With thanks to

SILVER FERN FARMS

PĀMU FARMS OF NEW ZEALAND

Weka Farm Open Day
Dairy Beef Integration

16 April 2025

Welcome to Weka - Dairy beef integration

09:45am	**Guest arrival, biosecurity, sign in, coffees**	
10:00 am	Welcome, H&S Introduction	Cam Walker Cougan Terry
10:05 am	Pāmu context Weka and West Coast LUC Dairy beef challenges and opportunities	Mark Leslie Cam Walker

10:40am Split for three rotations OF 35 minutes each
10:40 - 11:15 - 11:50

Location	Topic	Speaker
1	Genetics, LIC	Paul Charteris
2	Calf rearing at scale	Karen Fraser and Kim Hooper
3	Forage & feed Processing and markets	Cougan Terry, Dan Mears, Mark Burnside

12:25pm	**Reconvene**	
	Wrap up and Q&A	Cam Walker
12:35pm	Lunch With thanks to Silver Fern Farms	
1:20pm	Close	

PĀMU™
BETTER SAFETY
BETTER HEALTH

Your health and safety is important.
Hi-Viz should be worn and sign in / out

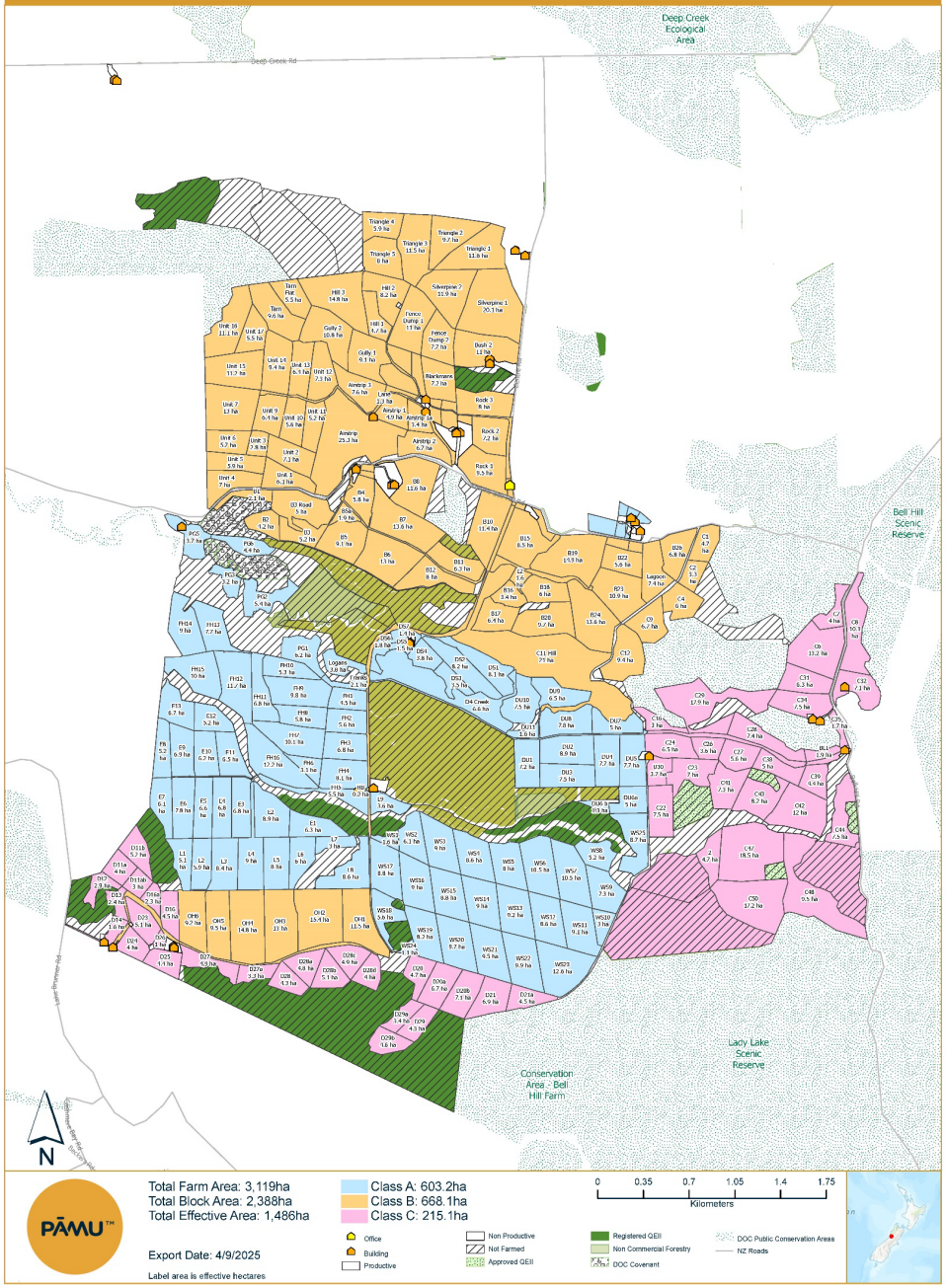
Please note the following hazards:

- Biosecurity
- Electric Fences
- Stock (unpredictable)
- Machinery – please stay well clear
- Trip Hazards
- Zoonotic Diseases (wash hands)

Please help us keep farms free of pests, weeds, and disease, with clean footwear (foot baths at entrance)

PLAY IT SAFE
WORK SAFE, PLAY SAFE, HOME SAFE

Weka Farm - Weka Block



Area

Total Hectares = 3,119ha

Effective Hectares = 1,670ha

- A Class – 609ha
- B Class – 709ha
- C Class – 352ha

Stock Mix

250 MA Angus Breeding Cows + Finish All Progeny

- 230 R1s (Incl. Heifers and Bulls)
- 230 R2s (Incl. Heifers and Bulls)

12 MA Angus Sire Bulls

1,454 Dairy Beef

- 227 R2 Heifers
- 496 R2 Bulls
- 422 R1 Heifers
- 309 R1 Bulls

800 Grazing Dairy Heifers

- 400 R1 Heifers
- 400 R2 Heifers

Personnel

Permanent Staff

- X1 Farm Manager
- X1 Stock Manager
- X1 Shepherd General

Seasonal Staff ~X6 Calf Rearers

Dairy Beef Stock Policy

Rearing 1,400 Dairy Beef Calves (From ~7 days to 100kgsLWT)

Finish 800 Dairy Beef Heifers/ Bulls

Sell 120 @ 100kgsLWT to Brunner Farm for Finishing

480 to @ 100kgsLWT to Cape Foulwind Farm for Finishing

Calf Rearing Capacity

Dairy Beef Shed (DBS) 1 & DBS 2

- 18 Pens Per Shed
- 20 Calves Per Pen
- 360 Calves Per Shed / Per Rotation
- 2 Full Rotation Per Shed Per Season (Aug – Nov)

Our Strategy to 2040

PĀMU™
FARMS OF NEW ZEALAND

OUR VISION

Cultivating a Bold Tomorrow, Together.

OUR WHAKATAUKĪ

He mauri tō te wai, He mauri tō te whenua, He mauri tō te tangata
We acknowledge the life force and essence of the *water*, the *land* and the *people*.

OUR PURPOSE

To lead the delivery of innovative and sustainable agriculture solutions for future generations.

OUR STRATEGIC CHOICES

DELIVER OPERATIONAL EXCELLENCE

GROW PEOPLE IN A SAFE ENVIRONMENT

CHANGE LAND USE WITH INTEGRATED FARMING SYSTEMS

INNOVATE & PARTNER TO MEET MARKET OPPORTUNITIES

ENRICH THE NATURAL WORLD

OUR VALUES

Shoulder-to-shoulder | **Bold** | **Genuine** | **Grounded**

OUR OUTCOMES

Culture of excellence | Sustainable commercial performance | Trusted partner | Thriving natural world

Pāmu dairy beef strategy

PĀMU™
FARMS OF NEW ZEALAND

Goal: Utilise 100% of non-replacement dairy calves

Pāmu Farms – Upper South Island

115 Permanent Staff
- 40 Seasonal Staff

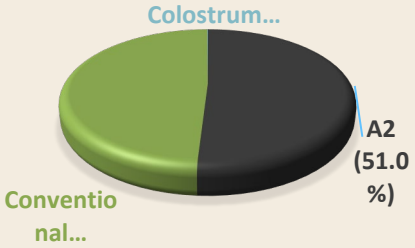
26 Business Units
- 15 Dairy Farms
- 9 Livestock Farms
- 2 Machinery Syndicates

5.1 Million Milk Solids
- 8 Farms Supplying A2 Milk

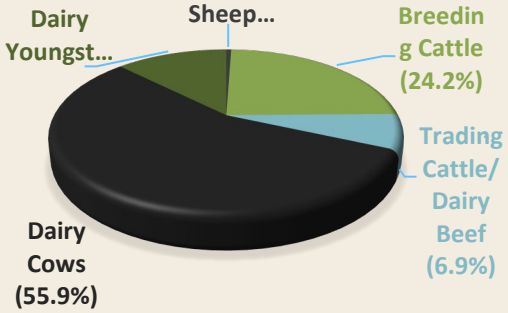
199,800 Stock Units
- 14,200 Dairy Cows Wintered
- 7,150 Dairy Young Stock
- 6,000 Beef Breeding Cows (Incl. Replacements)
- 8,000 Dairy Beef/ Trade Cattle

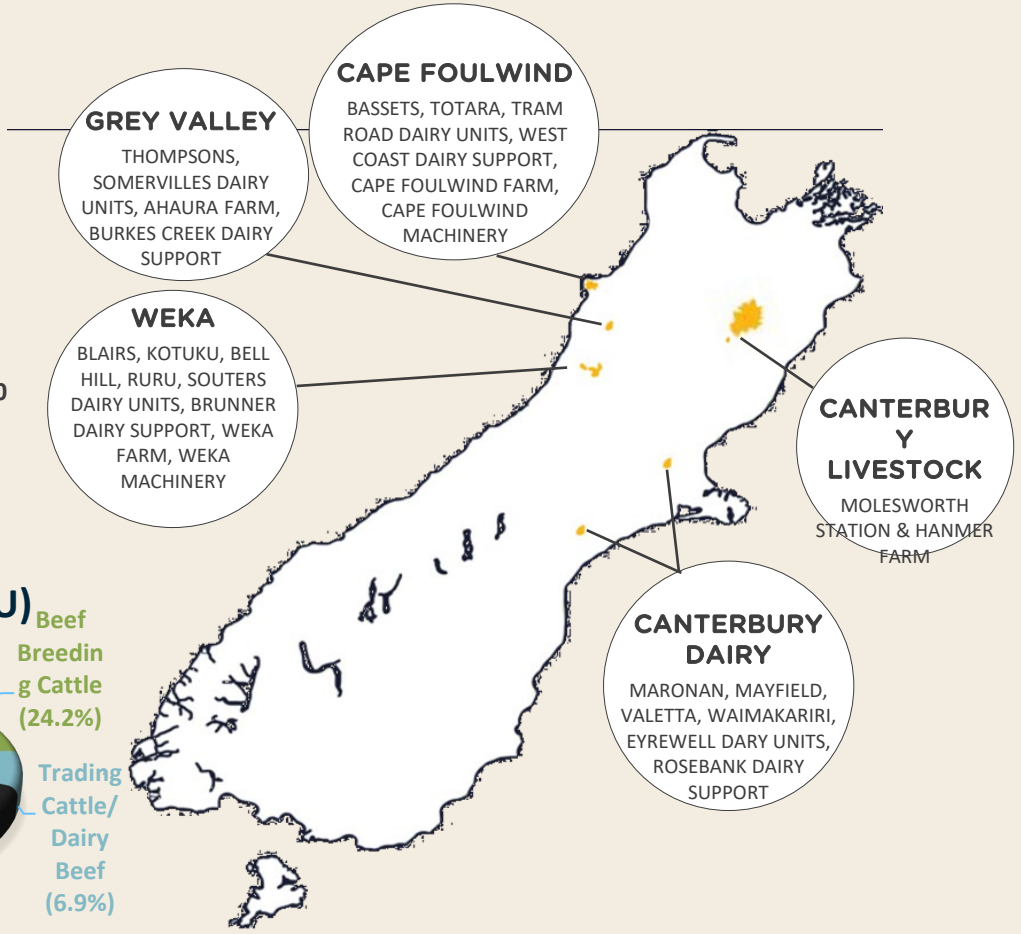
16,950 Total Hectares (Excl. 181,200Ha @ Molesworth)
- 12,900 Effective Hectares

MILK SUPPLY



STOCK MIX (% BY SU)





Pāmu Farms – Upper South Island

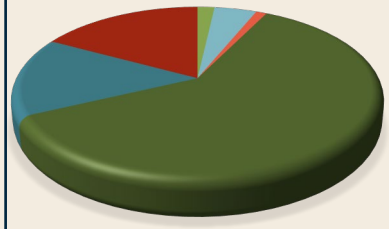
“Pāmu is aiming to rear all calves from its dairy herds for meat and milk production by 2030”

In 2021 we established a plan to integrate our dairy and livestock businesses on the West Coast, creating a closed system that, at present, absorbs 65% of our dairy calf crop.

Our focus: Farming excellence and innovation

2021

STOCK MIX (% BY SU)



60.7% Dairy Cows
17.1% Deer
14.9% Dairy Youngstock
4.4% Beef Breeding Cattle
1.8% Sheep
1.1% Dairy Beef

2022

- Develop a reduced bobby calf system through dairy and livestock integration, reducing the need to carry deer and beef breeding herds.
- Increased dairy beef production will generate improved protein conversion efficiency, and GHG intensity in comparison to traditional livestock breeding system.

2023-25

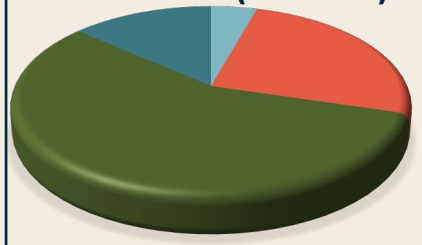
- Understand biosecurity and agronomic risks associated with planned system changes.
- Expansion of rearing capacity through the conversion of woolsheds at Cape Foulwind and Weka.
- 25% of dairy herds mated to beef.

2026-29

- Adopt genetic improvements and various technological advancements on dairy herds to support the full utilisation of the dairy calf crop.
- Farming excellence and enhance biosecurity at a large scale through a closed farm system. The ability to be fully self-contained.
- Optimise feed conversion efficiency, through the utilisation of various stock classes.
- System 2 dairy business, >90% of feed is grown on farm.

2030

STOCK MIX (% BY SU)



56.9% Dairy Cows
25.2% Dairy Beef
13.5% Dairy Youngstock
4.4% Beef Breeding Cattle

Mating Plan

Top 5% BW to Sexed Semen (Selected from top 25% BW)

Mid 70% BW to Bull of the Day (AI)

Bottom 25% BW to Beef (AI or Naturally Mated)

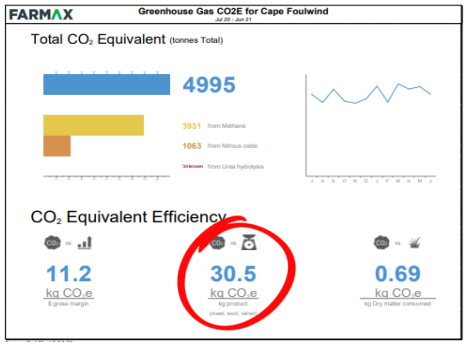
R2s	Weeks 1 - 6	Weeks 7 - 10	Weeks 11 - 12
Double PG Artificial Insemination	**Artificial Insemination** (Bottom 25% BW to Beef)	**Naturally Mated** (Beef)	**Short Gestation Artificial Insemination** (Dairy)

Opportunities

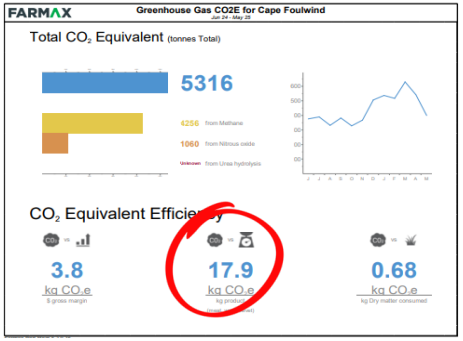
Significant improvement in GHG Intensity per kilogram of product

A recent AgResearch lifecycle assessment of dairy-beef systems found that:

- Dairy-beef is 22% more efficient than traditional beef systems
- Fast-finishing prime dairy-beef systems can achieve 38% to 42% reductions in GHG intensity, thanks to a statistically significant relationship between GHG intensity, cattle age, and growth rate (efficient systems are a significant driver - managing feed efficiency and finishing time in tandem is key).



GHG Modelling – Old System



GHG Modelling – New System

- Increased kilograms of product produced per hectare
- Social licence to farm – absorbing dairy calf crop
- Improved overall Herd Quality/Performance through breeding from highest Genetic Merit Cows
- Increased pasture production through improved rotational grazing policies
- Reduced capital requirement for waterway fencing (FWFP).

Challenges

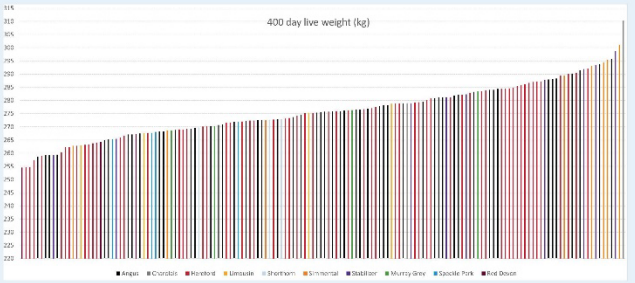
- Calf Rearing Infrastructure Requirements
- Biosecurity
  - Calf disease risk from multiple farms
- Increased Complexity on farm
  - Mating Plans
  - More mobs at calving/mating
  - Marker bulls
  - Identifying Beef Calves at Birth
  - Rearing Capacity on Farm
- Works space
- Fast finish model on marginal ground.

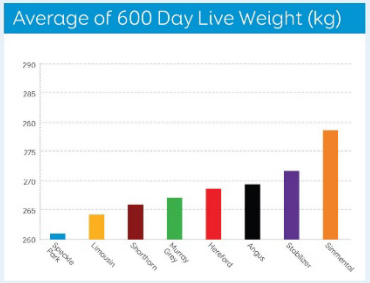
Dairy Beef Progeny Test.

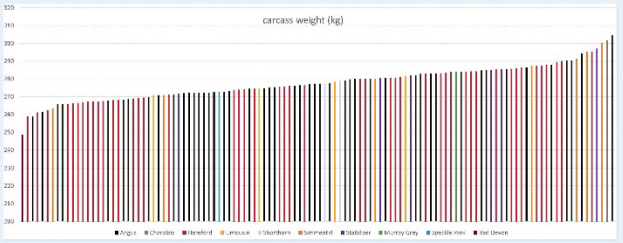
Traits important to beef farmers

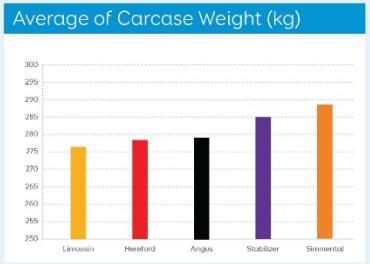
Results are shown from 194 selected bulls chosen to enter the progeny test. They are 'better than average' for traits of dairy importance with as much growth & carcass as possible. Breed averages (with more than 4 sires per breed) on right.

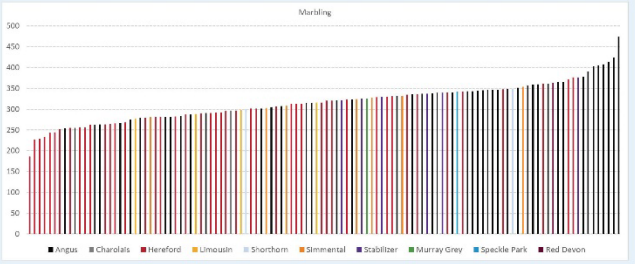
Selected Dairy Progeny Tested bulls are in the in the 2025 LIC catalogue. More Progeny Test information on the Beef + Lamb NZ Genetics website.

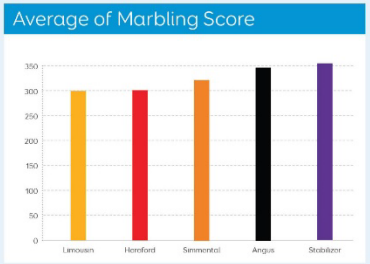












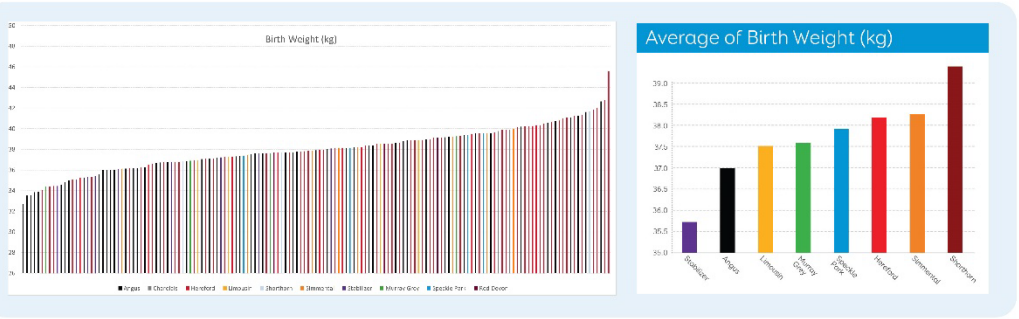
Data analysed by the Animal Science Group, Massey University

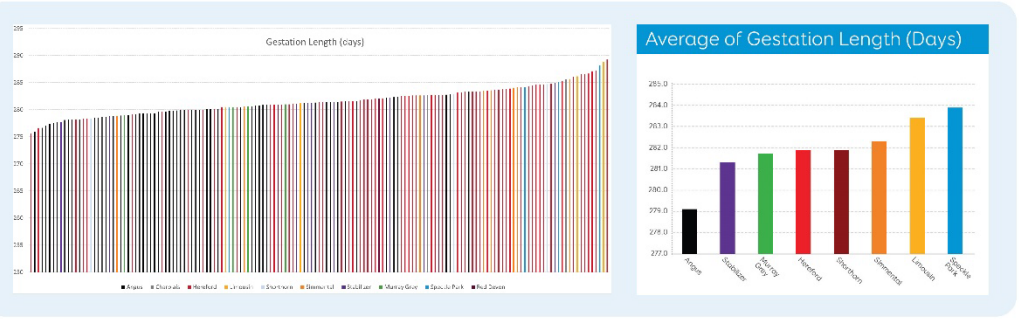
Dairy Beef Progeny Test.

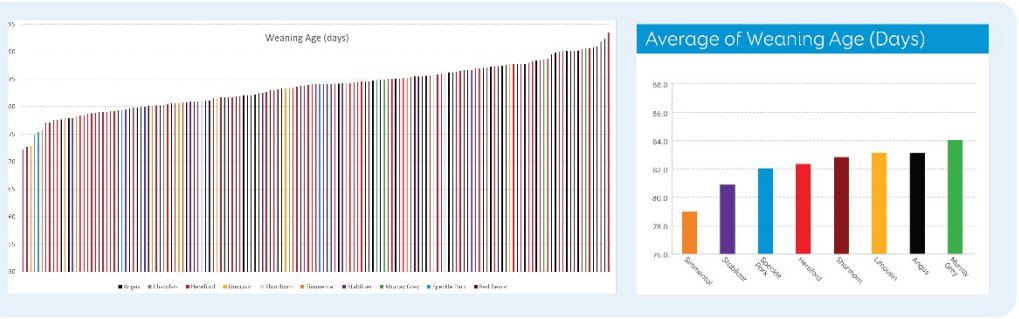
Traits important to dairy farmers

LIC's aim: Beef AB products that give dairy farmers dependable beef genetic options that also perform for calf rearers, finishers & processors.

Data is from NZ-bred beef bulls tested over NZ crossbred dairy cows. LIC is a partner in the Dairy Beef Progeny Test. LIC uses DBPT data, MINDA records and EBVs when selecting beef bulls.







Data analysed by the Animal Science Group, Massey University

beef+lamb new zealand GENETICS LIC

LIC & Dairy-Beef

Next 10 years...

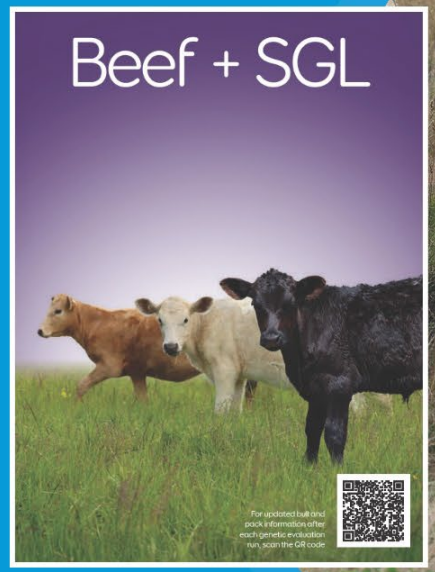
Technologies converge...Sexed dairy semen, wearables, SGL straws & specialist genetics for dairy-beef.

Drivers cannot be ignored...LIC straw trends, dairy-beef carbon efficiency, low carbon branded beef products, potential bobby calf shift, greater beef cattle finishing efficiency (Halter).

Already evolving mating plans...

Combining sexed semen for replacements, Beef straws from Day 1 of mating, SGL Dairy for days in milk and extended AB.

LIC investment...Genetics for the entire dairy-beef value chain, data systems, breed development, partnering for verified low carbon beef.



Calf rearing at scale

PĀMU™ FARMS OF NEW ZEALAND

Challenges

- **Cow Condition and Mineral Status Pre-Partum:** Ensuring cows are in optimal condition and have the necessary minerals before calving.
- **Calf Handling and Colostrum Day 1 Process**: Proper handling of calves and ensuring they receive colostrum on the first day (5Q's of colostrum).
- **Bacteria Loading in First 4 Days of Life:** Maintaining hygiene to reduce bacterial exposure.
- **Transitioning:** Whole milk to CMR challenges
- **Relocation and Environmental Stressors**: Managing stress and inflammation during relocation.
- **Infrastructure**: Dealing with condensed calving periods and the need for adequate facilities.
- **Hygiene and Biosecurity Risks**: Protecting both calves and people from zoonotic diseases.
- **Retaining Good Staff**: Building passion and retaining skilled staff in the industry.

Solutions

- **Team Development**: Providing training and support visits to offer fresh perspectives and improve skills.
- **Infrastructure Changes**: Utilising or modifying existing sheds to better suit current needs.
- **Evolving Programs and Nutrition**: Adapting programs and nutrition plans to meet Westcoast challenges.
- **Proactive Animal Husbandry**: Developing teams with strong animal husbandry skills for a proactive approach.
- **Encouraging Lifelong Learning:** Promoting continuous learning among team members.
- **Enhanced Biosecurity**: Strengthening biosecurity measures with a focus on hygiene.

COLOSTRUM MANAGEMENT

Use AHD tincture 8% iodine for navels. Using the more concentrated iodine helps dry out and protect the calf navel. One spray at time of pick up and one at drop off. Make sure that the navel is sprayed at the base of the navel.

- First feed first milking colostrum 2-4 litres or 10-15% of body weight within the first 6-12 hrs of being born. This will depend on the quality of the colostrum to the volume that is needed.
- Rule of thumb: let them drink as much as they will drink at first 2 feeds.
- Twice a day pick up for optimising calf health.
- A good colostrum keeper for transition milk (2nd -8th day milking) storage to help keep bad bacteria at bay is Nutricare Colostrum Keeper additive that acidifies the milk. 2kg will do 2000L. Do not stir too much. Add to fresh colostrum daily before adding to bulk storage supply.

The 5 Q's of Colostrum Management

Quality	Check IgG (Immunoglobulin) rating. If using a Refractometer, a minimum reading of 22 brix is good quality. Colostrum quality is better when calves are picked up twice a day. You can bump up quality by adding colostrum powder. 22 brix = 50g IgG per litre and calves need a minimum of 100g IgG on day 1 of life.
Quantity	10% of birth weight. A higher volume needed if colostrum is of a poorer quality (up to 15%) -this can be fed over a 12-hour period. Freeze in 2 litre amounts any great quality colostrum to keep for the days when quality is not ideal or for calves later in the season.
Quickly	Goal within the first 1-2 hours of birth ideally, or within the first 6-12 hours. After 24 hours a passive transfer cannot happen, however the gut lining is still being protected by colostrum and is still helpful so feed for as long as there is "free" supply of colostrum available.
sQueaky Clean	Avoid bacterial contamination. Keep all colostrum buckets clean and covered. Use freshly harvested colostrum for day 1 calves and chill unused colostrum ASAP. Don't leave in heat as this increases bad bacteria. Bad bacteria can be passed through into the bloodstream of calves.
Quietly	A harassed or stressed calf will not divert IgG across the gut wall as effectively and will expose calf to a weakened immune defence. Always handle calves quietly and gently, even at pick up. Get the whole farm team on board. Rough handling and stressed calves = no passive transfer.

Monitor passive transfer. Test IgG blood between day 4-7 to check day 1 process. Calves with failure of passive transfer are forced to divert nutrients from growth to building an immune response and are more likely to get sick in the first 2 weeks.

NRM FEED TO SUCCEED RELIANCE FEEDS Farmlands

STRESS AND FATIGUE

IMPACT ON PERFORMANCE

Cumulative stress
Stress = Distress
Link to proactive measures

CALVES VUNERABILITY

Barrage of stressors
Weakened immune system
Disrupt digestion
Decrease weight gain
More susceptible

CALVES VUNERABILITY

Well-managed environment
Proper nutrition
Low-stress environment
Minimising abrupt changes
Rehydration to expedite recovery

Follow The Calf Experts on Facebook

Farmlands

IGNORANCE

NORMALIZATION OF ABNORMALITY

Lack of awareness or training
Accept suboptimal conditions
Perpetuate year-to-year

ADDRESSING IGNORANCE

Exposure or confusion
Upskill the entire team
Consistent practises
KISS

AVOIDING OVERCOMPLICATION

Over complicate issues
Feel good factors
Prioritising & excelling in basics

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Farmlands

HESITATION

PROACTIVE PRACTICES

Proactivity is paramount
Swift identification
Mental well-being

OBSERVATION TECHNIQUES

Observe calf behaviour
Utilising all senses
Recognising abnormal signs early
Rapid intervention

ENVIRONMENTAL FACTORS

Monitor environment
Hygiene, clean and comfortable
Act immediately

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Farmlands

Repurposing old woolsheds / covered yards (DBS1)

Repurposing old woolsheds / covered yards (DBS2)

100kgs to Finishing

Focus Areas

- Weaning upon weights not age (start weaning >75kgs, 95 off meal ~30 days later)
- Regular monitoring of weights, attention to detail, drafting mobs into weight lines
- Rotationally graze behind a break feed from 100kgs/ fully weaned – minimum 2 day breaks
- Animal Health plans / active management - parasites, immunity, trace elements
- Animal welfare needs – shade, shelter, handling

Nutritional requirements

- High ME feed - All pasture based up to 450kgs then winter on swedes + silage
- Agronomy - Annual regrassing program (8-10% Class A) to ensure high quality pastures
- High energy supplements
- Potable water

100kgs to Finishing

Targets

- 200kgs by 1st June (1st Winter)
- 450kgs by 1st June (2nd Winter)
- 550kg LWT Bulls to Finish >270kgCW by ~24-26 months old (>49% Yield)
- 500kg LWT Heifers to Finish in the Reserve Program >240kgCW by ~24-26 months old (>49% Yield)

Challenges

- Utilisation across all land classes
- Infrastructure – power, water, yards
- Biosecurity - calf rearing
- Immunocompromising – calf rearing challenges/ disease burden continue to rear its head over their life span
- Wastage
- Return ($)
  - >270kg CW Bulls
  - >240kg CW Heifers (Reserve Program)
- Markets

Pāmu overview

112
Total number of farms managed by Pāmu

356,048*
Hectares

1,255,619
Stock units

630
Employees

As at 30 June 2024

*Excluding Molesworth Station, (180,787ha leased from DOC), Pāmu manages 175,261ha

20