

## Financials

Account	2025/26 Actuals July	2025/26 Budget July	2025/26 Actuals August	2025/26 Budget August	2025/26 Actuals September	2025/26 Budget September	2025/26 Year To date Actuals	2025/26 Year To date Budget	2025/26 Full Year Budget	2025/26 Full Year Budget/YTD Actual Variance
<b>Income</b>										
1149101170. Rylington Park Income - Other Revenue	0		0		0		0	0		0
1149104113. Rylington Park Operating Grant Income - Operating Grants -	0		0		0		0	0		0
1149105200. Rylington Stock Program Income - Sheep Sales Income	(32,484)	0	0	0	0		(32,484)	0	(195,500)	163,016
1149105201. Rylington Stock Program Income - Wool Sales Income	(4,497)	0	0	0	(10,558)	(25,000)	(15,054)	(25,000)	(148,900)	133,846
1149106223. Rylington Cropping Program Income - Rebate Income	0		0		0		0	0	(3,024)	3,024
1149106224. Rylington Cropping Program Income - Fuel Tax Credit Income	0		0		0		0	0	(4,650)	4,650
1149106225. Rylington Cropping Program Income - Barley	0		0		0		0	0	(48,000)	48,000
1149106226. Rylington Cropping Program Income - Canola	0		0		0		0	0	(134,000)	134,000
1149106227. Rylington Cropping Program Income - Oats	0		0		0		0	0	(36,000)	36,000
1149107220. Rylington Education Program Income - Shearing School Income	0		0		(5,419)	(4,000)	(5,419)	(4,000)	(16,000)	10,581
1149108221. Rylington Events Income - Grants/Sponsorship income	0		0		(3,000)		(3,000)	0	0	(3,000)
1149108225. Rylington Events Income - Accommodation/Catering Income	0		(455)		0		(455)	0	0	(455)
1149108230. Rylington Events Income - Event Income - Field Days	0		(664)		0		(664)	0	(500)	(164)
1149108231. Rylington Events Income - Event Income - Ladies Day	0		0		0		0	0	(19,060)	19,060
<b>Total Income</b>	<b>(36,981)</b>	<b>0</b>	<b>(1,118)</b>	<b>0</b>	<b>(18,977)</b>	<b>(29,000)</b>	<b>(57,076)</b>	<b>(29,000)</b>	<b>(605,634)</b>	<b>548,558</b>

\*Report Contains Filters

<b>Expense</b>									
1149001300. Rylington Park Operational Expenses - Wages and Salaries	11,424	8,250	6,706	8,250	6,603	8,250	24,733	24,750	99,000 (74,267)
1149001301. Rylington Park Operational Expenses - Superannuation	1,171	990	797	990	788	990	2,756	2,970	11,880 (9,124)
1149001302. Rylington Park Operational Expenses - Training	0		0		0		0	0	0
1149001303. Rylington Park Operational Expenses - Employee Costs	0	150	0	150	0	150	0	450	1,800 (1,800)
1149001304. Rylington Park Operational Expenses - Annual Leave Accruals	0		0		0		0	0	0
1149001305. Rylington Park Operational Expenses - Long Service Leave Ac	0		0		0		0	0	0
1149001320. Rylington Park Operational Expenses - Materials	0	1,500	264		0	1,500	264	3,000	5,000 (4,736)
1149001321. Rylington Park Operational Expenses - Services	1,610		227		3,664		5,501	0	2,500 3,001
1149001340. Rylington Park Operational Expenses - Telephone	0	1,000	0	170	0	170	0	1,340	2,870 (2,870)
1149001341. Rylington Park Operational Expenses - Electricity Expenses	0	1,000	0	2,000	408		408	3,000	13,000 (12,592)
1149001343. Rylington Park Operational Expenses - Shire Rates	0		0	8,100	0		0	8,100	8,100 (8,100)
1149001344. Rylington Park Operational Expenses - Rubbish Service Charg	0	120	0	120	0	120	0	360	1,440 (1,440)
1149001345. Rylington Park Operational Expenses - ESL Charge	0		0		0		0	0	0
1149001346. Rylington Park Operational Expenses - Gas Expenses	0		0		0	500	0	500	500 (500)
1149001350. Rylington Park Operational Expenses - Insurance Costs	0	9,018	0		0		0	9,018	21,095 (21,095)
1149001356. Rylington Park Operational Expenses - Insurance Workers Com	0		0		(1,272)		(1,272)	0	(1,272)
1149001370. Rylington Park Operational Expenses - Hire	0		0		16	1,000	16	1,000	4,000 (3,984)
1149001500. Rylington Park Operational Expenses - Labour On Costs	0		0		0		0	0	0
1149001600. Rylington Park Operational Expenses - Plant Recovery	42		0		0		42	0	42
1149001750. Rylington Park Operational Expenses - Repairs & Maintenance	0	1,750	0	8,750	0		0	10,500	38,000 (38,000)
1149001769. Rylington Park Operational Expenses - Stationery	0		0		0		0	0	900 (900)
1149002330. Rylington Park Asset Depreciation - Depreciation - Building	0		0		0		0	0	0
1149002333. Rylington Park Asset Depreciation - Depreciation - Furnitur	0		0		0		0	0	0

\*Report Contains Filters

1149002334. Rylington Park Asset									
Depreciation - Depreciation - Other In	0		0		0		0	0	0
1149002336. Rylington Park Asset									
Depreciation - Depreciation - Plant &	0		0		0		0	0	0
1149003371. Rylington Prk - Loss on Fair									
Value change in Biological Asse	0		0		0		0	0	0
1149005300. Rylington Stock Program									
Expenses - Wages and Salaries	0		0		0		0	0	0
1149005303. Rylington Stock Program									
Expenses - Employee Costs	0		0		0		0	0	0
1149005350. Rylington Stock Program									
Expenses - Insurance Costs	0		0		0		0	0	0
1149005500. Rylington Stock Program									
Expenses - Labour On Costs	0		0		0		0	0	0
1149005710. Rylington Stock Program									
Expenses - Contractor - Crutching &	1,654	0	3,042	7,500	5,537	3,000	10,233	10,500	15,500 (5,267)
1149005717. Rylington Stock Program									
Expenses - Contractor - Shearing	1,200		0		0		1,200	0	13,000 (11,800)
1149005733. Rylington Stock Program									
Expenses - Fodder Expenses	0		0		0		0	0	20,000 (20,000)
1149005735. Rylington Stock Program									
Expenses - Freight & Cartage Expens	715	750	0	1,500	120		835	2,250	11,000 (10,165)
1149005737. Rylington Stock Program									
Expenses - Fuel and Oil Expenses	0		0		0		0	0	0
1149005750. Rylington Stock Program									
Expenses - Repairs & Maintenance -	0		0		0		0	0	0
1149005752. Rylington Stock Program									
Expenses - Repairs & Maintenance -	0		0		0		0	0	0
1149005753. Rylington Stock Program									
Expenses - Repairs & Maintenance -	0		0		0		0	0	0
1149005756. Rylington Stock Program									
Expenses - Repairs & Maintenance -	0		0		0		0	0	0
1149005758. Rylington Stock Program									
Expenses - Repairs & Maintenance -			0		0		0	0	0
1149005776. Rylington Stock Program									
Expenses - Selling Expenses - Stock	0		0		2,288		2,288	0	9,500 (7,212)
1149005777. Rylington Stock Program									
Expenses - Selling Expenses - Wool	0	1,038	0		463		463	1,038	9,388 (8,926)
1149005782. Rylington Stock Program									
Expenses - Sprays/Chemical Expenses	2,035		0		0		2,035	0	2,035
1149005788. Rylington Stock Program									
Expenses - Stock Purchase Expenses	0		0		0		0	0	15,000 (15,000)
1149005790. Rylington Stock Program									
Expenses - Stock Requisites (Drench	0	2,200	8,507		0	600	8,507	2,800	14,650 (6,143)
1149005791. Rylington Stock Program									
Expenses - Subscription Expenses		50	0	50	0	50	0	150	1,700 (1,700)

\*Report Contains Filters

1149005795. Rylington Stock Program									
Expenses - Wool Shed Requisite Expe	0		0		0		0	5,370	(5,370)
1149005796. Rylington Stock Program									
Expenses - Working Dog Expenses	0	200	154		0	200	154	400	1,200
1149006300. Rylington Cropping Program									
Expenses - Wages and Salaries	0		0		0		0	0	0
1149006303. Rylington Cropping Program									
Expenses - Employee Costs	0		0		0		0	0	0
1149006350. Rylington Cropping Program									
Expenses - Insurance Costs	0		0		0		0	0	0
1149006712. Rylington Cropping Program									
Expenses - Contractor - Harvesti	0		0		0		0	14,000	(14,000)
1149006713. Rylington Cropping Program									
Expenses - Contractor - Hay Bail	0		0		0		0	13,000	(13,000)
1149006715. Rylington Cropping Program									
Expenses - Contractor - Paddock	0		0		0		0	4,000	(4,000)
1149006719. Rylington Cropping Program									
Expenses - Contractor - Spraying	1,680		0		0		1,680	0	2,000
1149006720. Rylington Cropping Program									
Expenses - Contractor - Seeding	0		0		0		0	10,000	(10,000)
1149006731. Rylington Cropping Program									
Expenses - Fertiliser Expenses & Spread	0	1,600	0	18,000	8,674		8,674	19,600	76,600
1149006735. Rylington Cropping Program									
Expenses - Freight & Cartage Exp	894	750	0		0		894	750	20,950
1149006737. Rylington Cropping Program									
Expenses - Fuel and Oil Expenses	0		2,019	4,200	0		2,019	4,200	20,400
1149006742. Rylington Cropping Program									
Expenses - Licence & Permit Expe	0		0		0		0	0	2,500
1149006748. Rylington Cropping Program									
Expenses - Protective Clothing E	0	500	0	500	0	500	0	1,500	6,000
1149006750. Rylington Cropping Program									
Expenses - Repairs & Maintenance	0		4,009	4,000	0		4,009	4,000	4,009
1149006756. Rylington Cropping Program									
Expenses - Repairs & Maintenance	0		0		725		725	0	725
1149006758. Rylington Cropping Program									
Expenses - Repairs & Maintenance	673		0		490		1,163	0	1,163
1149006773. Rylington Cropping Program									
Expenses - Seed & Cleaning	0		0		0		0	0	20,200
1149006775. Rylington Cropping Program									
Expenses - Selling Expenses - Gr	0		0		0		0	0	7,500
1149006780. Rylington Cropping Program									
Expenses - Soil/Plant Testing Ex	0		0		0		0	0	1,000
1149006782. Rylington Cropping Program									
Expenses - Sprays/Chemical Expen	611	5,000	0	3,600	2,088		2,699	8,600	28,225
1149006791. Rylington Cropping Program									
Expenses - Subscription Expenses	200		0		0		200	0	200

\*Report Contains Filters

1149007300. Rylington Education Program Expenses - Wages and Salaries	0		121		0		121	0		121
1149007303. Rylington Education Program Expenses - Employee Costs	0		0		0		0	0		0
1149007350. Rylington Education Program Expenses - Insurance Costs	0		0		0		0	0		0
1149007705. Rylington Education Program Expenses - Catering Expense	0		0		510		510	0	16,000	(15,490)
1149007708. Rylington Education Program Expenses - Contractor - Cleanin	0		0		0		0	0	600	(600)
1149007714. Rylington Education Program Expenses - Contractors - Instru	0		0		0		0	0		0
1149007720. Rylington Education Program Expenses - Donation Expenses	0		0		0		0	0	1,100	(1,100)
1149007750. Rylington Education Program Expenses - Repairs & Maintenanc	0		0		0		0	0		0
1149007765. Rylington Education Program Expenses - Scholarships/Trainin	0		0		0		0	0	4,500	(4,500)
1149008300. Rylington Events Expenses - Wages and Salaries	0		1,714		1,662		3,376	0		3,376
1149008303. Rylington Events Expenses - Employee Costs	0		0		0		0	0		0
1149008346. Rylington Events Expenses - Gas Expenses	0		0		0		0	0		0
1149008350. Rylington Events Expenses - Insurance Costs	0		0		0		0	0		0
1149008500. Rylington Events Expenses - Labour On Costs	0		0		0		0	0		0
1149008600. Rylington Events Expenses - Plant Recovery	0		0		248		248	0		248
1149008705. Rylington Events Expenses - Catering Expense	0		0		0		0	0		0
1149008718. Rylington Events Expenses - Contractor - Professional Speak	0		0		0		0	0		0
1149008723. Rylington Events Expenses - Event - Field Day Expenses	0		7		3,792		3,799	0	4,500	(701)
1149008725. Rylington Events Expenses - Event - Ladies Day Expenses	0		0		0		0	0	18,600	(18,600)
1149008750. Rylington Events Expenses - Repairs & Maintenance - Buildin	0		0		0		0	0		0
1149500320. Rylington Park - Other Infrastructure - Tanks - Materials	0		0		0		0	0		0
1149500321. Rylington Park - Other Infrastructure - Tanks - Services	0		0		0		0	0		0
1149501300. Rylington Park Chemical Shed Capital - Wages and Salaries	0		0		0		0	0		0

\*Report Contains Filters

1149501320. Rylington Park Chemical Shed Capital - Materials	0		0		0		0	0		0
1149502320. Rylington Park Plant & Equipment - Materials	0		0		0		0	0		0
1149503300. Rylington Park House Capital - Wages and Salaries	0		0		0		0	0		0
1149503320. Rylington Park House Capital - Plant	0		0		0	5,100	0	5,100	5,100	(5,100)
1149503321. Rylington Park House Capital - Services	0		0		0		0	0		0
1149503500. Rylington Park House Capital - Labour On Costs	0		0		0		0	0		0
1149503600. Rylington Park House Capital - Plant Recovery	0		0		0		0	0		0
1149504320. Rylington Park Furniture & Equipment - Materials	0		0		0		0	0		0
<b>Total Expense</b>	<b>23,908</b>	<b>35,866</b>	<b>27,568</b>	<b>67,880</b>	<b>36,804</b>	<b>22,130</b>	<b>88,280</b>	<b>125,876</b>	<b>603,168</b>	<b>(514,888)</b>
<b>Grand Total</b>	<b>(13,072)</b>	<b>35,866</b>	<b>26,450</b>	<b>67,880</b>	<b>17,827</b>	<b>(6,870)</b>	<b>31,204</b>	<b>96,876</b>	<b>(2,466)</b>	<b>33,670</b>

Summary of Income & Expenses for each area

	YTD Sept Actuals			YTD Sept Budget Items			Variance to Budget YTD
	Income	Expense	Net Position	Income	Expense	Net Position	
<b>Cropping Program</b>	0	22,063	22,063	0	38,650	38,650	(16,587)
<b>Stock Program</b>	(47,538)	25,715	(21,824)	(25,000)	17,138	(7,862)	(13,962)
<b>Events Program</b>	(664)	7,423	6,760	0	0	0	6,760
<b>Education Program</b>	(5,419)	631	(4,788)	(4,000)	0	(4,000)	(788)
<b>Rylington Park Operational Items</b>	(3,455)	32,447	28,993	0	70,088	70,088	(41,095)
	<b>-57075.91</b>	<b>88279.97</b>	<b>31,204</b>	<b>(29,000)</b>	<b>125,876</b>	<b>96,876</b>	<b>(65,672)</b>

\*Report Contains Filters

**NUTRIEN WOOL**

South West Wool Centre  
U1/13 Rose St  
Bridgetown

3345 17/9/25

**Nutrien**  
Wool

**Attachment 7.1.2A**

ABN: 73 008 743 217 GST REG: Yes

**WOOL ACCOUNT SALES**

RECIPIENT CREATED TAX INVOICE/TAX INVOICE

SHIRE OF BOYUP BROOK  
PO 2  
BOYUP BROOK WA 6244

Invoice no : SW1085 Page : 1  
Account no : S26327 Date : 11/09/2025  
Consignment :  
Your ABN no : 95 583 688 034  
Brand :  
Bank details :

Our ref	Lot no	Bale No	Description	Gross Kg	Net Kg	Price (c/kg)	Gross \$ Amount
SW1347	SW1347	BG/BT	M PCS 50-70MM	50	50	450	225.00
SW1348	SW1348	BG/BT	M PCS	116	116	550	638.00
SW1349	SW1349	BG/BT	M SHK	30	30	240	72.00
SW1350	SW1350	BG/BT	STN M CRT	45	45	240	108.00
SW1351	SW1351	BG/BT	M COL/COT	79	79	720	568.80
SW1352	SW1352	BG/BT	AAAM	960	960	820	7,872.00
SW1353	SW1353	BG/BT	AAAM 70MM	20	20	700	140.00
SW1354	SW1354	BG/BT	M BLS	5	5	380	19.00
SW1355	SW1355	BG/BT	M W COL/DMO	13	13	640	83.20
SW1356	SW1356	BG/BT	M JWL	18	18	350	63.00
SW1357	SW1357	BG/BT	M PRM COL	72	72	650	468.00
SW1358	SW1358	BG/BT	FX L PCS	3	3	150	4.50
SW1359	SW1359	BG/BT	AAAFX LMS	25	25	300	75.00
SW1360	SW1360	BG/BT	AAAFX	8	8	350	28.00
SW1361	SW1361	BG/BT	M SKIN	18	18	250	45.00
SW1362	SW1362	BG/BT	STN M PCS	53	53	280	148.40
<b>Totals</b>		16.		1,515	1,515		10,557.90

\$

**Proceeds**

Add 10.0% GST on proceeds

**Gross Proceeds**

**Summary of charges**

AFFA Levy 1.5%

10,557.90

1,055.79

11,613.69

\$

- 158.37

1149105201

1149005777

B

E

# NUTRIEN WOOL

South West Wool Centre  
U1/13 Rose St  
Bridgetown

**Nutrien**  
Wool

ABN: 73 008 743 217 GST REG: Yes

## WOOL ACCOUNT SALES

RECIPIENT CREATED TAX INVOICE/TAX INVOICE

SHIRE OF BOYUP BROOK  
PO 2  
BOYUP BROOK WA 6244

Invoice no : SW1085 Page : 2  
Account no : S26327 Date : 11/09/2025  
Consignment :  
Your ABN no : 95 583 688 034  
Brand :  
Bank details :

### Total charges

158.37

GST Output \$1,055.79  
Net Proceeds excluding GST \$10,399.53

Net Proceeds for this Account Sale

11,455.32

### Payment details

TO BE PAID VIA EFT: \$11,455.32  
Total \$11,455.32

The seller agrees to the buyer preparing a RCTI (Recipient Created Tax Invoice) for the above purchase.

All cheques must be presented for payment within 3 months of issue. Any unpresented cheques which require replacement will incur a \$50.00 administration fee.

Address Line 1: \_\_\_\_\_  
Address Line 2: \_\_\_\_\_  
Suburb: \_\_\_\_\_ State: \_\_\_\_\_  
Post Code: \_\_\_\_\_

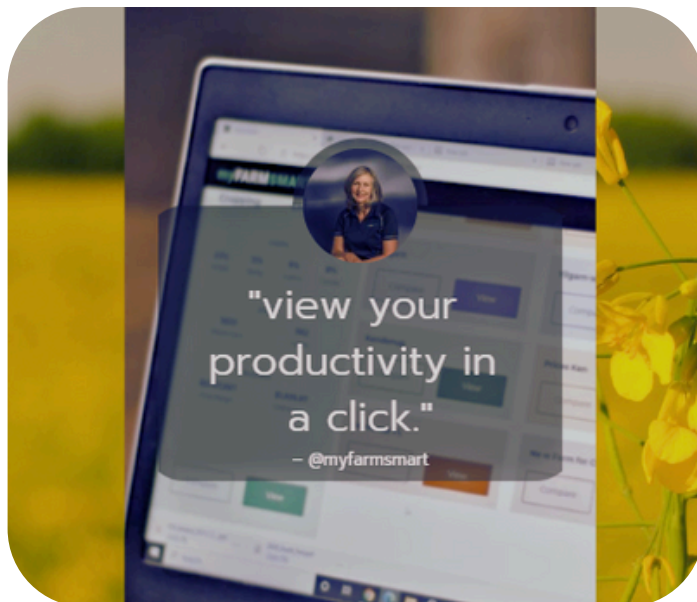
Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

# Request for Quote

Rylington Park

Farm Business Analysis

Prepared for the Shire of Boyup Brook



# Project Brief

## Farming Systems Analysis for Rylington Farm

### Business Analysis and Scenario Comparison for Rylington Park

#### Introduction

Rylington Park Institute for Agricultural Training and Research is a 650-hectare property located in Mayanup, 27 km from Boyup Brook, managed by the Shire of Boyup Brook. Gifted by the late Mr Eric Farleigh in 1985 for agricultural research, training, and the advancement of the Boyup Brook community, the property continues to serve as a hub for innovation, education, and commercial farming.

Under the management of Peter Grainger, Rylington Park operates as a commercial broadacre cropping and sheep enterprise while also delivering important training programs, such as shearing schools and hosting fertiliser and seed trials.

The property plays an important role in the agricultural community, holding several field days annually, including the highly regarded Annual Field Day in September. Rylington Park maintains a 20-year Memorandum of Understanding (MOU) with Edith Cowan University (ECU), providing opportunities for collaborative agricultural and regional development research. Research outcomes are intended to be shared broadly with local farmers and businesses, enhancing regional capability and resilience.

#### Purpose of the Project

The Shire of Boyup Brook and Rylington Park seek to investigate the optimal production system for the size of the operation and its regional context. This analysis will support evidence-based decision-making, improve enterprise performance, and identify strategies for long-term resilience.

The proposed approach is to use myFARMSMART, a software program which enables three-year projections and scenario planning.



# Scope of work

## Deliverables

### Farm Business Overview and Analysis – 2025

Objective: Provide a detailed snapshot of the business for the current production year.

Inclusions:

1. Enterprise performance, Gross Margin Analysis, Breakeven indicators
  2. Financial indicators (profitability, cash flow, debt servicing, equity position).
  3. Key resource use (land, water, labour, capital efficiency).
  4. Identification of strengths, bottlenecks, and opportunities.
- .....

## Scenario Planning and Forecasting

Approach: Use myFARMSMART to model multiple possible futures, stress-test strategies, and assess risk.

Scenarios:

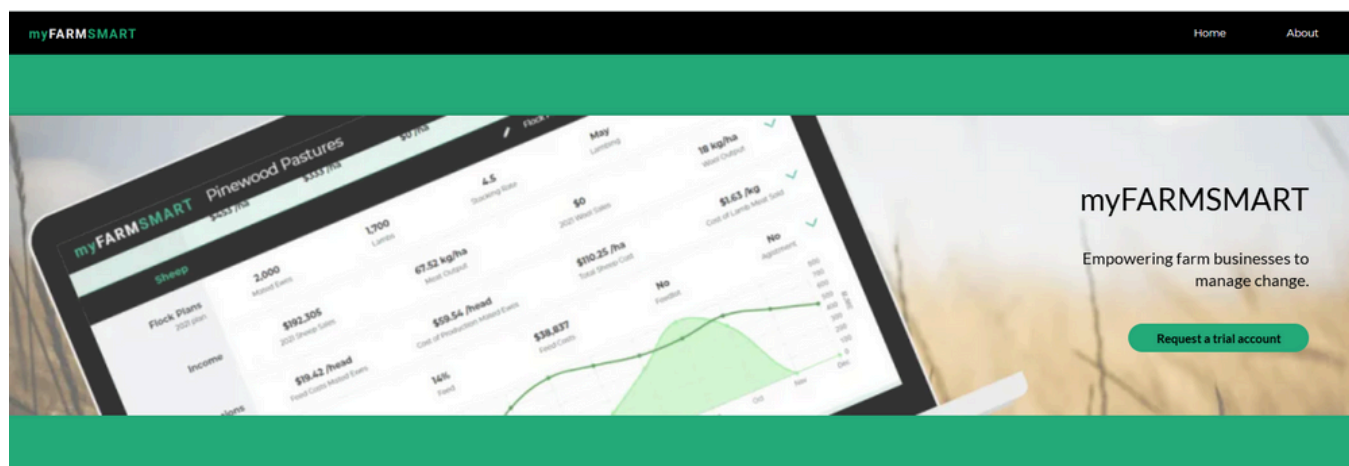
- Climate-adjusted feed availability
- Variability in rainfall and pasture growth.
- Feed budgeting impacts.

Market and stocking strategies

- Adjustments in stocking rates, lambing timing, and market channel choices.
- Dollar per hectare profitability comparisons.
- Risk and resilience considerations
- Impact of shocks (drought, market downturn, input price spikes).
- Sensitivity analysis across enterprises.

Outputs:

- Three-year forward projection for each scenario.
- Comparative analysis of profitability, risk exposure, and resilience under each pathway.
- Clear recommendations for strategic direction.



myFARMSMART is a whole-farm decision support platform designed to help mixed farming enterprises make evidence-based decisions that improve profitability, resilience, and sustainability. It integrates financial analysis, feed budgeting, and enterprise planning in one system, allowing producers to compare scenarios and understand the trade-offs between different strategies.

Built with direct input from farmers, consultants, and industry partners, myFARMSMART provides a transparent, credible framework for analysing enterprise performance and testing management options. The platform integrates with leading accounting systems (Xero, MYOB), streamlining data entry and ensuring that financial modelling is grounded in real farm records.

## Key Capabilities

**Enterprise Analysis** – Evaluate the profitability of cropping and livestock.

**Whole-farm Budgeting** – Link enterprise budgets into a whole-farm financial picture, supporting business planning and long-term strategy.

**Scenario Planning** – Compare alternative management strategies (e.g., calving times, enterprise mix, stocking rates, or land-use change) to identify optimal pathways.

**Feed Budgeting** – Match feed supply and demand across the year, helping producers balance nutrition, animal performance, and resource use.

**Decision Support for Sustainability** – Incorporates climate and natural resource considerations into farm business decisions.

# Proposed Project Fees

Item	Cost (AUD, incl. GST)
<b>Professional Services</b> <ul style="list-style-type: none"><li>• analysis, reporting, scenario planning</li><li>• on-farm consultation (1 day)</li><li>• Report</li></ul>	<b>\$5,000</b>
<b>Presentation to Council (incl. prep and travel)</b>	<b>\$1,500</b>
<b>Twelve month subscription for myFARMSMART</b>	<b>Valued at \$2,000 (Included in the analysis)</b>
<b>Total (incl. GST)</b>	<b>\$6,500</b>



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Suite 5, Frederick House, Frederick  
Street, Albany, WA 6330

Email: [lucy@laoneconsulting.com](mailto:lucy@laoneconsulting.com)

[www.laoneconsulting.com](http://www.laoneconsulting.com)

Date for quote: 24 September 2025

Valid for 30 Days



## Features



### Farm Mapping

Visualise the current state of your farm



### Livestock Management

Livestock management software built for the way you farm



### Grazing Management

View, plan and record an efficient grazing system



### Farm and Livestock Reporting

Access mob, paddock and property summaries from anywhere



### Mobble Connect

Add accountants, advisors, contractors, stock agents and auditors to your account.

## Features



### Team Communication

Get everyone on your farm aligned



### Inventory Management

Manage your products, treatments and feed across the farm and track usage over time



### Compliance Records

Record keeping for compliance is quick and simple with Mobble



### Cropping Records

Use Mobble for recording cropping activities like sowing, spraying, harvest and more



### All Features

Browse a comprehensive list of the features available on web and on your phone in Mobble

## Solutions



### Cattle Farmers

See how Mobble is a great solution for cattle farmers



### Sheep Farmers

Mob-based management software to boost productivity and profitability on your sheep operation



### Mixed Farming

Full flexibility to manage your livestock and cropping operation

# Stock Counts

- Use of recreational drone to take images of stock
- Machine learning approach to object identification
- Audit count numbers



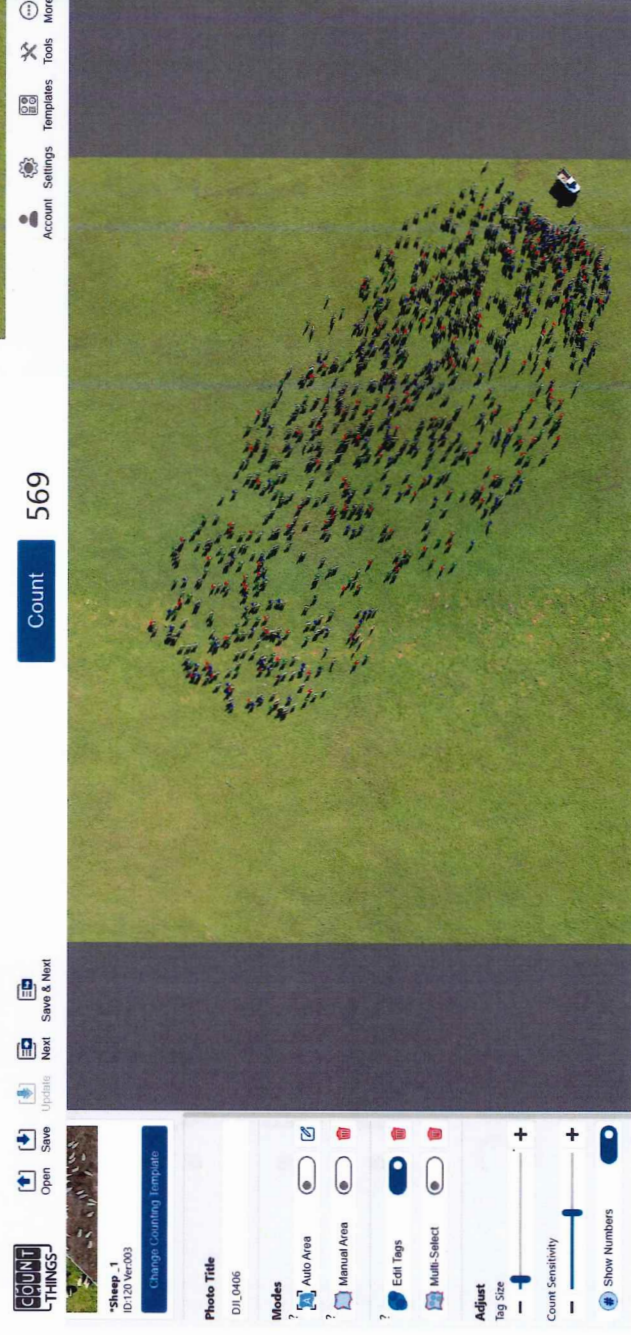
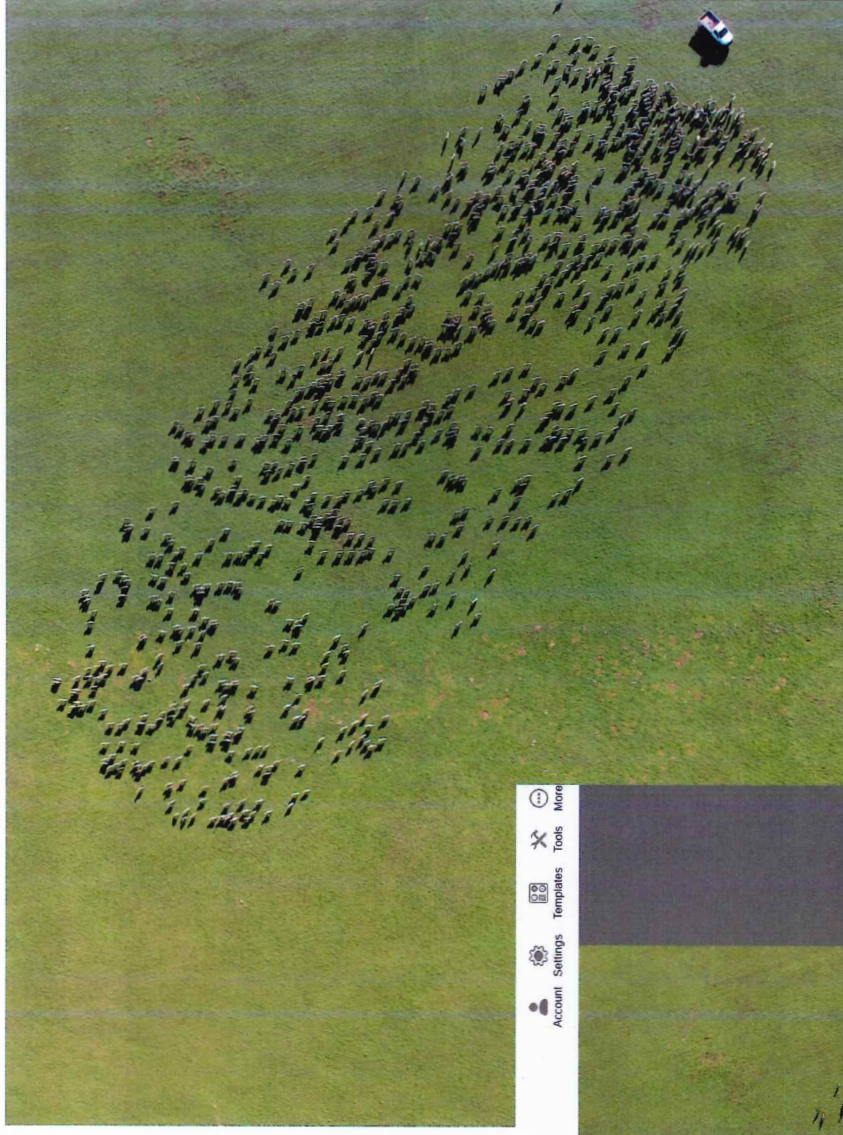
Dr Dave Blake  
Centre for People, Place and Planet  
Edith Cowan University  
[d.blake@ecu.edu.au](mailto:d.blake@ecu.edu.au)



Source: DJI Store

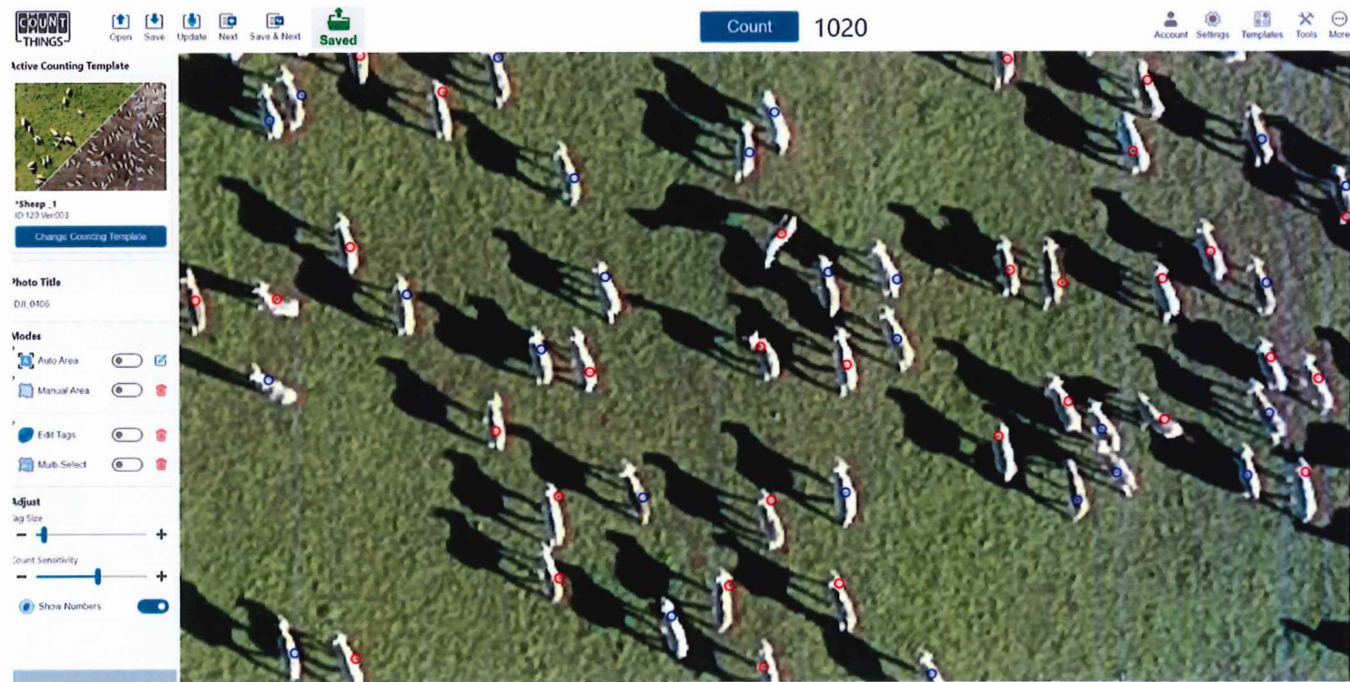
# Stock Counts

- Generic software
- Initial count accuracy 55%



# Stock Counts

- Manual Identification
- Accuracy increased to 100%
- More efficient than traditional count methods
- Automate and integrate with Digital Farm technology



# Biomass Estimates

- Multispectral survey
- Calculation of vegetation indices
- Calibrate with on-ground biomass estimates



Source: AgEagle Aerial Systems Inc.



Image: Murray Terwey

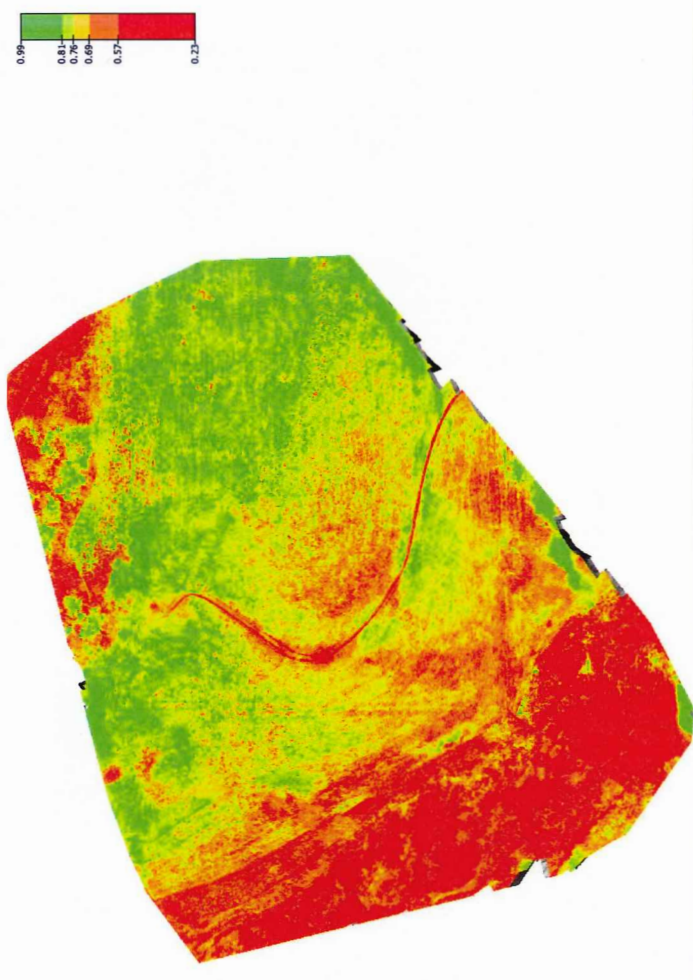
# Biomass Estimates

- Plan mission and upload to PC
- Autonomous flight
- Download and process data



# Biomass Estimates

- Process imagery
- Produce vegetation indices (NDVI)
- Calculate biomass estimates





Dr Dale Putland  
Chief Executive Officer  
Shire of Boyup Brook

08 March 2022

Dear Dr Putland/Dale

**RE: Request for support to fund RPA (drone) capabilities at ECU**

ECU would like to invite the Shire of Boyup Brook/Rylington Park Institute for Agricultural Training and Research to partner with ECU on a major research initiative to co-fund a Remotely Piloted Aircraft (fixed wing drone) to assist with undertaking research projects of importance to the Shire.

***Background***

The geospatial laboratory within the School of Science, Edith Cowan University, provides spatial analyses capabilities for teaching and research both within the school, university and for industry and the broader community. RPA (remotely piloted aircraft) or drone technology is a key component of our capabilities. Our current RPA system consists of a fixed wing, survey grade drone with high-end RGB, multispectral and thermal sensors. This system is now a superseded model and as such, is no longer supported in terms of parts, repairs, etc. To continue current projects and engage in future research we need to update our RPA capabilities. Dr David Blake the nominated Chief Pilot, ECU, has been able to negotiate a replacement deal with the manufacturer/supplier which sees ECU retain our current system, which we can use until it is no longer serviceable, as well as updating to the most current technology. This cost-effective approach will provide improved accuracy and efficiency, making previously prohibitive research possible.

***List of Research Projects and Collaborations***

The geospatial lab collaborates with the ECU strategic Research Centre, the Centre for People, Place and Planet as well as school-based research centres including Conservation Biodiversity and Management Centre (CBMRC), Centre for Marine Ecosystem Management (CEMR), Centre for Artificial Intelligence and Machine Learning (CAIML), and the eAgriculture research group and aligns with the ECU Research Theme, Natural and Built Environments.

Our current RPA system has been used in research projects including:

- **Thermal detection of fauna** (for fauna species counts) at Matuwa;
- Vegetation health surveys at Kings Park, in conjunction with Department of Biodiversity, Conservation and Attractions (DBCA) – Kings Park;
- Pasture productivity associated with **Organic/Regenerative farm practices** in Katanning in conjunction with Certified Organic and Biodynamic Western Australia (COBWA) and Department of Primary Industries and Regional Development (DPIRD);
- Northern Jarrah Forest recovery rates following **bushfire**, in conjunction with Department of Fire and Emergency Services (DFES) and DBCA; and,

- Peatland mapping in southern Western Australia in conjunction with Department of Agriculture, Water and Environment (DAWE) and Walpole Nornalup National Park Association (WNNP).
- Current proposed projects include Blue Carbon accounting in tidal marshes of Western Australia (CMER), soil health in sandy agricultural soils of South-West WA (BCMRC & CPPP), and landscape fragmentation following fire (BCMRC), and machine learning for peatland identification.

### ***Benefits for Shire of Boyup Brook***

A return on investment could be realised through an extension of current research activities bringing research strengths in **regenerative agriculture**, to include Rylington Park, measuring vegetation productivity and soil health. Research strengths in **bushfire impacts and modelling** could also be adapted to Rylington Park examining burn severity and landscape fragmentation associated with paddock and stubble fires. Further extension of current eAgriculture projects at Rylington Park would be facilitated by updated RPA capabilities. These projects could take a variety of forms including new grant proposals as well as post-graduate research projects, either Masters or PhD.

Furthermore, Rylington Park Farm could be used as a demonstration site to run workshops of the use of RPA technology in Agriculture.

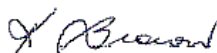
### ***Funding Breakdown and Request***

The total upgrade value is \$33,000. ECU has secured co-funding of \$23,000 and we would like to invite the Shire of Boyup Brook/Rylington Park Institute for Agricultural Training and Research to partner with ECU on this major initiative with a funding contribution of \$10,000.

Agency	Amount Requested
ECU	\$13,000
DBCA – Kings Park	\$10,000
Shire of Boyup Brook	\$10,000
<b>Total</b>	<b>\$33,000</b>

**Research Team:** Dr David Blake, Dr Leisa Armstrong, Dr David Cook, School of Science, ECU.

Regards,



Professor Kerry Brown

**Contact:** Professor Kerry Brown, Research Theme Leader, ECU.

E: [k.brown@ecu.edu.au](mailto:k.brown@ecu.edu.au) M: 0407731939