















General Session 1, BIF 2018, Loveland, Colo.



Goal

If you're not farming for profit, we'd like to wish you well with your hobby

Livestock Improvement Corporation (LIC)













Traits we are doing a good job on selecting Reproduction and longevity Income over feed costs Growth Eating Quality (including tenderness and human healthfulness) Maternal, terminal and replacement feed costs Animal welfare Environmental footprint





Value Proposition

- · Among the bull breeding sector
 - Too many animals being recorded
 - Not enough traits being recorded
 - Not being rewarded by bull buyers
 In terms of price or demand for less tangible traits (e.g. feedlot and carcass)
 - Breed Association structure might be impeding innovation
 Routine EPDs provided on all animals regardless of phenotypic measurement or not
 Exacerbated by use of genomic prediction relative to pedigree parent-average EPD
 - Disincentive for a bull breeder to be an early investor in infrastructure

How might more balanced selection occur?

- New technologies for measuring
- Subsidies by government or levy payers (e.g. Australia, Canada)
- Local Regulations
 - Such as nutrient excretion limits
- Market Requirements
 Specifications for assess to market
 - Specifications for access to markets (especially export markets)
- New business structures to capture value
 - Small collectives of like-minded entrepreneurs
 - Vertical integration

Traits we could do a **better** job on selecting

- Reproduction and longevity
- Income over feed costs
 - Growth
 - · Eating Quality (including tenderness and human healthfulness)
 - Maternal, terminal and replacement feed costs
- Animal welfare
- Environmental footprint

Reproduction and Longevity Indicators

- Currently
 - Some use of Calving Records sustained fertility
 - Little use of heifer pregnancy data
- Only record selected replacements
- · Recorded traits tend to have low heritability and measured late in life
- Inadequate use of puberty data
- Inadequate use of post-partum anestrus interval
- Inadequate use of conception information

Feed Costs – Maternal, Feedlot & Replacement

- Forage Intake
 - · Behavioral aspects walking distance grazing time sward selection
- Feedlot Intake
 - Complex trait
 - Not identical by sexNot identical by stage of life
 - Not identical by diet (growing vs finishing)





Charling and a

91.63 gCO₄e

GHG

per unit

protein

OurWorkInData.org - CC 8Y-5A

200 gCOye





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NZ Meat Consumption Trends – last decade (lb carcass weight equivalent)

Per capita consumption				Retail Price US\$			
CWE (lb)	2006-7	2017-17	10 years		2007-8	2017-18	Increase
Beef	61.6	37.6	-39%		\$8.40	\$11.90	42%
Sheep	23.5	13.9	-41%		\$8.05	\$10.50	30%
Pork	47.3	51.9	+10%		\$8.05	\$8.40	4%
Poultry	77.0	103.6	+35%		\$5.60	\$5.60	0%
TOTAL	209.4	207.0	-1%				

NZ has had 41% domestic population increase (immigration)



Summary

- We really need to improve the efficiency of beef production
 - Reproductive Efficiency
 - Birth to Finish Efficiency
 - Doing so involves a number of traits, many not being adequately considered
- Selection is a proven and cost-effective mechanism for improvement
 - Needs to be based on whole-system index(es)
 - Comprising EPDs for economically-relevant traits based on sensible phenotyping strategies combined with the use of genomics
 - Will need to be led by innovative breeders, such as a new generation of those that were instrumental in the formation of BIF 50 years ago