



A CORE SET OF KPI MEASURES FOR RED MEAT FARMING BUSINESSES



MEASURING FARM PERFORMANCE

PAGE KPI

4 LAMBING PERCENTAGE

5 EWE FLOCK EFFICIENCY

7 LAMB SCANNING TO WEANING LOSS

9 CALVING PERCENTAGE

10 COW HERD EFFICIENCY

11 FAWN WEANING PERCENTAGE

12 HIND HERD EFFICIENCY

13 GROSS FARM REVENUE PER EFFECTIVE HECTARE

14 FARM OPERATING EXPENDITURE (FOE) PER EFFECTIVE HECTARE

15 FARM OPERATING EXPENDITURE (FOE) RATIO

16 EBITRm PER EFFECTIVE HECTARE

17 NET PRODUCTION PER EFFECTIVE HECTARE

19 LIVE WEIGHT GAIN - LAMB BIRTH TO SLAUGHTER

21 LIVE WEIGHT GAIN - LAMB OVER FIXED PERIOD OF TIME

22 LIVE WEIGHT GAIN - CATTLE OVER FIXED PERIOD OF TIME

23 LIVE WEIGHT GAIN - DEER OVER FIXED PERIOD OF TIME

Why and what to measure

Understanding how your farm business is performing is critical to making decisions on how to improve that performance. You need to know where you are now, to be able to set targets and then see how actual performance measures up against these targets.

There are many possible measures which can be used to analyse the performance of your farm business, however, this publication focuses on a core set of Key Performance Indicators (KPIs) that we encourage you to use as the starting point to understand how your farm business is performing.

Depending on what these top-level measures tell you, you can drill down and look at other more specific aspects of farm performance to understand what is influencing those KPIs.

KPI relationships are explained in the diagram on page three. Use these relationships to:

1. Look at what the relevant KPI is measuring
2. Target your efforts to improve the areas of your farm that will contribute most to improving that KPI

Red Meat Profit Partnership (RMPP), in conjunction with a group of industry professionals including farmer representation, identified the following KPIs that are recommended as the starting point to understanding your farm business performance. Example data in the following KPI discussion are from B+LNZ's Sheep and Beef Farm Survey.

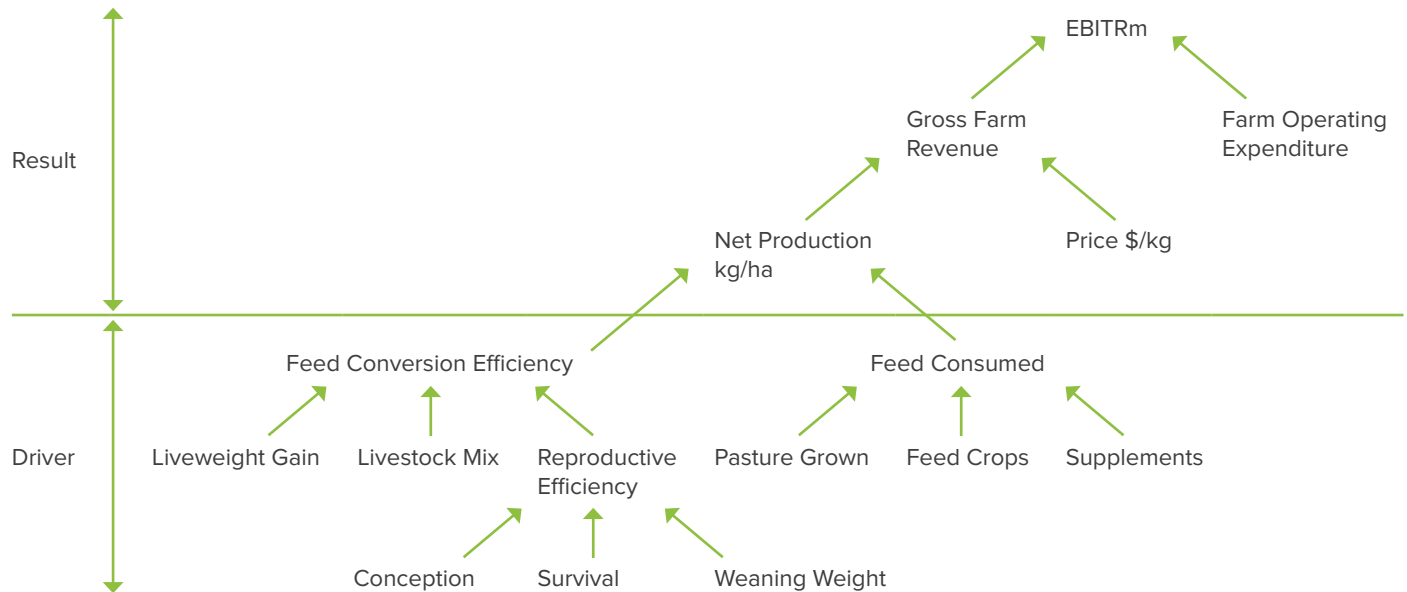
This booklet provides a detailed description and example calculations for each of these KPIs and resources that will be useful when considering how improvements can be made.

We have not provided any feed production KPIs in this booklet. This is not because they are not important, but because they are complex to calculate. We recommend the use of a feed budgeting tool or a robust spreadsheet feed budget and the services of a consultant to help you get the most from either of these tools.

Partner group



KPIs AND THEIR RELATIONSHIP TO KEY FUNCTIONS OF FARMING



The diagram above identifies the key functions of farming and therefore what a farm business needs to look at to improve profitability. What happens on a farm is a function of many factors and it can be difficult to isolate which are going well or badly. By looking at this diagram you can think about the components separately, how they fit together and how the KPIs can help you to do this.

So, for example, earnings before interest, tax, rent and any wages paid to a manager (actual or family) (EBITRm) is driven by two things: gross farm revenue and farm operating expenditure. Understanding that allows a farm business to look at how to maximise revenue or decrease expenditure, or both. It's not just a case of maximising production, it's looking at profitability.

Taking the example to the next, more detailed level, the diagram shows that gross farm revenue is a function of two measures: production and price. Understanding the drivers for these KPIs leads to feed conversion efficiency and feed consumed, which in turn are driven by further measures.

The point is not to consider all of these at once. Start at the top and look at the key components and how your farm is doing, especially against similar farms. What are their KPIs? Why are they better or worse than yours? Is there something they are doing (or not doing) that you could pick up on? If there are some key things at this higher level of the diagram, then address these first. Sort them out and then delve deeper to continuously improve your farm profitability.

The KPIs are expressed on a per effective hectare basis and it is acknowledged that it may be more relevant to express KPIs on a per stock unit basis for high country and extensive farming systems.

Overall, KPIs and benchmarking against others are both tools to help you identify where you are doing well and where you need to improve. Used in this way KPIs can help you isolate the great things you are doing (so do more of that) and the things you need to improve (so fix those).

LAMBING PERCENTAGE

What is this?

A simple and common measure of reproductive performance.

Why is it important?

Indicator of genetic merit, flock fecundity, feed quantity and quality, and management practices.

Data inputs

- ▶ Number of lambs tailed from ewes
- ▶ Number of ewes mated

What does this mean?

For every 100 ewes mated, 127 lambs were tailed.

How do I compare?

Use the Lambing Calculator, available on the B+LNZ website www.beeflambnz.com/data-tools/lambing-calculator to see how you compare.

How can I use this?

- ▶ Baseline for performance
- ▶ Use to set future targets
- ▶ Consider which factors influence this and identify options for improvement

Example

▶ Number of lambs tailed from ewes	2,330	
divided by	÷	
▶ Number of ewes mated ¹	1,840	
Lambs per ewe mated	=	1.266
multiplied by	x	
	100	
Lambing Percentage	=	127%

How can I improve?

Top four things to consider

- 1 Mating weight and BCS²
- 2 Match lambing date to feed supply and/or climatic risks
- 3 Ensure adequate quantity of quality feed for ewes
- 4 Animal health

See the following resources for more information:

www.beeflambnz.com/knowledge-hub

- Making every mating count resource book
- Ewe Body Condition Scoring resource book
- Ewe BCS fact sheet
- Growing great lambs resource book
- Better Sheep Breeding: Ram buying decisions resource book
- Lactation, lamb growth and the lamb weaning decision fact sheet
- FeedSmart User Guide
- FeedSmart feed table for pregnant ewes fact sheet
- Creep grazing lambs fact sheet
- Abortion in ewes fact sheet

www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. **Ewes mated:** Exclude in-lamb ewes sold. Include in-lamb ewes purchased. Include scanned/pregnancy-tested dries sold or kept. Do not adjust for deaths.
2. **BCS:** Body Condition Score

EWES FLOCK EFFICIENCY



What is this?

A combined indicator of flock fertility, feed quantity and quality, and management practices.

Why is it important?

Because ewe flock efficiency is linked to profitability.

Data inputs

- ▶ Number of lambs weaned from ewes
- ▶ Average lamb weight at weaning (kgLW)
- ▶ Number of ewes mated
- ▶ Average ewe weight at mating (kgLW)

What does this mean?

For every kilogram live weight of ewes mated, 0.57 kilograms live weight of lamb was weaned (i.e. 57% of total weight of ewes mated). This is a key indicator of ewe efficiency.

How do I compare?

Range: 40% to 70%. Sector mean 57%.

How can I use this?

It helps assess farm business profitability.

Example

▶ Number of lambs weaned from ewes	2,320	
multiplied by	x	
▶ Average lamb weight at weaning (kgLW) ¹	27.2	
Total weight of lambs weaned (kgLW)² (a)	=	63,104
divided by	÷	
▶ Number of ewes mated ³	1,840	
multiplied by	x	
▶ Average ewe weight at mating (kgLW)	60.7	
Total weight of ewes mated (kgLW) (b)	=	111,688
Ewe Flock Efficiency = (a) ÷ (b) x 100	=	57%

How can I improve?

Top four things to consider

- 1 Mating weight and BCS⁴
- 2 Match lambing date to feed supply and/or climatic risks
- 3 Ensure adequate quantity of quality feed for ewes
- 4 Animal health



ewe flock efficiency CONT...



How can I improve? cont...

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module
- Principles of feeding: From weaning to mating (sheep) learning module
- Principles of feeding: From mating to lambing (sheep) learning module
- Body Condition Scoring (Sheep) learning module
- Ewe Body Condition Scoring resource book
- Ewe BCS fact sheet
- Making every mating count resource book
- FeedSmart User Guide
- Growing great lambs resource book
- Better Sheep Breeding: Ram buying decisions resource book
- 400 Plus Guide resource book
- Hogget performance resource book
- A guide to feed planning for sheep farmers resource book
- Lactation, lamb growth and the lamb weaning decision fact sheet

Q www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. Actual weights if possible
2. **kgLW:** Kilograms of Live Weight
3. **Ewes mated:** Exclude in-lamb ewes sold. Include in-lamb ewes purchased. Include scanned/pregnancy-tested dries sold or kept. Do not adjust for deaths.
4. **BCS:** Body Condition Score

LAMB SCANNING TO WEANING LOSS



What is this?

A measure of the number of lambs weaned versus the potential number of lambs that could have been weaned.

Why is it important?

Demonstrates the lost potential in revenue.

Data inputs

- ▶ Number of ewes scanned
- ▶ Scanning percentage (long or short)¹
- ▶ Number of lambs weaned

What does this mean?

18.8% of potential lambs available for sale were lost between scanning and weaning. Lost revenue!

How do I compare?

Range: 15% to 20%

How can I use this? 💡

- ▶ Baseline for performance
- ▶ Use to set future targets
- ▶ Consider which factors influence this and identify options for improvement

Example

▶ Number of ewes scanned	2,000	
multiplied by	x	
▶ Scanning percentage ¹	160%	
= Potential number of lambs (foetus)	=	3,200
minus	-	
▶ Number of lambs weaned	2,600	
= Number of potential lambs lost from scanning to weaning	=	600
divided by	÷	
▶ Potential number of lambs	3,200	
	=	0.1875
multiplied by	x	
	100	
Potential lambs lost (%)	=	18.8%

How can I improve?

Top four things to consider

- 1 Ewe condition at lambing
- 2 Paddock factors
- 3 Stocking rate and pasture cover
- 4 Preventative animal health plans

LAMB SCANNING TO WEANING LOSS CONT...



How can I improve? cont...

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module
- Principles of feeding: From lambing to weaning learning module
- Principles of feeding: From weaning to mating (sheep) learning module
- Principles of feeding: From mating to lambing (sheep) learning module
- Sheep Mating Management learning module
- Body Condition Scoring (sheep) learning module
- Ewe Body Condition Scoring weaning
- Early weaning fact sheet
- Ewe BCS fact sheet
- Growing great lambs resource book
- 400 Plus Guide resource book
- Lactation, lamb growth and the lamb weaning decision fact sheet
- FeedSmart User Guide
- FeedSmart feed table for pregnant ewes fact sheet
- Creep grazing lambs fact sheet
- Abortion in ewes fact sheet

Q www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. **Short scanning:** Where only dries, singles and multiples are recorded, with all multiples being treated as twins

Long scanning: Where dries, singles, twins, triplets and quadruplets are recorded

Long scanning % delivers more accurate results. To convert short scanning to long scanning %, use the Short to Long Scan Calculator available under Interactive Tools at www.beeflambnz.com/data-tools/short-long-scanning

CALVING PERCENTAGE

What is this?

A simple and common measure of reproductive performance.

Why is it important?

Indicator of genetics, feed quantity and quality, and management practices.

Data inputs

- ▶ Number of calves marked
- ▶ Number of cows mated

What does this mean?

For every 100 cows mated, 81 calves were marked.

How do I compare?

Use the B+LNZ website www.beeflambnz.com/data-tools/benchmark-your-farm to see how you compare.

How can I use this? 💡

- ▶ Baseline for performance
- ▶ Use to set future targets
- ▶ Consider which factors influence this and identify options for improvement

Example

▶ Number of calves marked from m.a. cows ¹	55	
divided by	÷	
▶ Number of m.a. cows mated ²	68	
Calves per cow mated	=	0.809
multiplied by	x	
	100	
M.A. Cow Calving Percentage	=	81%

How can I improve?

Top three things to consider

- 1 Review genetics
- 2 Cow condition at mating
- 3 Feed quality and quantity from mating to marking

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Guide to New Zealand Cattle Farming resource book
- Beef Cow Body Condition Scoring resource book
- Better Beef Breeding: Bull buying for the commercial beef breeder resource book
- FeedSmart User Guide

Q www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. **M.A. cows:** Mixed age cows
2. **Cows mated:** Exclude in-calf cows sold. Include in-calf cows purchased. Include scanned/pregnancy-tested dries sold or kept. Do not adjust for deaths.

COW HERD EFFICIENCY



What is this?

A key combined indicator of herd fertility, feed quantity and quality, as well as management practices.

Why is it important?

Because cow herd efficiency is linked to profitability.

Data inputs

- ▶ Number of calves weaned from cows
- ▶ Average calf weight at weaning (kgLW)
- ▶ Number of cows mated
- ▶ Average cow weight at mating (kgLW)

What does this mean?

For every kilogram live weight of cows mated, 0.33 kilograms live weight of calf was weaned (i.e. 33% of total weight of cows mated).

How do I compare?

Most breeding herds are in the range of 25% to 40% with a sector mean of 33%.

How can I use this? 💡

- ▶ It helps assess farm business profitability

Example

▶ Number of calves weaned	55	
multiplied by	x	
▶ Average calf weight ¹ at weaning (kgLW) ²	219.5	
Total weight of calves weaned (kgLW) (a)	=	12,073
divided by	÷	
▶ Number of cows mated ³	68	
multiplied by	x	
▶ Average cow weight at mating (kgLW)	533.6	
Total weight of cows mated (kgLW) (b)	=	36,285
Cow Herd Efficiency = (a) ÷ (b) x 100	=	33%

How can I improve?

Top two things to consider

- 1 Calving and weaning dates
- 2 Cow condition at mating and calving

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module
- Guide to New Zealand Cattle Farming resource book
- Beef Cow Body Condition Scoring resource book
- Better Beef Breeding: Bull buying for the commercial beef breeder resource book
- FeedSmart User Guide

Q www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. Actual weights if possible
2. **kgLW:** Kilograms of Live Weight
3. **Cows mated:** Exclude in-calf cows sold. Include in-calf cows purchased. Include scanned/pregnancy-tested dries sold or kept. Do not adjust for deaths.

FAWN WEANING PERCENTAGE



What is this?

A simple and common measure of reproductive performance.

Why is it important?

Indicator of genetics, feed quantity and quality, and management practices.

Data inputs

- ▶ Number of fawns weaned
- ▶ Number of hinds mated

What does this mean?

For every 100 hinds mated, 96 fawns were weaned.

How do I compare?

An indicator of good performance based on AgResearch data is 93%.

How can I use this?

- ▶ Baseline for performance
- ▶ Use to set future targets
- ▶ Consider which factors influence the outcome and identify options for improvement

Example

▶ Number of fawns weaned	1,055	
divided by	÷	
▶ Number of hinds mated ¹	1,100	
Fawns per hind mated	=	0.959
multiplied by	x	
	100	
Fawning Weaning Percentage	=	96%

How can I improve?

Top three things to consider

- 1 Ensure hind BCS² at mating is at least 3.5
- 2 R2 live weight at mating must be greater than 80% of MA live weight to achieve 90%+ pregnancy rates
- 3 To avoid loss of new born fawns, give hinds space and cover for fawning. Avoid high stocking densities. six-seven hinds per hectare is a good balance.

See the following resources for more information:

YouTube

- Impact of Hind Condition on Conception Rates (<https://www.youtube.com/watch?v=pJLMs-YD3NM&feature=youtu.be>)

www.deernz.org/deerhub/tools/feeding

- Replacement Hind Growth Curves

www.deernz.org/deer-facts

- Management for profit: Setting reproduction targets

Definitions

1. **Hinds mated:** Exclude in-fawn hinds sold. Include in-fawn hinds purchased. Include scanned/pregnancy-tested dries sold or kept. Do not adjust for deaths.
2. **BCS:** Body Condition Score

HIND HERD EFFICIENCY



What is this?

An indicator of herd fertility, feed quantity and quality, and management practices.

Why is it important?

Kg of product produced per kg of productive unit is the fundamental driver of breeding efficiency and profitability. Maximising the number of live fawns born, minimising losses through ill health while ensuring optimum nutrition to achieve growth potential will assist profit.

Data inputs

- ▶ Number of fawns weaned
- ▶ Average fawn weight at weaning (kgLW)
- ▶ Number of hinds mated
- ▶ Average hind weight at mating (kgLW)

What does this mean?

For every kilogram live weight of hinds mated, 0.44 kilograms live weight of fawns were weaned (i.e. 44% of total weight of hinds mated).

How do I compare?

An indicator of good performance from AgResearch data is 51%.

How can I use this?

Fawns are capable of rapid growth in the summer and autumn and weaner weight at 1 June will be a major factor in determining spring weights due to lower growth potential during the winter. Weaner weight at weaning (1 March) provides a measure that can greatly assist planning feeding and health programmes for the winter.

Example

▶ Number of fawns weaned	400	
multiplied by	x	
▶ Average fawn weight ¹ at weaning (kgLW) ²	56	
Total weight of fawns weaned (kgLW) (a)	=	22,400
divided by	÷	
▶ Number of hinds mated ³	420	
multiplied by	x	
▶ Average hind weight at mating (kgLW)	120	
Total weight of hinds mated (kgLW) (b)	=	50,400
Hind Herd Efficiency = (a) ÷ (b) x 100	=	44%

How can I improve?

Top three things to consider

- 1 Ensure optimal feed quality and quantity is available over peak lactation and through the autumn
- 2 Ensure hind BCS⁴ at mating is at least 3.5
- 3 Ensure adequate feed is available during pregnancy, especially the third trimester

See the following resources for more information:

Q www.deernz.org/deer-facts

- Management for profit: Setting reproduction targets
- Management for profit: Best practice management of pregnant hinds

Q www.deernz.org/deerhub

- Deer - Reproduction

Definitions

1. Actual weights if possible, as at 1 March, otherwise estimate
2. **kgLW:** Kilograms of Live Weight
3. **Hinds mated:** Exclude in-fawn hinds sold. Include in-fawn hinds purchased. Include scanned/pregnancy tested dries sold or kept. Do not adjust for deaths.
4. **BCS:** Body Condition Score

GROSS FARM REVENUE PER EFFECTIVE HECTARE



What is this?

The income generated by your normal farming activities expressed per effective hectare farmed.

Why is it important?

Key measure of farm revenue generation and output.

Data inputs

- ▶ Gross Farm Revenue from GST-exclusive Annual Accounts or Cash Book (\$)¹
- ▶ Total Effective Grazing Area (ha)²

What does this tell me?

Gross farm revenue is \$824 per effective hectare used for farming activities and is an aggregate measure of my farming business output per hectare.

How do I compare?

Compare with B+LNZ website:
www.beeflambnz.com/data-tools/benchmark-your-farm

How can I use this?

- ▶ Track gross business performance
- ▶ Identify potential opportunities
- ▶ Focus time and investment in the right areas

Example

▶ Gross Farm Revenue (\$)	519,000	
divided by	÷	
▶ Total Effective Grazing Area (ha)	630	
Gross Farm Revenue per Effective Hectare (\$ per ha)	=	824

How can I improve?

Top three things to consider

- 1 How does my production per hectare compare with others?
- 2 How does my price per unit sold compare with others?
- 3 Is there any supplementary on-farm income that I can achieve outside of my core business?

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module

Q www.beeflambnz.com/data-tools/benchmark-your-farm

- Select your region and farm class

Definitions

1. **Gross Farm Revenue GST-exclusive:** Gross Profit from Livestock Trading Accounts, or if from Cash Book, then cash sales net of purchases plus the change in value of livestock numbers for each livestock category, i.e. close stock numbers minus open stock numbers, multiplied by their respective closing Herd Scheme Values produced by Inland Revenue in mid-May each year - see www.ird.govt.nz/technical-tax/determinations/livestock/national-averages/

Other Revenue: Include receipts from wool, velvet, grazing, sales of hay, silage crops etc. Exclude interest and dividends received, forestry receipts, rent received.

- If Cash Book data are used, ensure the figures are GST-exclusive and that receipts include: stock, wool and other sales made up to the end of the financial year but including receipts still due, and deduct receipts that relate to the previous financial year.
 - Livestock purchases includes payments for stock bought up to the end of the financial year including those still to be paid for and deduct payments that relate to the previous financial year.
 - Include in Wool Revenue, the change in the value of wool on hand i.e. Closing \$ - Opening \$.
2. **Total Effective Grazing Area:** Owned and rented measured in hectares, including area in cash crops because livestock usually graze this area at some point during the year on sheep and beef farms.

FARM OPERATING EXPENDITURE (FOE) PER EFFECTIVE HECTARE

What is this?

The amount of money spent undertaking your normal farming activities expressed per effective hectare farmed.

Why is it important?

Standardised measure to benchmark between years and with other farm businesses.

Data inputs

- ▶ Farm Operating Expenditure (\$) GST-exclusive
- ▶ Total Effective Grazing Area (ha)

What does this tell me?

That Farm Operating Expenditure is \$465 per effective hectare used for farming activities and is an aggregate measure of my farm business expenditure per hectare.

How do I compare?

Compare with B+LNZ website:
www.beeflambnz.com/data-tools/benchmark-your-farm

How can I use this?

Monitor expenditure and identify potential opportunities to reduce or increase expenditure to improve profitability.

Example

▶ Farm Operating Expenditure (\$)¹	293,000	
divided by	÷	
▶ Total Effective Grazing Area (ha)²	630	
Farm Operating Expenditure per Effective Hectare (\$ per ha)	=	465

How can I improve?

Top three things to consider

- 1 How does my expenditure per hectare compare with others?
- 2 How does my expenditure per unit sold compare with others?
- 3 Could I reduce my expenditure by changing stock type, farm system, upskilling people?

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module

Q www.beeflambnz.com/data-tools/benchmark-your-farm

- Select your region and farm class

Definitions

1. **Farm Operating Expenditure GST-exclusive:** This includes all Farm Working Expenditure plus ACC payments, insurance and rates. It excludes interest, rent, depreciation and capital expenditure. It also excludes wages paid to a manager (actual or family) if these have been included in Farm Working Expenditure. Rebates received are to be deducted from Farm Operating Expenditure, i.e. report expenditure net of rebates.

If Cash Book data are used, ensure the figures are GST-exclusive and that purchases includes payments for goods and services purchased up to the end of the financial year including those still to be paid and deduct payments that relate to the previous financial year.

Also adjust expenditure items that have abnormally high or low spending to “normal” maintenance levels, e.g. fertiliser, repairs and maintenance, deferred maintenance, and on-farm purchases that were expensed rather than capitalised. This is based on your self-assessment.

The above standardises Farm Operating Expenditure to a farm that is debt-free, freehold and owner-operator for inter-farm comparison.

2. **Total Effective Grazing Area:** Owned and rented measured in hectares, including area in cash crops because livestock usually graze this area at some point during the year on sheep and beef farms.

FARM OPERATING EXPENDITURE (FOE) RATIO



What is this?

A ratio of your Farm Operating Expenditure to your Gross Farm Revenue.

Why is it important?

- How efficient is your business?
- Are you “buying” production?
- Is your expenditure on non-production items excessive?
- Are you spending enough to maintain the business?

Data inputs

- Farm Operating Expenditure (\$)¹
- Gross Farm Revenue (\$)²

What does this tell me?

That FOE is \$293,000 or 56% of my Gross Farm Revenue (\$519,000). This is a good indicator of spending efficiency, e.g. am I spending \$1 and making \$2, and hence a measure of how sustainable my farming business is.

How do I compare?

Compare with B+LNZ website: www.beeflambnz.com/data-tools/benchmark-your-farm

How can I use this?

Monitor, manage and compare against similar farm businesses.

Example

► Farm Operating Expenditure (\$)	293,000	
divided by	÷	
► Gross Farm Revenue (\$)	519,000	
Farm Operating Expenditure Ratio	=	0.56
multiplied by	x	
	100	
Farm Operating Expenditure Ratio (%)	=	56%

How can I improve?

Top three things to consider

- 1 Is my FOE ratio higher or lower than comparable farms? Why?
- 2 Am I maintaining the productivity of my farm? Ensure you are spending enough for the long-term sustainability of production.
- 3 Could I improve this ratio by changing livestock type, farm system, upskilling on-farm people etc?

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module

Q www.beeflambnz.com/data-tools/benchmark-your-farm

- Select your region and farm class

Definitions

- 1 **Farm Operating Expenditure GST-exclusive:** See definition detail in the Farm Operating Expenditure per effective hectare KPI
- 2 **Gross Farm Revenue GST-exclusive:** See definition detail in the Gross Farm Revenue per effective hectare KPI

EBITRm PER EFFECTIVE HECTARE



What is this?

A standardised KPI that lets you measure profitability and benchmark your profitability against similar farms.

Why is it important?

A key measure of profitability of your farm business operation, independent of capital and management structure.

Data inputs

- ▶ Gross Farm Revenue (\$)¹
- ▶ Farm Operating Expenditure (\$)²
- ▶ Depreciation (\$)³
- ▶ Total Effective Grazing Area (ha)

What does this mean?

The earnings before interest, tax, rent and any wages paid to a manager (actual or family) were \$311 per effective grazing hectare farmed. This is a standard farm business year-on-year indicator of profitability that can be benchmarked against similar farming operations.

How do I compare?

Compare with B+LNZ website:
www.beeflambnz.com/data-tools/profitability-calculator

How can I use this?

Track the profitability of your own farm business or to compare your farm with other farm businesses.

Example

▶ Gross Farm Revenue (\$)¹	519,000	
minus	-	
▶ Farm Operating Expenditure (\$)²	293,000	
minus	-	
▶ Depreciation (\$)³	30,000	
EBITRm⁴ (\$)	=	196,000
divided by	÷	
▶ Total Effective Grazing Area (ha)	630	
EBITRm per Effective Hectare (\$ per ha)	=	311

How can I improve?

Top two things to consider

- 1 Increase Gross Farm Revenue
- 2 How can I be more efficient and increase revenue for the same expenditure?

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module

Q www.beeflambnz.com/data-tools/profitability-calculator

- Peter Young podcast: More profit from sheep

Definitions

1. **Gross Farm Revenue GST-exclusive:** See definition detail in the Gross Farm Revenue per effective hectare KPI
2. **Farm Operating Expenditure GST-exclusive:** See definition detail in the Farm Operating Expenditure per effective hectare KPI
3. **Depreciation:** Sourced from latest Annual Accounts to hand
4. **EBITRm:** Earnings before interest, tax, rent and any wages paid to a manager (actual or family)

NET PRODUCTION PER EFFECTIVE HECTARE

What is this?

The net production¹ weight of all animal products produced on your farm per effective hectare farmed.

Why is it important?

A standardised measure of physical production.

Data inputs

- ▶ Open and close livestock numbers and their live weights converted to carcass weight (kg)²
- ▶ Animal sales and purchases numbers and their weights converted to carcass weight (kg)
- ▶ Live weight of grazing livestock arriving on the property and grazing livestock leaving the property converted to carcass weight (kg)
- ▶ Wool and velvet production including sales less opening weight on-hand plus closing weight on-hand (kg)
- ▶ Total Effective Grazing Area (ha)

What does this mean?

The total net physical output from the farming operation was 137kg per effective hectare.

How do I compare?

See example footnote above for Net Production calculators.

How can I use this?

Use to measure production progress of your farm business and compare with other farm businesses.

Example

Note: Remember to: (i) add the change in estimated carcass weight for other people's stock grazed on, and (ii) deduct the change in estimated carcass weight for any opening stock which were grazed off farm and were back on the farm at balance date

▶ Net lamb production carcass weight (kg)	42,900	
plus	+	
▶ Net sheep production carcass weight (kg)	1,000	
plus	+	
▶ Net beef production carcass weight (kg)	29,800	
plus	+	
▶ Net venison production carcass weight (kg)	500	
plus	+	
Net shorn wool production greasy (kg)	12,400	
plus	+	
Net velvet production (kg)	0	
Total Net Production (kg)	=	86,600
divided by	÷	
Total Effective Grazing Area (ha)	630	
Total Net Production per Effective Hectare³ (kg per ha)	=	137

This is a simplified calculation for Net Production. The best way to calculate your Net Production per hectare is to use the Net Production KPI calculator available via My Dashboard in your B+LNZ website account.



NET PRODUCTION PER EFFECTIVE HECTARE

CONT...



How can I improve?

Top three things to consider

- 1 How much is natural increase (lambling %, calving %) contributing to that production? Can these be improved?
- 2 How much is live weight gain contributing?
- 3 How much is stocking rate contributing?

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module

Q www.beeflambnz.com/data-tools/benchmark-your-farm

- Select your region and farm class

Definitions

1. **Total Net Production:** This is the total of the individual net components identified in the first four dot points of the “data inputs” for sheep, cattle and deer
2. **RMPP’s Net Production calculator:** Uses the following live weight to carcass weight conversion ratios: ewes 39%, all other sheep 44%, cows and R3 heifers 49%, all other cattle/calves 54%, all deer 55%.
3. **Total Net Production per effective hectare:** Total net weights of all animal products produced on-farm for the year divided by Total Effective Grazing Area

LIVE WEIGHT GAIN - LAMB BIRTH TO SLAUGHTER



What is this?

A measure showing lamb growth rates, which is most relevant for farm businesses with a closed system¹, i.e. breeder/finisher.

Why is it important?

Provides information on lamb growth rates, which reflect feed quantity and quality, animal health, genetics and management practices.

Data inputs

- ▶ Average lamb carcass weight (kg)
- ▶ Average lamb weight at birth (kgLW)
- ▶ Time from birth to slaughter (days)

What does this mean?

Lambs grew at an average of 221 grams per day for all lambs sold for the period from birth to slaughter.

How do I compare?

Use the Live Weight Gain KPI calculator available via My Dashboard in your B+LNZ website account to see how you compare with others in your region or go to www.beeflambnz.com/data-tools/benchmark-your-farm and see prime lambs, grams per day.

How can I use this?

- ▶ Baseline for performance
- ▶ Use to set future targets
- ▶ Consider which factors influence this and identify options for improvement

Example

▶ Average lamb carcass weight (kg)	18.0	
divided by	÷	
▶ Dressing out %	44%	
Average live weight (kgLW²)	=	40.9
minus	-	
▶ Average birth weight (kgLW)	4.5	
Average live weight gain (kgLW)	=	36.4
divided by	÷	
▶ Time from birth to slaughter (days)	165	
Average weight gain (kgLW per day)	=	0.221
multiplied by	×	
	1,000	
Average weight gain (grams LW per day)	=	221

How can I improve?

Top three things to consider

- 1 Ewes at BCS³ of 3, and not to have lost weight five weeks out from lambing
- 2 Quantity of quality feed for ewes and lambs
- 3 Quality of feed for weaned lambs



LIVE WEIGHT GAIN - LAMB BIRTH TO SLAUGHTER CONT...



How can I improve? cont...

See the following resources for more information:

Q www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module
- Principles of feeding: From lambing to weaning learning module
- Growing good lambs learning module
- Body Condition Scoring (Sheep) learning module
- Ewe Body Condition Scoring resource book
- Ewe BCS fact sheet
- FeedSmart User Guide
- Growing great lambs resource book
- 400 Plus Guide resource book
- Lactation, lamb growth and the lamb weaning decision fact sheet

Q www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. **Closed system:** Farm business which operates as breeder/finisher
2. **kgLW:** Kilograms of Live Weight
3. **BCS:** Body Condition Score

LIVE WEIGHT GAIN - LAMB OVER FIXED PERIOD OF TIME

What is this?

A KPI showing lamb growth rates if the same animals are weighed at the start and end of the measured period.

Why is it important?

Provides information on lamb growth rates, which reflect feed quantity and quality, animal health, genetics and management practices.

Data inputs

- ▶ Average lamb weight at end of period (kgLW)
- ▶ Average lamb weight at start of period (kgLW)
- ▶ Number of days between start and end of period

What does this mean?

Lambs grew at an average of 200 grams per day over this period.

How do I compare?

Fixed-period weight gains can be compared with previous on-farm or target weight gains.

How can I use this?

- ▶ A tactical tool providing the opportunity to take immediate action to ensure optimal feeding and schedule prices
- ▶ Most effective when the same group of animals is regularly weighed

Example

▶ Average lamb weight at end (kgLW) ¹	31.2	
minus	-	
▶ Average lamb weight at start (kgLW)	27.2	
Average weight gain (kgLW)	=	4.0
divided by	÷	
▶ Number of days between start and end	20	
Average weight gain (kgLW per day)	=	0.200
multiplied by	x	
	1,000	
Average weight gain (grams LW per day)	=	200

How can I improve?

Top three things to consider

- 1 Stocking rate influenced by feed quality and quantity
- 2 Animal health management
- 3 Animal genetics

See the following resources for more information:

www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module
- Principles of feeding: From lambing to weaning learning module
- Growing good lambs learning module
- Body Condition Scoring (Sheep) learning module
- FeedSmart User Guide
- Growing great lambs resource book
- Better Sheep Breeding: Ram buying decisions resource book
- 400 Plus Guide resource book
- Hogget Performance resource book

www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. **kgLW:** Kilograms of Live Weight

LIVE WEIGHT GAIN - CATTLE OVER FIXED PERIOD OF TIME



What is this?

A KPI showing cattle growth rates if the same animals are weighed at the start and end of the measured period.

Why is it important?

Provides information on cattle growth rates which reflects feed quantity and quality, genetics and management practices.

Data inputs

- ▶ Average cattle weight at end of period (kgLW)
- ▶ Average cattle weight at start of period (kgLW)
- ▶ Number of days between start and end of period

What does this mean?

Cattle grew at an average of 0.80kg per day over this period.

How do I compare?

Fixed-period weight gains can be compared with previous on-farm or target weight gains.

How can I use this?

- ▶ A tactical tool providing the opportunity to take immediate action to ensure optimal feeding
- ▶ Most effective when the same group of animals is regularly weighed

Example

▶ Average cattle weight at end (kgLW) ¹	236	
minus	-	
▶ Average cattle weight at start (kgLW)	220	
Average weight gain (kgLW)	=	16
divided by	÷	
▶ Number of days between start and end	20	
Average weight gain (kgLW per day)	=	0.80

How can I improve?

Top three things to consider

- 1 Feed quality and quantity allocated
- 2 Animal health management
- 3 Genetics/age/sex

See the following resources for more information:

www.beeflambnz.com/knowledge-hub

- Measuring progress - KPIs and Benchmarking learning module
- Guide to New Zealand Cattle Farming resource book
- Beef Cow Body Condition Scoring resource book
- Increasing cattle growth rates with chicory (fact sheet)
- Growing cattle fast on pasture (fact sheet)
- Achieving good cattle growth rates while maintaining pasture control (fact sheet)
- FeedSmart User Guide
- Better Beef Breeding: Bull buying for the commercial beef breeder resource book

www.feedsmart.co.nz

- FeedSmart calculator

Definitions

1. **kgLW:** Kilograms of Live Weight

LIVE WEIGHT GAIN - DEER OVER FIXED PERIOD OF TIME

What is this?

A KPI showing deer growth rates if the same animals are weighed at the start and end of the measured period.

Why is it important?

Provides information on deer growth rates, which reflects feed quantity and quality, health status, genetics and management practices and is strongly influenced by day length.

Data inputs

- ▶ Average deer weight at end of period (kgLW)
- ▶ Average deer weight at start of period (kgLW)
- ▶ Number of days between start and end of period

What does this mean?

Deer grew at an average of 250 grams per day over this period.

How do I compare?

Fixed-period weight gains can be compared with previous on-farm or target weight gains.

How can I use this?

Setting targets for live weight gain is important to achieve desired offtake target or mating weights. By tracking live weights regularly, you can tell if your animals are on track to hit key seasonal targets and adjust feeding or intervene if necessary. Regular weighing and using the deer growth curves allows accurate prediction of deer offtake target.

Example

▶ Average deer weight at end (kgLW) ¹	75	
minus	-	
▶ Average deer weight at start (kgLW)	65	
Average weight gain (kgLW)	=	10
divided by	÷	
▶ Number of days between start and end	40	
Average weight gain (kgLW per day)	=	0.250
multiplied by	×	
	1,000	
Average weight gain (grams LW per day)	=	250

How can I improve?

Top three things to consider

- 1 Feed quantity and quality at start
- 2 Stock management including grazing residuals and health management
- 3 Growth rates meet expectation

See the following resources for more information:

 www.deernz.org/deerhub/tools

- Feeding: Venison Growth Curves

 www.deernz.org/deer-facts

- Management for profit: Growing weaners for the spring venison market
- Nutrition: Growing weaners faster with better autumn feeding

Definitions

1. **kgLW:** Kilograms of Live Weight

