Genetic trend in milk fat percent is highly responsive to the relative economic value of milk fat and milk protein in the NZ dairy industry.

Melissa Stephen, Rhiannon Handcock, Peter Amer
Observing how changes to the selection index are reflected in the genetic merit national herd
National Selection Index – Breeding Worth

- 19.1% Protein
- 19.1% Milkfat
- 9.4% Milk Volume
- 15.1% Liveweight
- 12.4% Fertility
- 5.7% SCS
- 1.4% FS
- 7.9% BCS
- 1.6% GL
- 8.2% Udders
Milk Price in NZ

Source: NZ company announcements
Weighting of Fat vs Protein in BW
Did farmers respond to the modified BW weightings?
1. Do we see a response in genetic trend
2. Do we see evidence of breed substitution
Genetic Trend for Milk Fat Percent
Possible levers

1. Within breed selection
2. Breed substitution
Genetic Trend for Milk Fat – by breed

- HF
- HFJ
- J

Birth year:
- 2000
- 2005
- 2010
- 2015
- 2020

Fat Percent EBV:
- 4.0
- 4.5
- 5.0
- 5.5
- 6.0
Breed Substitution – Sire decisions

*Percentage of cows born in each birth year that were sired by bulls from each breed category*
Breed Substitution – Proportion Jersey
Conclusion

• Genetic trends respond to BW weighting changes

• This response appears to be largely driven by within breed selection

• And, to a lesser extent, breed substitution
Ngā mihi nui
Thank you
Genetic Trend for Protein and Fat
Genetic Trend for Volume
Genetic Trend for Milk Protein and Fat Percent

[Graph showing trends in milk protein and fat percent from 2000 to 2020]