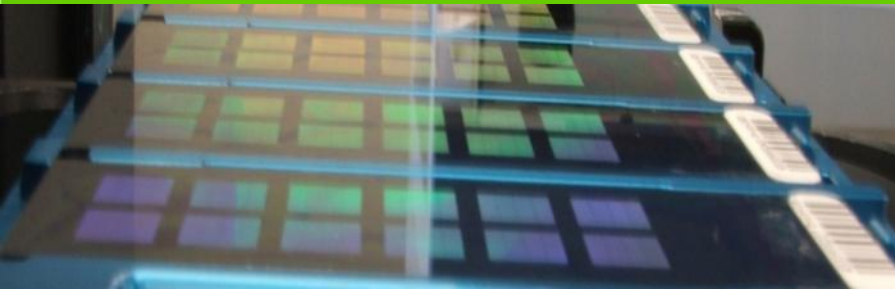


Marbled Grass-fed Beef

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MIRINZ Industry Workshop

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Farming, Food and Health. **First**

*Te Ahuwhenua, Te Kai me te Whai Ora. **Tuatahi***

How can we increase profitability of beef in New Zealand ?



Volume

vs

Value



Value

- Getting paid more for what we produce !
- But will you get paid more for doing exactly the same thing, and selling it to exactly the same people ?

Creating higher value beef products

- Focus on quality (as measured by the consumer)
- Can technologies assist in this?
 - Plant technologies – improved nutrition
 - Animal technologies – more predictable outcomes

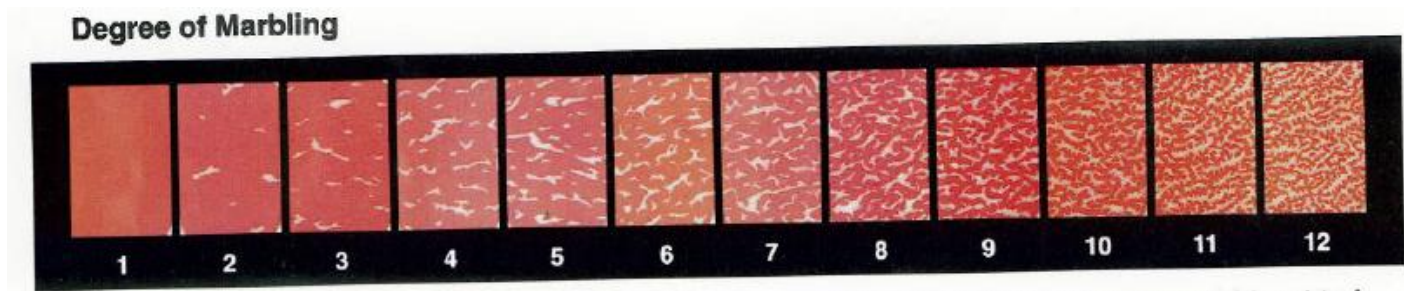
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High Value markets

- “Natural” beef markets
 - Low chemical use
 - Grass-fed – now a niche segment in US market
 - “Organic” markets
- Marbled beef markets
 - Focus on eating quality
 - Japan and Korea (+ emerging China???)
 - Multi-segmented within these markets

Grass-fed marbled beef ?

- Combine attributes of both high value markets
- Beef that is:
 - Grass-fed (ie. not intensively fed grain-based diets).
 - Lightly marbled (lower marbling than grain-fed).
 - White fat.
 - Cost-competitive (with grain-feeding).
 - Natural image
 - Environmentally friendly (no intensive feeding systems)
 - Animal welfare friendly (consumer perception)



Producing grass-fed marbled beef?



Crucial factors are matching cattle genetics with diet to express marbling

1. Diet

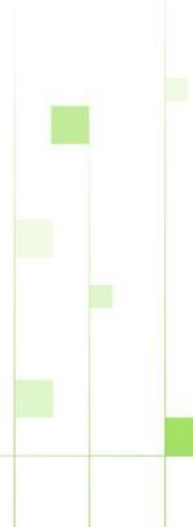
- Can we construct energy-dense finishing systems to fatten cattle at a rate approaching feedlot systems?

2. Cattle genotype

- Cattle genotype is a crucial factor in marbling – need to put right genotype (breed, individual animals) on right finishing system.

Production systems - reliable, high compliance to specifications

- Accurately identify suitable cattle
- Put them on the right growth path
- Construct finishing systems which are reliable
- Putting these systems together to produce quality beef outcomes.

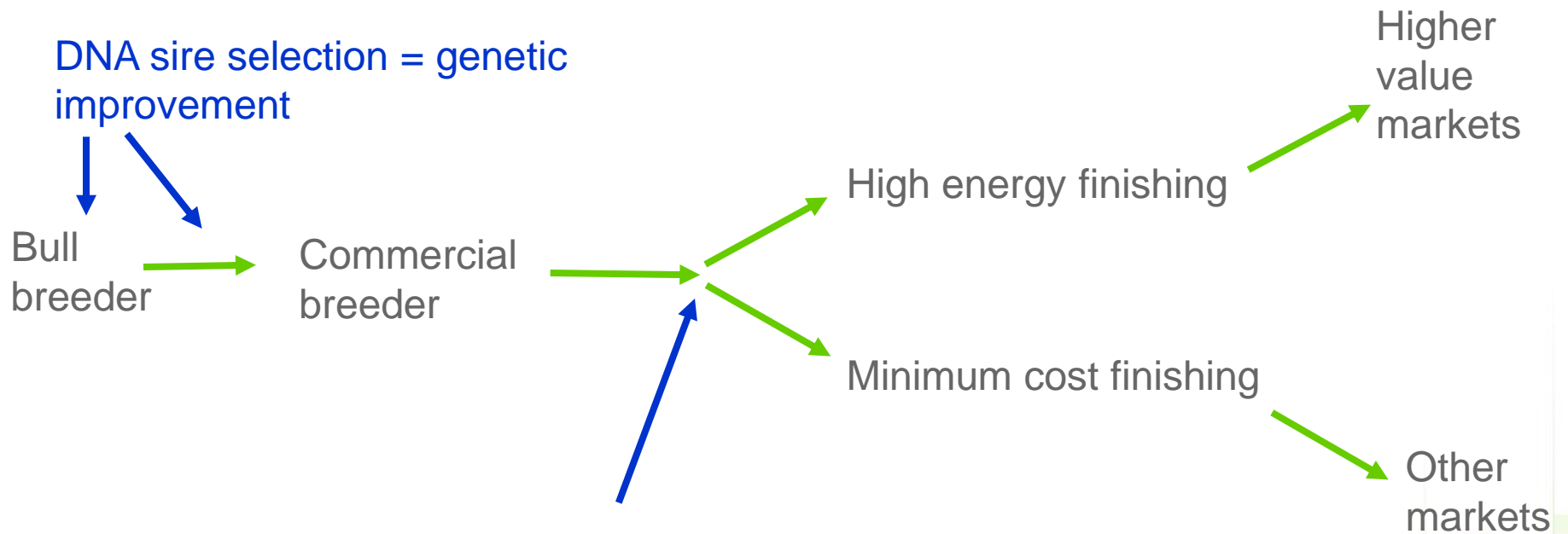


DNA technology – identifying genetic potential



- Marbling
- Growth rate
- Fat colour
- Fertility
- Meat Quality (tenderness, colour stability, etc)
- Disease resistance
 - FE
- Parasite resistance
- Etc.

Putting the right cattle onto optimal systems



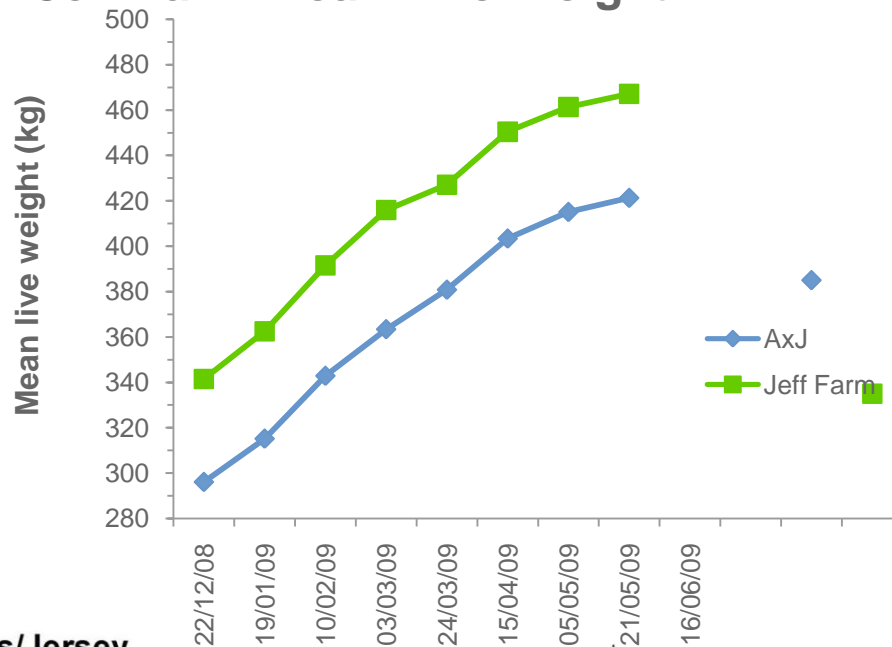
Calf Drafting = Predicting Performance

- Genotype – SNP technologies
- Early life growth performance
- Previous performance of supplier
- Epigenetics ??

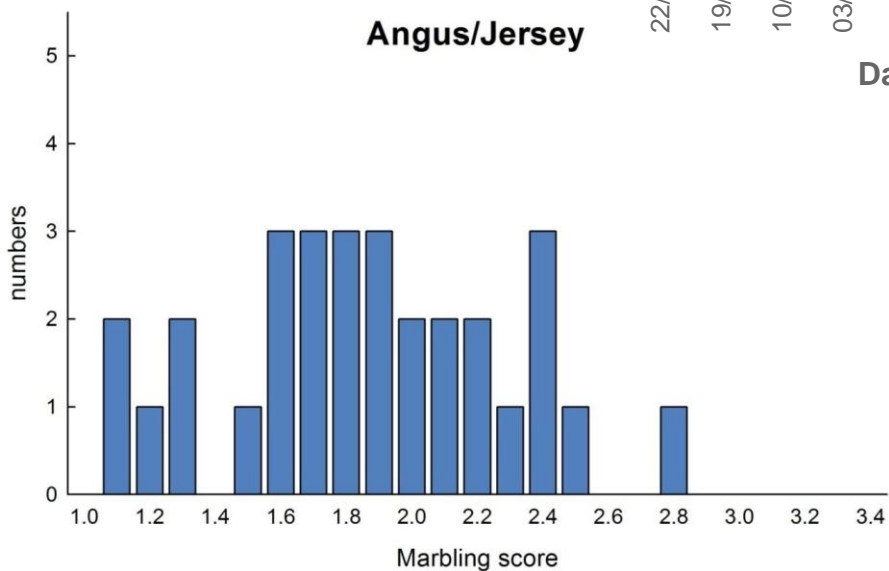
} EID & Database systems

Proof of concept

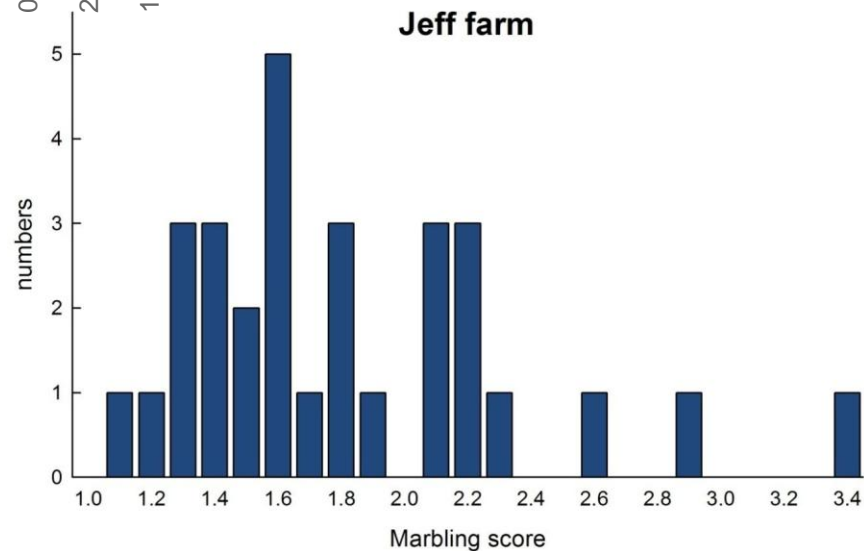
Jeff Farm Mean Live Weight



Angus/Jersey



Jeff farm



Next Steps

- Can we do better (with better starting cattle)?
- Can achieve similar outcomes with other genotypes?
 - Angus x Kiwi-cross (DNA test for breed + individual profile)
 - Angus heifers with high marbling genetics.
- How can we construct a commercial system around lightly marbled grass-fed beef?
- Can we deal with fat colour issues?
- Can we supply under a seasonal grass growth pattern?
- How long does finishing period have to be?