US genetic evaluations will include the following reporting:

Haplotype Status	Confident Result	Probable Result
Non-Carrier	HMW0	
Carrier	HMW1	HMW3
Homozygous	HMW2	HMW4

*The reason for a “probable” result on 3 and 4 status animals is because it’s not always possible to determine with complete certainty which piece of DNA an animal has inherited. A similar situation exists for the Holstein Cholesterol Deficiency (HCD) condition.*

### How will we report?

Our bulls with gene test results for **MW** will be reported as **HMWC** of a carrier and **HMWF** of a non-carrier.

### Why is the Holstein Association USA not recognizing MW?

The Holstein Association USA (HAUSA) has classified this as a genetic condition under investigation. As a result, it cannot be listed on official HAUSA animal pedigrees. Because it is not officially recognized, AI companies can “self-report” the gene test results and use their own naming conventions for the condition.

### What is OUR process?

Bulls will have **MW** gene test results published on bull pages. Bull **MW** gene test results will be used in mating programs instead of the bull MW haplotype results.

**If females have MW gene tests, these results will not be included in the mating program.**



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