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final report

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Goat Cost of Production tool re-design and re-development

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Executive Summary

MLA recently completed a research project, “Online Tools Research” E.IFL.1401 which reviewed the current suite of online decision-support tools). This project resulted in the development of a comprehensive strategic framework including a range of practical recommendations on how to improve consistency and user-friendliness of the existing tools, ensure accessibility across a range of online devices, and plan for integration and compatibility of future tools that are yet to be developed.

A goat industry Cost of Production tool was developed through project B.GOA.0095 “Development of web-based cost of production tools” in an excel spreadsheet format, ready for transition to an online format. MLA commenced this project to realise the visions described in the strategic framework devised through E.IFL.1404 to address identified critical technical and usability issues across the tools and in this case, specifically the Cost of Production tool for goats. As part of this project the user interface of the Goat Cost of Production tool was re-designed and re-developed in a different, “lighter” format (Html5 / JavaScript and related technologies) to enable access from a broader range of online devices including tablets and smartphones.

Producers are now able to store and retrieve their past data, create multiple scenarios and access information entered across multiple tools, achieving a more personalised user experience. The tool was developed in conjunction with the redesign and redevelopment of the Beef and Sheep Cost of Production tools, enabling producers to gain a whole-of-farm view of CoP, across multiple enterprises.

The project has been completed and the tool is now available on the MLA website.

Table of Contents

1	Background.....	4
2	Projective objectives	4
3	Methodology	5
4	Results.....	6
4.1	Home Page.....	6
4.2	Goat – Trading Details – Managed herd	7
4.3	Goat – Trading Details – Harvesting operation.....	8
4.4	Goat Expenses – Direct expenses	9
4.5	Goat Expenses – Supplementary expenses.....	10

1 Background

Cost of production (CoP), measured in cents per kilogram, is an indication of the outlay required to produce each kilogram of meat for beef, sheep and goat.

For producers wanting to improve the performance of their meat-producing enterprise, a good understanding of the current health of the business is essential.

Cost of production is a key factor affecting the profitability of beef-producing businesses. Calculating the cost of production is an important step in assessing herd and flock performance and a first step to making change.

This project involved the development of the Goat Cost of Production tool that previously existed only in an Excel Spreadsheet.

Additionally the tool was redeveloped in conjunction with the existing Beef and Sheep Cost of Production tools. These tools were brought together with the Goat Cost of Production giving producers a better understanding of the cost of production across the entire enterprise.

2 Projective objectives

In collaboration with MLA stakeholders and subject matter experts, the MLA goat industry cost of production tool aimed to address identified usability and technical issues. The objectives of this project were to:

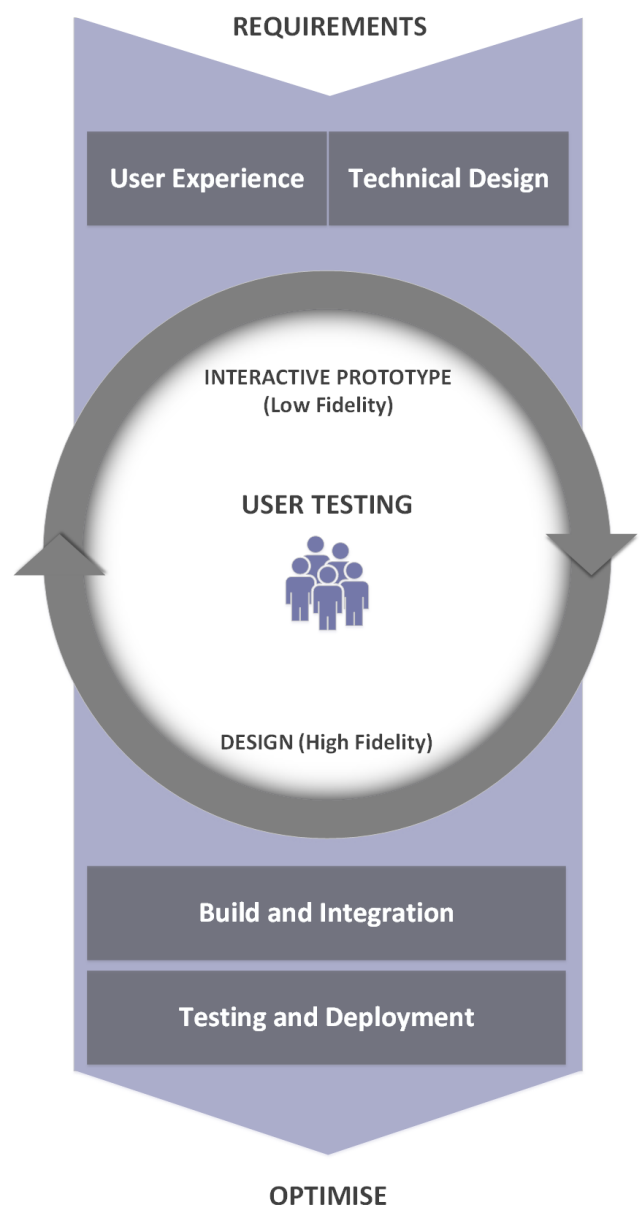
1. Re-design the tool's user interface using a three-layered approach including a clear introduction page, an updated user interface and a distinct set of results that highlight how to interpret the results and apply them to the producer's business.
2. Re-development of the tool using .NET as the application framework with the front-end based on standards compliant to HTML removing the reliance on Flash and Excel. In particular, the re-developed tool must
 - a. have at least two layouts – one for desktop and one for mobile; and
 - b. provide at least basic functionality (such as data capturing) when used offline, with the option to temporarily store the data and upload once internet connection is available again.
3. Provision of all specifications and requirements to MLA to allow for the development of consistent further tools in the future.

3 Methodology

Lavender followed a user centred design methodology which was deemed the best approach for developing MLA's online tools, including the new Goat Cost of Production tool. At the heart of this approach is the philosophy of iterative design, whereby the design is continually refined through rounds of testing with real users.

This approach also favours testing prototypes with users before visual design and build. Prototypes can be tested far more effectively as they allow users to focus more on the questions and results and less on how it looks. Below is a list of the activities undertaken as a part of the development of the tool:

1. **Scoping and Business Requirements** – Identified the scope of the project and ensured the requirements were clarified and well documented.
2. **User Experience** – developed wireframes to address the recommendations of the Online Tools research and requirements defined by MLA stakeholders.
3. **Technical Design** – determined the data structures, development requirements and data services for integration with MLA.
4. **Prototyping and User Testing** – development of interactive prototypes from the wireframes that were tested with users to further refine the design. User testing was conducted with goat producers in Broken Hill, NSW.
5. **Visual Design** – created designs from refined prototypes with a polished look and feel.
6. **Build** – development of the re-designed tools and APIs for later integration with the Member Hub.
7. **Testing and deployment** – validated the tools with MLA, stakeholders and internal IT.
8. **Optimise and Support** – Tracked and measured the performance of each tool for further improvement and version release.



4 Results

The Cost of Production Tool for Goats has been released to the MLA Website and is accessible from: <http://tools.mla.com.au/cop/>

The following screen shots detail the sections contained within the tool.


4.1 Home Page

You are here: [Home](#) / [My Data](#) / [Cost of Production](#)


Cost of Production Tool

The cost of production calculator is a tool kit to help you determine your CoP and compare performance annually.

For Producers



Australia






Cattle, sheep and goat livestock

How this will help you

- * Determine your cost of production over a 12 month period.
- * Track and compare your performance annually.

What you need

- * Herd/flock records (number of animals per stock class)
- * Sales and purchases records per stock class
- * Tax statement
- * Fixed and variable cost records by enterprise type (e.g. labour, supplements, transport)
- * Kill sheets (to calculate dressing percentages)


 **15 mins**
 **Can use offline**
 **Mobile friendly**

To get started, what enterprises do you manage? ☒ Beef ☒ Sheep ☐ Goat [Get started →](#)

How-to guide

Step 1


For each enterprise type, indicate the number of animals at the beginning and the end of the calculation period, then add purchases and sales during the year to complete the stock balance. You will also be asked to assign inventory values including average weight for each stock class and \$ values.



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4.2 Goat – Trading Details – Managed herd





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Trading Details
Expenses
Labour & Overheads
Cost of Production

 Beef

 Sheep

 Goat

Managed goat herd
Harvesting operation

☐ I produce fibre
 ☐ I produce dairy products
 ☐ I produce Capretto and /or Chevon

		Opening [?]	Closing [?]	Change
Does	# stock	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	kg/head lwt	<input type="text" value="0"/>	<input type="text" value="0"/>	0kg
	\$/head	<input type="text" value="0"/>	<input type="text" value="0"/>	\$0
Kids	# stock	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	kg/head lwt	<input type="text" value="0"/>	<input type="text" value="0"/>	0kg
	\$/head	<input type="text" value="0"/>	<input type="text" value="0"/>	\$0
Wethers	# stock	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	kg/head lwt	<input type="text" value="0"/>	<input type="text" value="0"/>	0kg
	\$/head	<input type="text" value="0"/>	<input type="text" value="0"/>	\$0
Bucks	# stock	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	kg/head lwt	<input type="text" value="0"/>	<input type="text" value="0"/>	0kg
	\$/head	<input type="text" value="0"/>	<input type="text" value="0"/>	\$0
Total stock		0	0	0
Total kg/lwt		0kg	0kg	0kg
Total value		\$0	\$0	\$0


	Total weight (kgs) [?]	Total value (\$) [?]
SALES		
Does	<input type="text" value="0"/>	<input type="text" value="0"/>
Kids	<input type="text" value="0"/>	<input type="text" value="0"/>
Wethers	<input type="text" value="0"/>	<input type="text" value="0"/>
Bucks	<input type="text" value="0"/>	<input type="text" value="0"/>
PURCHASES		
Does	<input type="text" value="0"/>	<input type="text" value="0"/>
Kids	<input type="text" value="0"/>	<input type="text" value="0"/>
Wethers	<input type="text" value="0"/>	<input type="text" value="0"/>
Bucks	<input type="text" value="0"/>	<input type="text" value="0"/>
TOTAL (sales - purchases)	0	\$0

KG of Liveweight Produced 0kg
(Change in inventory kg + Sales kg - Purchases kg)

Trading income \$0
(Change in inventory \$ + Sales \$ - Purchases \$)

[← Back](#)
[Next →](#)


4.3 Goat – Trading Details – Harvesting operation





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You are here: [Home](#) / [My Data](#) / [Cost of Production](#)

Trading Details
Expenses
Labour & Overheads
Cost of Production

 Beef

 Sheep

 **Goat**

Managed goat herd

Harvesting operation

		Opening [?]	Closing [?]	Change
Harvested Herd	kg lwt	<input type="text" value="0"/>	<input type="text" value="0"/>	0kg
	\$/kg	<input type="text" value="0"/>	<input type="text" value="0"/>	\$0
Total kg/lwt		0kg	0kg	0kg
Total value		\$0	\$0	\$0

	Total weight (kgs) [?]	Total value (\$) [?]
SALES		
Harvested Herd	<input type="text" value="0"/>	<input type="text" value="0"/>
PURCHASES		
Harvested Herd	<input type="text" value="0"/>	<input type="text" value="0"/>
TOTAL (sales - purchases)	0	\$0


KG of Liveweight Produced 0kg
(Change in inventory kg + Sales kg - Purchases kg)

Trading income \$0
(Change in inventory \$ + Sales \$ - Purchases \$)

← Back



Next →


4.4 Goat Expenses – Direct expenses


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You are here: [Home](#) / [My Data](#) / [Cost of Production](#)

[Trading Details](#)
[Expenses](#)
[Labour & Overheads](#)
[Cost of Production](#)

 Cattle
  Sheep

 Goat

Direct Goat Expenses

– Minimise

DIRECT GOAT EXPENSES	Total \$
Total herd health costs ?	<input type="text" value="0"/>
Contractors ?	<input type="text" value="0"/>
Transport and cartage ?	<input type="text" value="0"/>
Selling costs ?	<input type="text" value="0"/>
Shearing and crutching ?	<input type="text" value="0"/>
Dairy costs ?	<input type="text" value="0"/>
+ Add expense	\$0

Supplement Expenses


+ Expand

[← Previous](#)
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4.5 Goat Expenses – Supplement expenses



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Trading Details


Expenses

Labour & Overheads

Cost of Production

 Cattle

 Sheep

 Goat

Direct Goat Expenses
+ Expand

Supplement Expenses
- Minimise

SUPPLEMENT EXPENSES ?	Quantity (t)	x	Value (\$/t)	=	
Home grown feed fed out ?	<input type="text" value="0"/>	x	<input type="text" value="0"/>	=	\$0
Purchased feed fed out ?	<input type="text" value="0"/>	x	<input type="text" value="0"/>	=	\$0
Total supplement					\$0


← Previous

Next →

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4.6 Labour



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Trading Details
Expenses
Labour & Overheads
Cost of Production

Labour - Minimise

Allocate Labour Costs to Enterprise ?

Beef %	Sheep %	Goat %
10	60	30

Permanent Employees

Type	Salary package (per annum)	?	+	?
Owner / operator allowance ?	70,000	?	+	?
Cost of family labour ?	42,000	?	+	?
Salaried employee ?	0	?	+	?

Casual Employees

	Wage	(per annum)	?	+	?
Casual labour ?	\$ 0 (hourly)	Hours 0 (per week)	?	+	?
	Weeks 0 (per year)	= \$0			

Total Labour Costs
\$112,000

Overheads + Expand

← Previous
Next →

4.7 Overheads



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Login →

You are here: [Home](#) / [My Data](#) / Cost of Production

Trading Details

Expenses

Labour & Overheads

Cost of Production

Labour

+ Expand

Overheads

- Minimise

Enterprise Overheads

Value (\$)

Repairs and maintenance (sheds, yards, fences, land) ?

0

Repairs and maintenance (plants and equipment) ?

0

Depreciation ?

0

Admin expenses ?

0

Electricity and gas ?

0

Insurance ?

0

Pasture costs ?

0

Rates and rents ?

0

Fuel and Oil ?

0

+ Add overhead

\$0

← Previous

Next →

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4.8 Results

