



Breeding Goal:

Consistently improve feed efficiency, fertility and longevity of replacement heifers while controlling production costs

- Developed from >10,000 mating opportunities & 1,300 cows
- Incorporates hybrid vigour + 9 fertility & production traits
- On-going evaluation in 2,000 heifers from AB commercial herds
- Continuously improving accuracy and reliability

Livestock Gentec

- The largest Western Canadian reference population for crossbred beef cattle
- Genomic tools designed for commercial cattle in Canada
- Tools are validated and demonstrated on commercial farms in Alberta

\$15 Gets You Started

Save 33% on your genotyping with help from Gentec's funding partners.

You Receive:

Parentage

Breed Composition

Hybrid Vigour Score

FPI Values

RHPI Values

Funding Support Provide by:



Agriculture and Agri-Food Canada

Agriculture et Agroalimentaire Canada



EMISSIONS
REDUCTION
ALBERTA



RDAR
Results Driven Agriculture Research



Genome Alberta



BCRC
BEEF CATTLE RESEARCH COUNCIL



Replacement Heifer Profit Index (RHPI)

Select Replacement Heifers for Fertility, Longevity and Efficiency

www.livestockgentec.ualberta.ca

lsgentec@ualberta.ca

@LivestockGentec



A DNA based tool to help you select the most **fertile, efficient and profitable heifers** for your herd



Replacement Heifer Profit Index (RHPI)

=

Hybrid Vigour

+

Trait

- (-) Birth weight
- (-) Julian birth date
- (-) 200-day wean weight
- (+) Feed intake
- (-) Residual feed intake
- (-) Feeding event duration
- (+) Pre-breed weight
- (+) Pre-breed backfat
- (-) Age at first calving



Breed Composition: Angus (52.9%), Simmental (39.6%), Charolais (5.9%), other (1.6%)

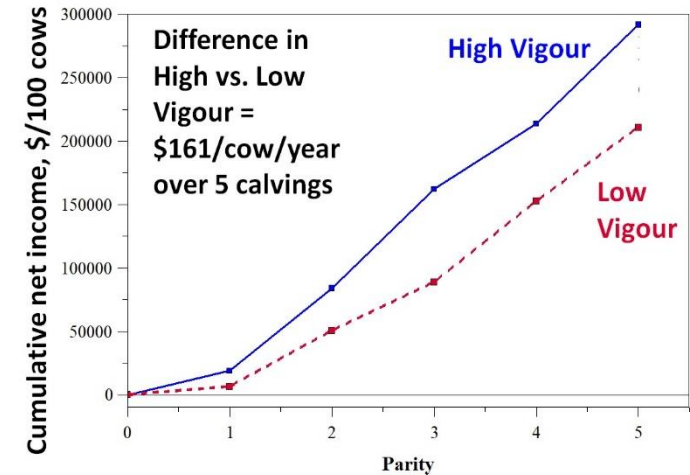
Hybrid Vigour Score = 55.9

The **RHPI** calculates **Genomic Breed Composition** allowing for:

- Determination and management of hybrid vigour (HV) within the herd
- Better-informed replacement heifer selection to optimize breed complementarity
- Informed sire selection

RHPI increases the lifetime net return (\$) of each heifer and cow in the herd.

Hybrid Vigour and its Effect on Cumulative Net Income Over 5 Calvings



*worth \$41-\$82 million/yr for Canada; 639 kg CO₂e/youthful animal slaughtered

High Vigour Herds Deliver

High Vigour herds have increased fertility, longevity, and feed efficiency

- **Fewer replacement heifers** needed over time
- **More lbs of weaned** calf sold per year
- **Reduced feed costs**