



# PRODUCTIVITY & PROFITABILITY

*series*

## Assessing and Managing Business Risk

Presenter: John Francis



To ask questions head to [slido.com](https://www.slido.com) and enter #Dec2023

# Too busy to fix the problem?

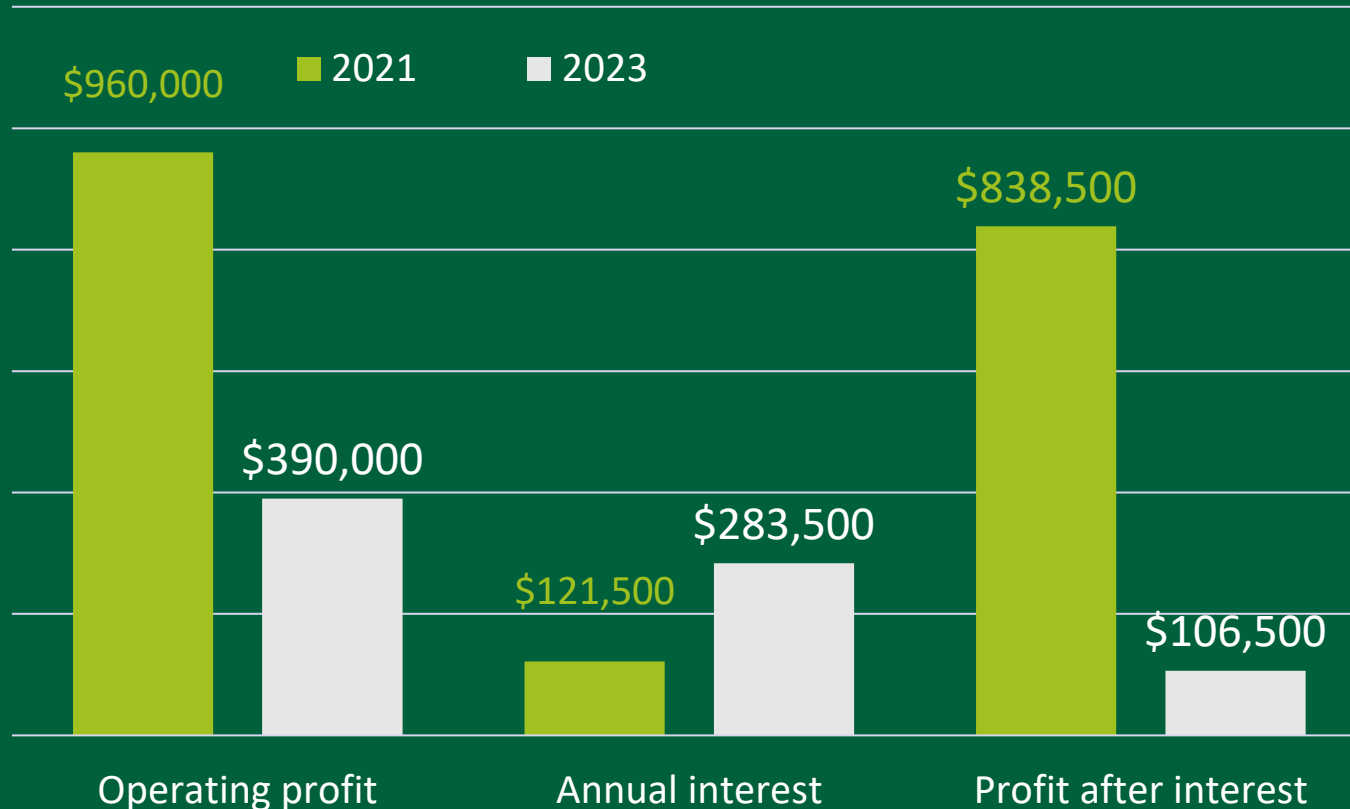


Source: Mark Rober (<https://www.youtube.com/watch?v=hFZFjoX2cGg>)



# Change - strong financial performance

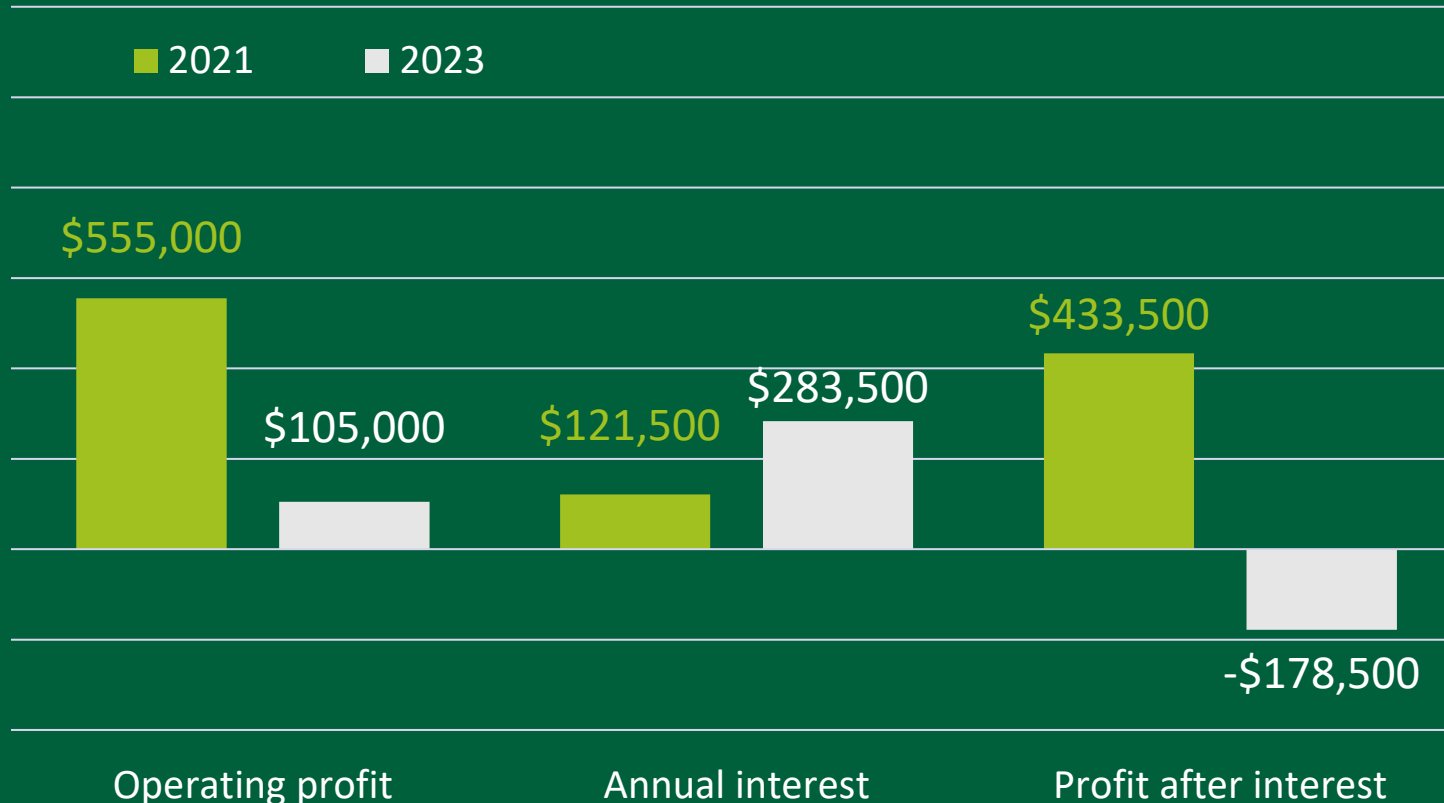
## Scale 15,000 DSE at 80% equity



**\$730,000**  
less cash  
now relative  
to 2021

# Change in a livestock business with moderate financial performance

Scale 15,000 DSE at 80% equity



\$612,000  
less cash  
now relative  
to 2021

0 response submitted

Do you keep an annual record of your cost of production?

Yes

No



Treemap

Bar



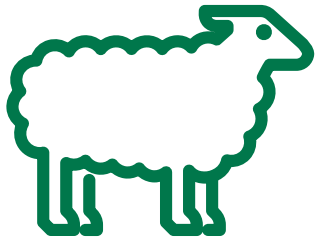
3 of 4



# 2 measures one means



Cost of production



Production



Optimise feed utilisation

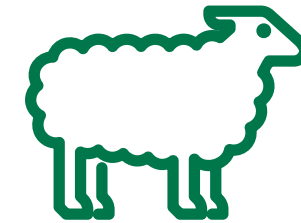
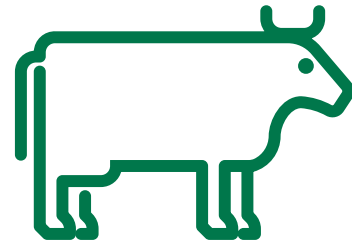


# What are the targets?



Beef breeding

Prime lamb



## Production targets depend on the

Targets for >500mm rainfall - majority improved pasture base

<\$1.50/kg lwt

<\$4.50/kg cwt



# Engineering a low-cost beef production system



Production (kg lwt/ha/100mm)	45	⇐ Target
Rainfall (mm)	630	6.3 x 100mm increments
Production (kg lwt/ha)	284	
Production (kg lwt/DSE)	21	⇐ Production system
Stocking rate (DSE/ha)	13.5	Output of target production
Cost of production (\$/kg lwt)	\$1.50	⇐ Target
Operating cost (\$/DSE)	\$31.50	
Overhead cost (% operating cost)	80%	⇐ Production system
Overhead costs (\$/DSE)	\$25.20	
Enterprise costs (\$/DSE)	\$6.30	





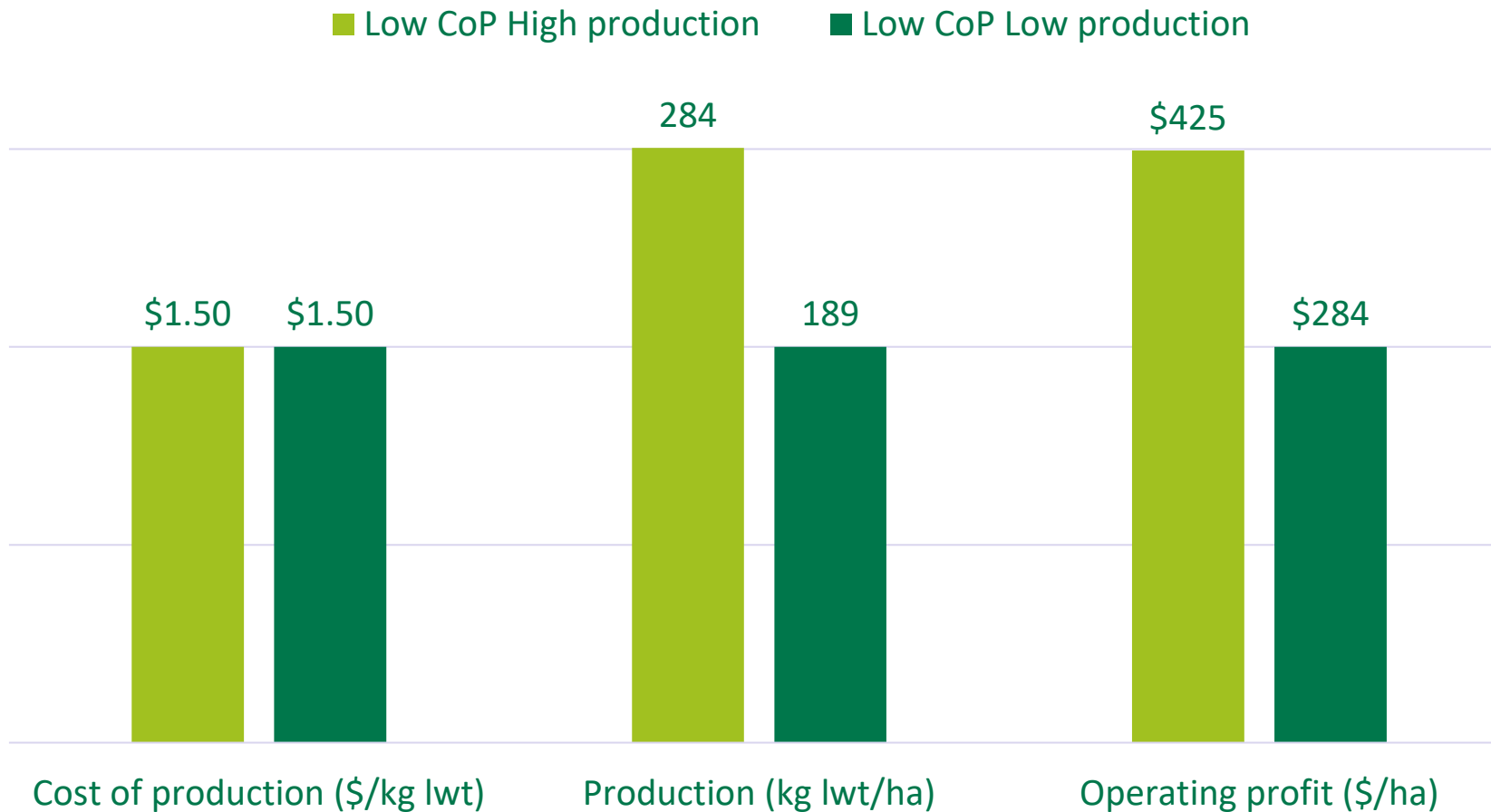
# Engineering a low-cost lamb production system



Ewes joined/ha/100mm	1	⇐ Production target
Rainfall (mm)	630	= 6.3 x 100mm increments
Ewes joined/ha	6.3	
DSE/ewe joined	2.5	⇐ Production system
Stocking rate (DSE/ha)	15.75	Output of target production
Production (kg cwt/DSE)	11	⇐ Production system
Production (kg cwt/ha)	173	
Production (kg cwt/ha/100mm)	27.5	Approx half beef target
Cost of production (\$/kg lwt)	\$4.50	⇐ Target
Operating cost per DSE	\$51.03	97% income lamb 3% wool
Sheep trading loss (\$/DSE)	\$10.00	Rams & ewe depreciation
Operating cost (\$/DSE)	\$41.03	

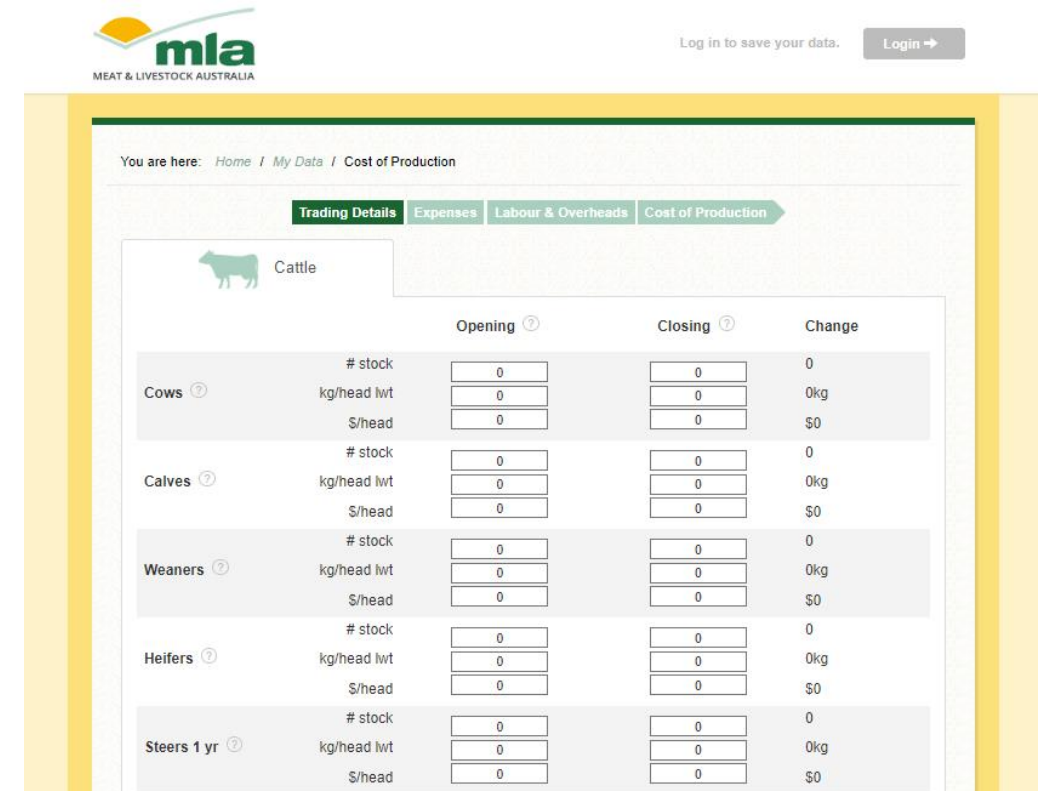


# Getting it half right doesn't pay



# How do I calculate production?

- Livestock inventory
- Livestock sales & purchases
- Livestock trading schedule

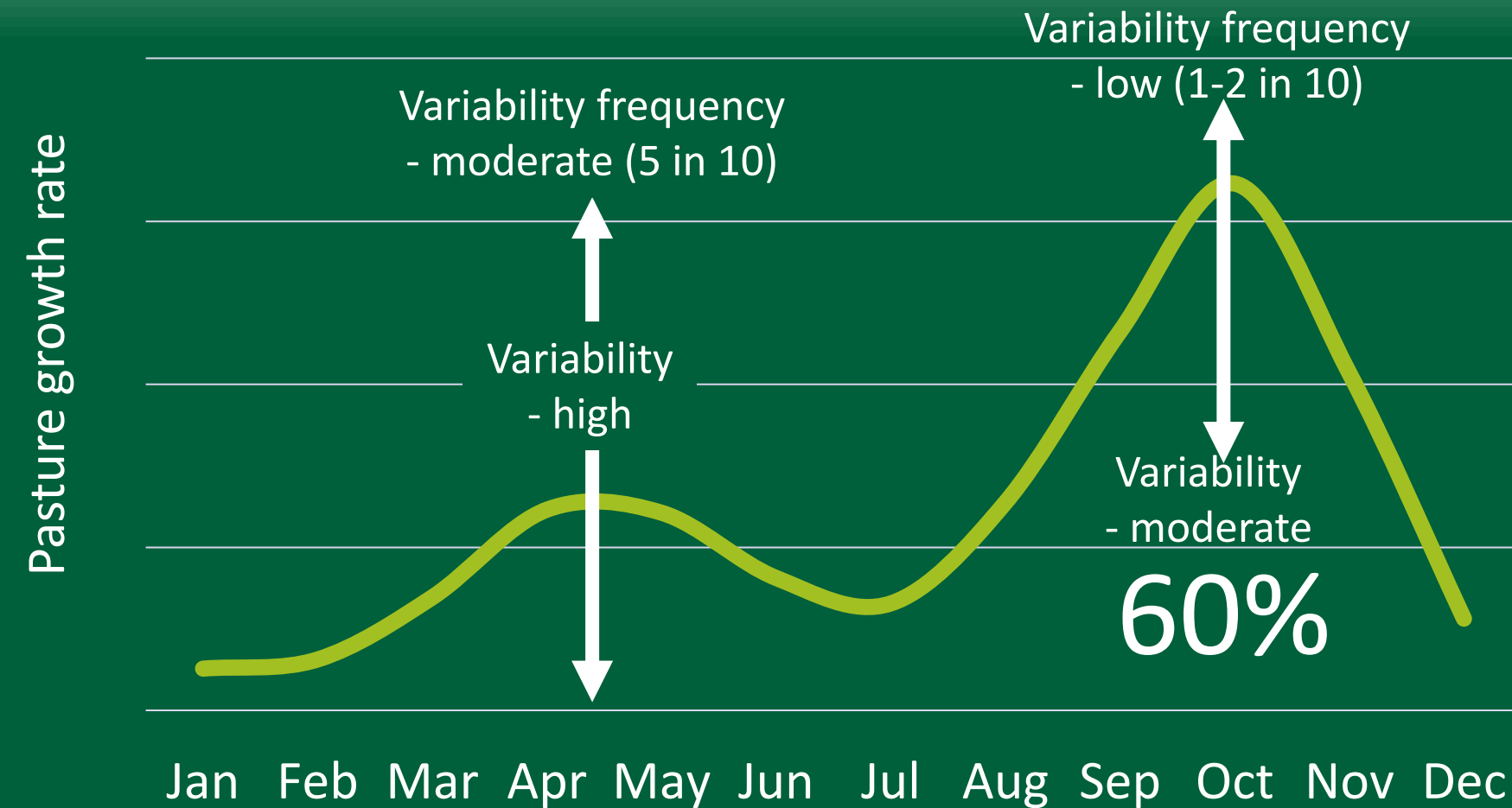


The screenshot shows the 'Cost of Production' tool interface for Cattle. It includes a breadcrumb trail 'Home / My Data / Cost of Production' and a navigation bar with tabs for 'Trading Details', 'Expenses', 'Labour & Overheads', and 'Cost of Production'. The main table displays data for various cattle categories: Cows, Calves, Weaners, Heifers, and Steers 1 yr. Each category has three rows for '# stock', 'kg/head lwt', and '\$/head', with columns for 'Opening', 'Closing', and 'Change'. All values are currently set to 0.

		Opening	Closing	Change
Cows	# stock	0	0	0
	kg/head lwt	0	0	0kg
	\$/head	0	0	\$0
Calves	# stock	0	0	0
	kg/head lwt	0	0	0kg
	\$/head	0	0	\$0
Weaners	# stock	0	0	0
	kg/head lwt	0	0	0kg
	\$/head	0	0	\$0
Heifers	# stock	0	0	0
	kg/head lwt	0	0	0kg
	\$/head	0	0	\$0
Steers 1 yr	# stock	0	0	0
	kg/head lwt	0	0	0kg
	\$/head	0	0	\$0

<https://tools.mla.com.au/>

# System design considerations to drive a low cost of production



# What are the tools?

## <https://etools.mla.com.au/hub/>



### CALCULATOR

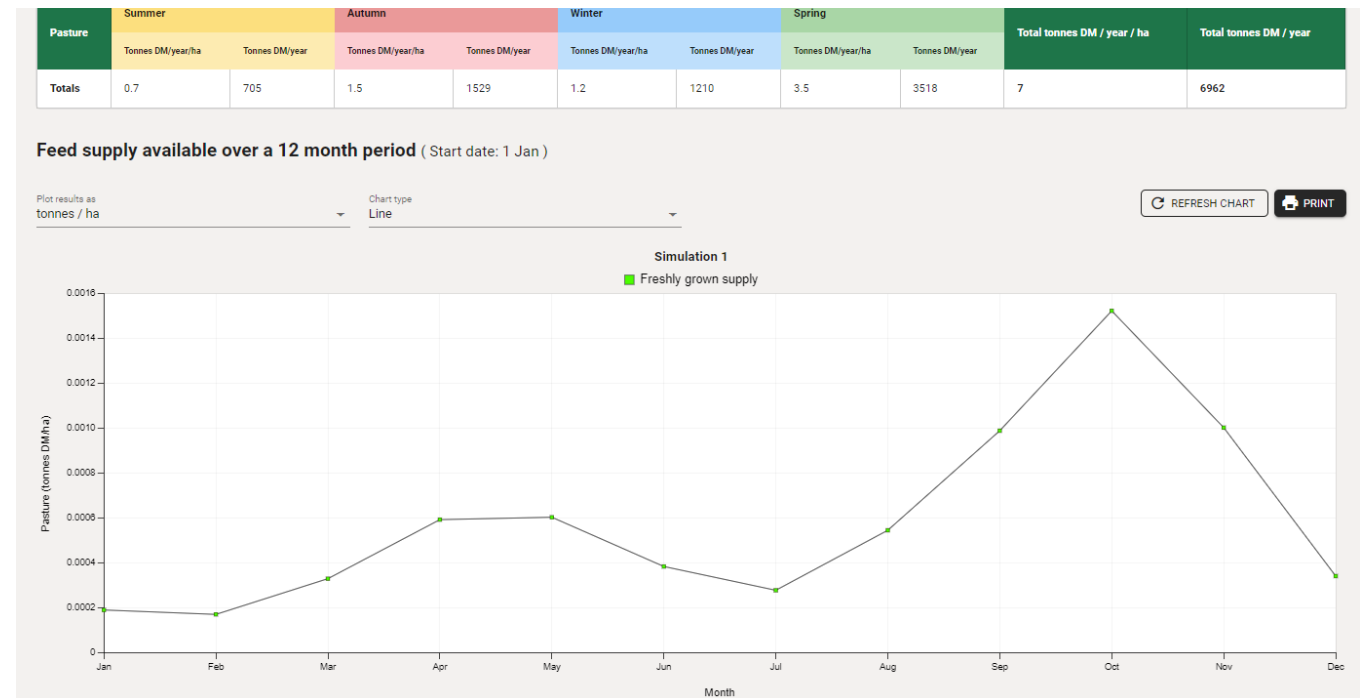
Select pasture types and the area (hectares) of each type that is available in each month

Month	Productivity class	Area (ha)	DM yield (tonnes/ha)	DM yield (tonnes)
Jan	High	7	8.5	59.5
	Low	40	8.2	328
Feb	High	18	8.8	158.4
	Low	25	8	200
Mar	High	15	8.9	133.5
	Low	50	7.9	395
Apr	High	11	10.2	112.2
	Low	22	7.7	169.4
May	High	15	10.5	157.5
	Low	18	7.5	135
Jun	High	12	11.3	135.6
	Low	0	7	0
Jul	High	12	11.8	141.6
	Low	0	6.7	0

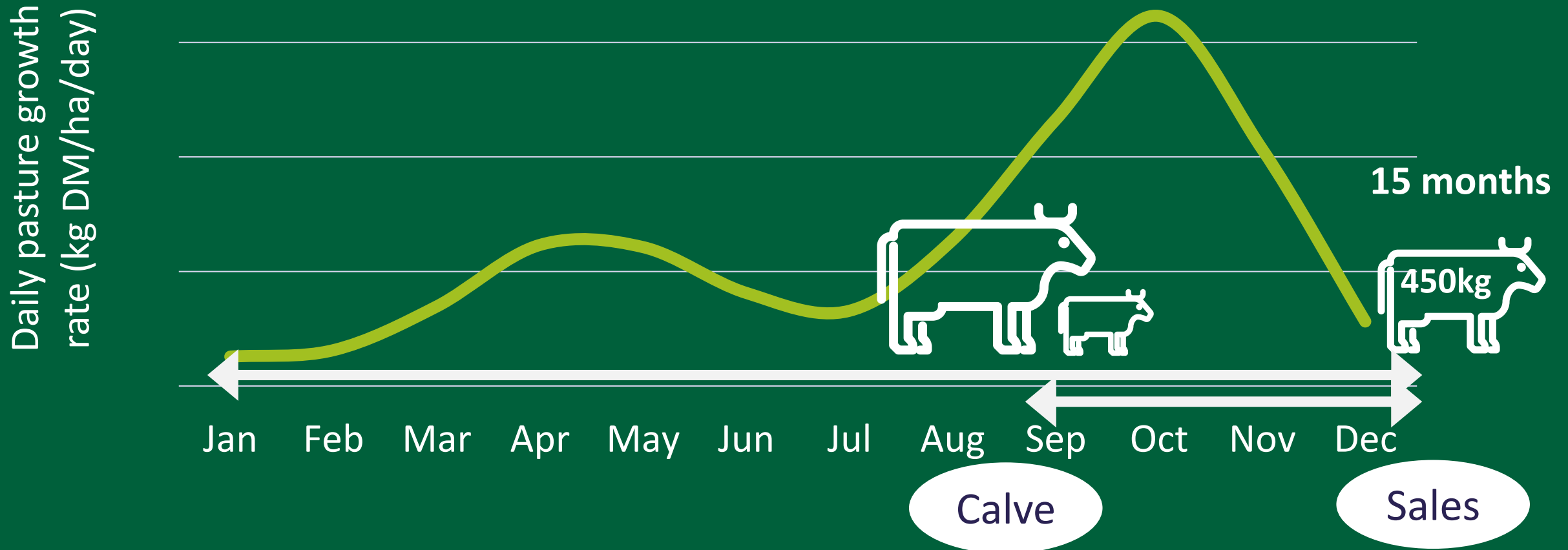
**Under maintenance**

### Feed demand calculator

This calculator allows producers to gain an appreciation of the pattern of feed supply and demand over a twelve-month period, the location of "feed gaps" and the ways in which modifying the livestock enterprise might help to close these gaps.



# Beef system design to deliver >50% feed utilisation



# Prime lamb system design to deliver

## >50% feed utilisation

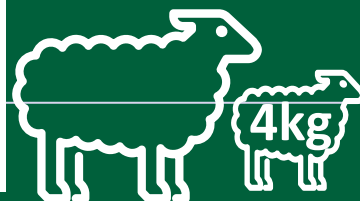


**Why not carry lambs over this period?**

High cost of carry

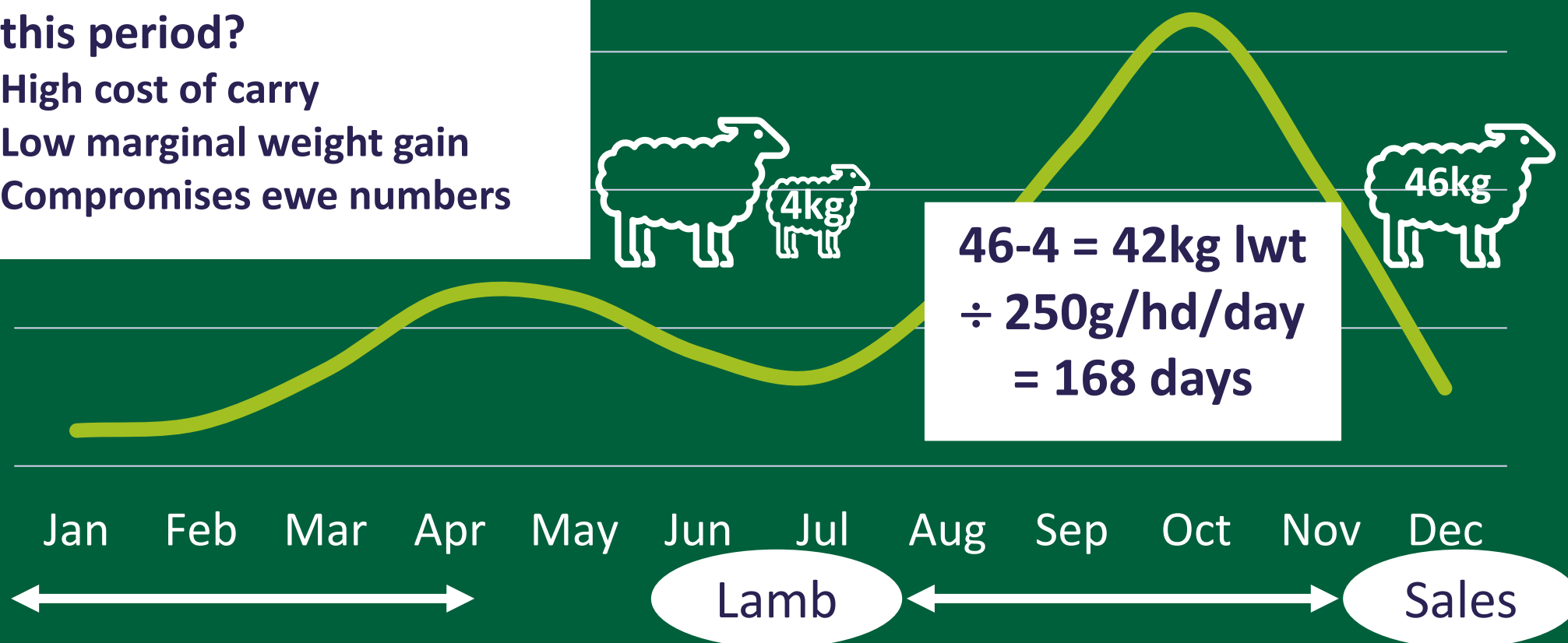
Low marginal weight gain

Compromises ewe numbers



$$46 - 4 = 42\text{kg lwt}$$
$$\div 250\text{g/hd/day}$$
$$= 168\text{ days}$$

Daily pasture growth rate (kg DM/ha/day)



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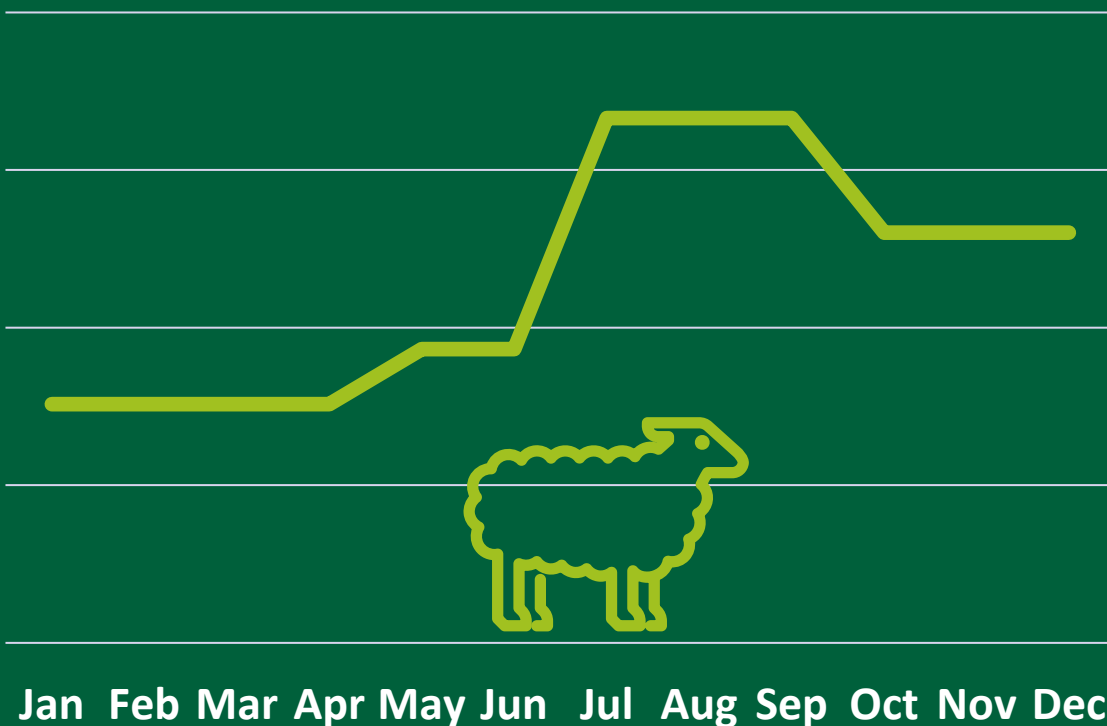
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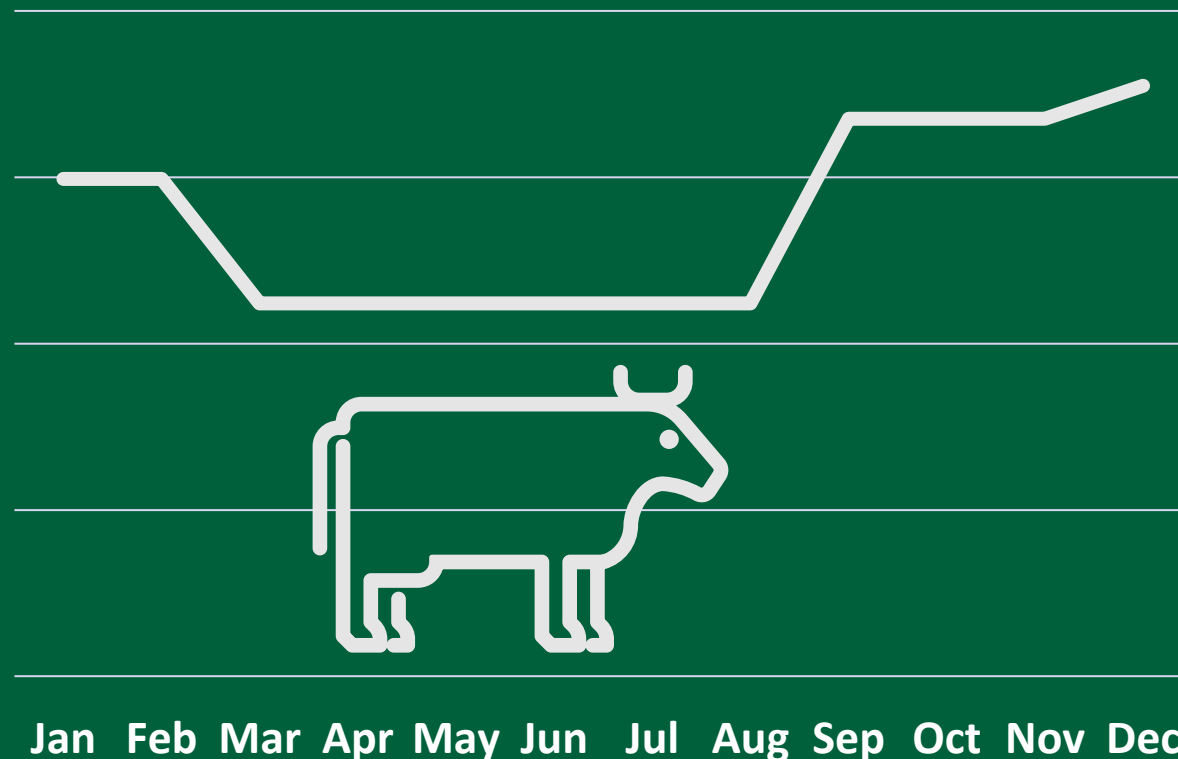
# What do low-cost systems look like?



## Lamb system – feed demand curve



## Beef system – feed demand curve



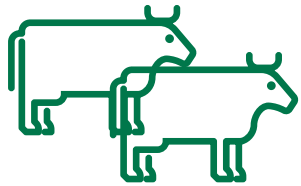
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# Outputs of high feed utilisation

## High feed utilisation



Greater stocking intensity



More production/unit area



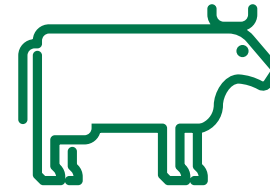
Better labour efficiency



CoP

Lower cost of production

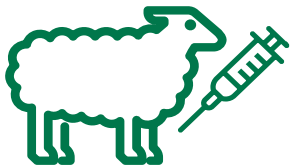
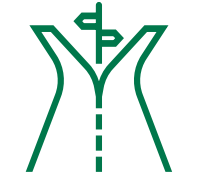
## Low feed utilisation



CoP

# Attributes for success

Skilled decision maker



# High feed

# utilisation is not for <sup>nce</sup>

# everyone

understanding compromise – or feeling uncomfortable



# But

## Can you afford production discretion?



Cows plus followers	469
Equity	75%
Asset value	\$15,736,301
<del>Profit after interest</del>	<del>\$199,358</del>
Profit after interest	-\$110,317
Profit after interest	\$155,128
Production (kg lwt/ha)	187
Cost of production (\$/kg lwt)	\$2.21

+15% price  
from a low  
pricing  
base



# Steps to get back on track

- Engineer the production & cost targets
- Design a system that delivers
- Conduct a partial budget (existing vs potential)
- Assess capital requirements/perceived risk/skills required
- Calculate production & cost of production annually

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# Tools and resources



## Feed demand calculator



HOME INSTRUCTIONS PASTURE LIVESTOCK FEED ETOOLS

## Business EDGE Workshop



To suggest future topics scan here:



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