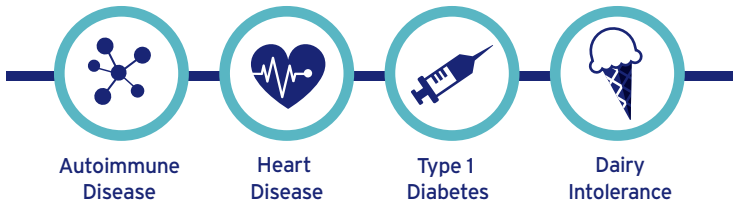


## BETA-CASEIN GENE INFLUENCES PRODUCTION OF MILK PROTEIN CASEIN WHICH HAS A1 & A2 VARIANTS

A2 MILK IS POTENTIALLY LINKED TO  
HEALTH BENEFITS ASSOCIATED WITH:

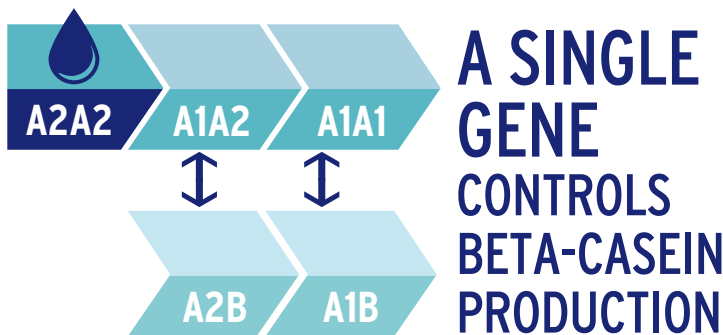


Laugesen and Elliott 2003, McLachlan 2001, Woodford 2006.

|     |      | A2A2 SIRE            |                                   |
|-----|------|----------------------|-----------------------------------|
| DAM | A2A2 | 100% A2A2            | Produce 100% of A2 milk           |
|     | A1A2 | 50% A2A2<br>50% A1A2 |                                   |
|     | A1A1 | 100% A1A2            | Produce 50% A1 milk & 50% A2 milk |

Holstein Canada, 2015

Herds can convert to 100% A2 milk within 4 years using intensive selection.



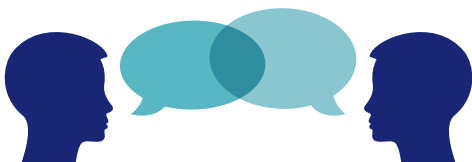
\* B is a variant within the gene that can be inherited along with A1. For simplicity sake, it can be considered the same as A1.

S. Kaminski 2007 Journal of Applied Genetics.



## A2 MILK IS SELLING AT A PREMIUM

## HEALTH BENEFITS ARE STILL BEING DEBATED IN THE RESEARCH COMMUNITY



A2 variant is becoming more common in Holstein sires.

65 SEMEX A2A2 SIRES  
**> 2500 GTPI**

April 2016

# Homozygous A2A2 Carrier Sires

**THE SEMEX DIFFERENCE**