

BUSINESS CASE



Shearing Every Eight Months

Kevin, Robyn and Bryan Ingram run Aston Station, a merino wool property alongside the Darling River in New South Wales. Since 2010, the Ingrams have been shearing every eight months to manage staple length and improve wool quality and yield. Although a common practice in higher rainfall districts, shearing more regularly is considered innovative in the pastoral zone.

The business case 'Shearing Every Eight Months' has been developed as a real example of a formal planning process. This business case aims to provide useful information and tools to help you make a decision for your own business.

You can use the method shown here to help prepare your own business case and assess this innovation on your own property.



Figure 1: Open vents in the shearing shed at Aston Station.



BUSINESS SNAPSHOT

OWNERS

Kevin, Robyn and Bryan Ingram

PROPERTY NAME

Aston Station

PROPERTY LOCATION

33km North West of Pooncarie, NSW

SIZE OF PROPERTY

25,000 hectares

BRIEF ENTERPRISE DESCRIPTION

Merino breeders with occasional agistment or sheep and cattle trading when the season permits.

NUMBER OF PEOPLE WORKING IN THE BUSINESS

3 people working in the business (1.5 full time equivalents)

AVERAGE ANNUAL RAINFALL

240mm

WHY THIS IS A PASTORAL ZONE INNOVATION

Long staple length attracts a discount for wool producers. Shearing every eight months reduces staple length, increases wool yield and improves cash flow.

Section 1: Shearing at Aston Station

BACKGROUND

Kevin, Robyn and Bryan Ingram run Aston Station, a merino wool property nestled alongside the Darling River in New South Wales. They had noticed over the last few years that their wool staple length had increased to 110mm. They recognised that this increase had put them at risk of exceeding the 120mm threshold, and therefore, receiving a discounted price from buyers.

In 2009 and 2010, abnormally high summer rainfall occurred at Aston Station. These seasonal conditions resulted in increased grass seed contamination in the wool and high levels of flystrike. In this instance, the Ingrams were forced to opportunistically shear with eight months wool growth to protect the quality of their wool.

Since 2010, the Ingrams considered the decision of shearing more regularly than the standard twelve months. The goal was to reduce and manage their staple length, improve wool quality and yield. Although a common practice in higher rainfall districts, shearing more regularly is considered innovative in the pastoral zone.

MOTIVATION TO CHANGE PRACTICES

Kevin, Robyn and Bryan's objectives for their business are to increase productivity and improve cash flow from their merino flock.

Their goal of shearing more regularly would help achieve these business objectives, whilst at the same time making livestock management easier and reducing their animal health costs.

OUTLINE OF THE OPTIONS

The Ingrams needed to consider their options for timing of shearing at Aston Station. Their options were to either:

1. Do nothing and maintain the current situation of shearing every twelve months,
2. Shear every eight months, or
3. Shear every six months

Each of the three options could provide potential benefits to the business. Table 1 lists the likely benefits identified for each option at Aston Station.

Table 1: The benefits of each shearing option.

Option 1: 12 month shearing	Option 2: 8 month shearing	Option 3: 6 month shearing
<ul style="list-style-type: none"> • Fixed shearing time every year. • Minimal handling and mustering of livestock. • Reduced shearing costs compared to more regular shearing. 	<ul style="list-style-type: none"> • Increase in wool yield and quality. • Better cash flow than twelve month shearing. • Most crutching can be eliminated. • Can manage flystrike more easily by shearing more regularly, which results in reduced chemical use for fly control. • Reduction in chemical use for lice control. • Increased percentage of ewes scanned in-lamb due to joining post shearing (January). • More regular contact with the sheep ensures they are in a healthy condition and any health issues are recognised. • It may be easier to keep ewes in condition score 2-3. 	<ul style="list-style-type: none"> • Similar benefits to shearing every eight months. • Almost eliminates the need for crutching • Better cash flow than shearing every eight or twelve months. • Increase in wool yield. • More regular contact with the sheep ensures they are in a healthy condition and any health issues are recognised. • Simplifies the calendar of operations with shearing scheduled at the same time every year, compared to shearing three times over two years.



Figure 2: Fans above the shearing stands.



Figure 3: Aston Station property.

RESULTS OF THE CHANGE

Option 2 (shearing every eight months) was the preferred option for Aston Station. The Ingrams now shear in January and September in year 1 and then in May in year 2. Each year joining occurs in January and lambs are weaned in September.

The following results have been observed since making the change:

- Total wool cut per head has slightly decreased compared to the 2009-2010 average. This is not consistent with some trials on this topic and may be attributed to seasonal conditions (see table 3).
- Reduction of vegetable matter is desirable but is a factor of seasons and location.
- Flystrike has decreased from the long term average, improving wool quality and stock condition.
- Wool tensile strength has increased with eight month shearing.
- Wool buyers are often looking for the shorter staple length because it is blendable.
- January and September shearing is out of their normal timing in terms of selling wool, which also helps spread price risk. However, there is often a glut in the market in September.

Table 2 compares the yield and quality of wool shorn from weaners and ewes either every twelve months or every eight months at Aston Station. The wool cut (kg/hd) shown in the first row includes the fleeces, pieces, bellies and locks, and is the average of all sheep shorn (ewes and weaners). The wool quality measures such as length, vegetable matter, fibre diameter and strength are the average of fleeces only.

The Ingrams also shear varying numbers of weaners which are included in the yield and quality data for each shearing. The third row in Table 2 shows the number of weaners as a percentage of the total number of sheep shorn per shearing. Once the Ingrams moved to shearing every eight months, their youngest weaners were five months old at each January shearing.

The figures shown for wool cut and staple length whilst shearing every eight months are displayed as the average per year from May 2010 to September 2013 (3.33 years). These figures have been calculated by totaling the results achieved at each shearing during this period and dividing this number by 3.33 years.

The other quality parameters such as vegetable matter, fibre diameter, strength and weaners per shearing are averaged per shearing event.

Table 2: Characteristics of wool shorn at Aston Station every twelve months and then every eight months, between May 2009 and September 2013 (actual results).

Shearing date	12 month shearing			8 month shearing						% change from 12 to 8 month shearing
	May 09	May 10	Avg.	Jan 11	Sep 11	May 12	Jan 13	Sep 13	Avg.	
Wool cut kg/hd	5.7	5.25	5.48	4.2	4.21	2.9	3.5	3.15	5.39*	-1.6%
Staple length (mm)	90	99	94.5	70	72	73	70	67	105.6*	11.7%
Weaners per shearing (%)	5%	27%	16%	33%	0%	47%	42%	1%	25%	56.3%
Vegetable matter %	2.5%	2.0%	2.3%	6.6%	3.6%	4.3%	4.4%	3.2%	4.4%	91.3%
Fibre diameter (µm)	20.5	20.8	20.7	21.5	20.6	19.7	19.9	18.5	20	-3.4%
Strength (Nktex)	34	33	33.5	48	57	52	47	46	50	49.3%

*Average wool kg/hd and length (mm) shown for 8 month shearing is the yearly average.

As shown in Table 2, average staple length (mm) per year has increased by 11.7%, fibre diameter decreased by 3.4% and strength increased by 49.3% as a result of shearing every eight months. Vegetable matter has varied at each shearing event and correlates with the seasonal conditions. For example, Aston Station received 756mm annual rainfall when the high vegetable matter of 6.6% was observed in the January 2011 shearing.

Table 3 shows how the lambing percentage has increased by 54% since eight month shearing has been implemented at Aston Station.

Seasonal conditions also significantly affected the stocking rate, wool quality and yield at Aston Station; hence the annual rainfall is included below (Table 3).

Table 3: The average lambing percentage and rainfall received at Aston Station per financial year from July 2008 to June 2013.

Financial year	12 month shearing			8 month shearing			
	08/09	09/10	Avg.	10/11	11/12	12/13	Avg.
Lambing %	68%	61%	65%	n/a*	100%	99%	100%
Rainfall (mm)	228.5	417.5	323	756.5	375.5	145.5	425.8

*n/a = not available

KEY LEARNINGS

Kevin and Bryan agree that to implement shearing every eight months you must plan your production year first and have a set calendar of events. They use a clear wool planner and plan the shearing, mating and lambing dates early. It is also important to shear when it suits the seasonal conditions, such as avoiding the heat in January.

The Ingrams could not move to six month shearing straight away because they didn't have the staple length in the genetics.

The Ingrams have also found they can use the wool futures market as a method to manage price risk. This is important to consider when they are selling wool in peak supply periods.

OPPORTUNITIES FOR THE FUTURE

Since implementing shearing every eight months, Aston Station wool is now delivered to the market with a shorter staple length and as a blendable product, making it more attractive to some buyers.

Another opportunity, which has been realised since implementing this innovation, is the increase in lambing percentage. The Ingrams join their ewes post shearing (January) and as a result have observed increased conception rates, as assessed through pregnancy scanning. Scanned in-lamb percentages have increased to over 90% compared to the long term average of 80 to 85% with twelve month shearing.

Figure 4: Shearing shed yards offer shelter for shearing in summer.



Section 2: How to use a business case to assess 'shearing every eight months'

AIM OF THE BUSINESS CASE

A business case is a practical process to assess investment options; whether it is a new practice or a piece of machinery. This business case aims to assess the options for shearing every eight months which will achieve the Ingram's business objectives.

Section 1 detailed the Ingrams experiences in shifting to shearing every eight months. The following section will show how a business case can be used to formally assess the costs, risks and other considerations involved when making an important business decision.

WHAT ARE THE COSTS?

Table 4 and Table 5 show the cost of shearing every twelve months compared to every eight months at Aston Station. The figures shown for each option are the average of two consecutive financial years. All figures are shown on an annual per head basis.

It should be noted that shearing every eight months involves a two year cycle, which includes shearing twice in the first year and only once in the second year at Aston Station. As the figures in the tables below are calculated per head per year, the eight month shearing figures are an annual average of the two year cycle. This allows both options to be easily compared.

Table 4: The net income of shearing every twelve months. Figures are per head per year.

Shearing every 12 months	Average \$/Hd
Income per Head	
Wool income	\$26.58
Lambs - \$ per lambs weaned	\$49.50
Total Income per Head	\$76.08
Variable Costs per Head	
Shearing costs	\$6.41
Chemical costs for flies	-
Chemical costs for lice	\$0.69
Freight costs - wool	\$0.60
Wool selling costs	\$2.04
Sheep selling costs	\$4.73
Overhead Costs per Head	
Electricity	\$0.06
Labour - crutching	\$2.17
Labour - lamb marking	\$1.18
Total Costs per Head	\$17.87
Net Income per Head	\$58.21

Table 5: The net income of shearing every eight months. Figures are per head per year.

Shearing every 8 months	Average \$/Hd
Income per Head	
Wool income	\$21.00
Lambs - \$ per lambs weaned	\$68.20
Total Income per Head	\$89.20
Variable Costs per Head	
Shearing costs	\$6.26
Chemical costs for flies	\$0.22
Chemical costs for lice	\$0.28
Freight costs - wool	\$0.59
Wool selling costs	\$1.34
Sheep selling costs	\$4.73
Overhead Costs per Head	
Electricity	\$0.09
Labour - crutching	\$1.33
Labour - lamb marking	\$1.38
Total Costs per Head	\$17.05
Net Income per Head	\$72.16

Net Income from 8 Month Shearing Less Net Income from 12 Month Shearing (Per Head)	\$13.95
-------------------------------------------------------------------------------------------	----------------

The overall benefit from eight month shearing over twelve month shearing is \$13.95 per head per year. If this figure was multiplied over a mob of 1,000 ewes then the net income could be increased by \$13,950 on average each year by adopting a shearing program cycle of eight months over two years.

Partial Budget

Table 6 shows the full partial budget used to calculate the costs of shearing every eight months compared to every twelve months. This table has been summarised in Table 4 and Table 5.

Assumptions included in the partial budget include:

- The figures shown for each shearing option are the average of two consecutive financial years; therefore, all figures are per head per year.
- Ewe lambs which were held over to the following financial year have been valued at \$20 above the value of wethers sold at the same age.
- Lamb income (\$/hd) is the total value from lambs sold, plus the estimated value of lambs kept divided by the total number of lambs weaned.
- Labour costs for lamb marking have been calculated based on an average 32.5 days x 1.5 full time equivalents (FTE) for twelve month shearing and an average 48 days x 1.5 FTE for eight month shearing.
- Any income from selling old ewes has not been included.
- Any agistment costs have not been included.

Table 6: Partial budget evaluating the financial effects of changing from shearing every 12 months (one shearing per year) to every eight months (three shearings in two years). Figures have been calculated based on two years of data per option and are illustrated below as average income and costs per head per year.

	Shearing every 12 months Yearly average	Shearing every 8 months Yearly average	
BENEFITS			
<i>New Income</i>			
Wool income		\$21.00	
Lambs - \$ per lambs weaned		\$68.20	
<i>Variable Costs Saved per Hd</i>			
Shearing costs	\$6.41		
Chemical costs for flies	\$ -		
Chemical costs for lice	\$0.69		
Freight costs - wool	\$0.60		
Wool selling costs	\$2.04		
Sheep selling costs	\$4.73		
<i>Overhead Costs Saved</i>			
Electricity	\$0.06		
Labour - crutching	\$2.17		
Labour - lamb marking	\$1.18		
Total Benefits	\$17.87	\$89.20	\$107.07 Gains
COSTS			
<i>Income Foregone</i>			
Wool income	\$26.58		
Lambs - \$ per lambs weaned	\$49.50		
<i>New Variable Costs</i>			
Shearing costs		\$6.26	
chemical costs for flies		\$0.22	
Chemical costs for lice		\$0.28	
Freight costs - wool		\$0.59	
Wool selling costs		\$1.34	
Sheep selling costs		\$5.58	
<i>New Overhead Costs</i>			
Electricity		\$0.09	
Labour - crutching		\$1.33	
Labour - lamb marking		\$1.38	
Total Costs	\$76.08	\$17.05	\$93.12 Losses
Overall Benefit/Cost (per head)	\$58.21	\$72.16	\$13.95 Gains - Losses

WHAT ARE THE LIKELY RISKS?

Risks are the possibility of something happening that impacts on the projects objectives. It is necessary to consider all the risks, such as strategic, environmental, financial, operational, or technical related.

The following table summarises the business risks associated with shearing more regularly than twelve months and how they can be managed. The management strategies suggested in the table have been implemented at Aston Station to address the identified risks.

Table 7: The risks associated with shearing more regularly.

What are the risks with shearing more regularly?	How is this risk managed?
Increased labour costs from handling sheep more often.	<ul style="list-style-type: none"> The increased labour costs of more regular shearing are outweighed by not having to crutch ewes. Rotational grazing also acclimatises livestock to being handled and therefore improves labour efficiency.
Shearing in summer when temperatures are high for livestock and staff.	<ul style="list-style-type: none"> Sufficient drinking water for sheep should be provided close to the yards. Shearers at Aston Station start and finish earlier to avoid the highest temperatures of the day. Shearing staff have begun work at 5.30am in the past. Air-conditioned shearers quarters, and ceiling fans and vents in the shearing shed will help make shearers and sheep more comfortable (see Figure 1 and 4). Shade structures can be constructed in the outside yards. The Ingrams water the outside yards with a sprinkler system overnight to promote grass growth, keep the sheep cool and reduce dust (see Figure 2).
Younger lambs could mis-mother if stressed during or after shearing.	<ul style="list-style-type: none"> A rotational grazing system can help acclimatise lambs and ewes to being handled more often. Low stress stock handling also helps reduce mismothering.
Contract shearers may not be available.	<ul style="list-style-type: none"> Good working conditions, air-conditioned quarters and shorter wool with less vegetable matter helps encourage shearers to return.

Figure 5: Sprinklers water the yards overnight to promote grass growth and cool down the yards during summer shearing.



WHAT ELSE IS THERE TO CONSIDER?

When making a decision, the cost of implementation isn't the only thing to consider. Other areas to consider include implications to Workplace Health and Safety (WHS), labor, time requirements, and how easy the innovation will be to implement. Table 8 below shows a range of factors for consideration if choosing to shear every eight months or six months, compared to traditional shearing.

Table 8: Implications to WHS, labour, ease and time requirements, which may result from shearing every 8 or 6 months.

What to consider?	Option 2: Shearing every 8 months	Option 3: Shearing every 6 months
WHS	<ul style="list-style-type: none"> • Shearers may be working in summer so they may need to start earlier to reduce heat exposure. • Air-conditioners in shearer's quarters and ceiling fans and vents in the shearing shed help to improve working conditions. 	<ul style="list-style-type: none"> • Same as option 2 if shearing during summer.
Labour	<ul style="list-style-type: none"> • May not need to employ someone for crutching due to more regular shearing. 	<ul style="list-style-type: none"> • May not need to employ someone for crutching due to more regular shearing.
Ease of implementation	<ul style="list-style-type: none"> • Easier to implement with a rotational grazing system as animals are used to being handled more frequently and may be less stressed. 	<ul style="list-style-type: none"> • Easier to implement with a rotational grazing system as animals are used to being handled more frequently and may be less stressed. • Need good genetics with increased staple length before implementing.
Time taken to implement	<ul style="list-style-type: none"> • Need to be aware of the risks of shearing with lambs at foot (only every third shearing), as lambs could mis-mother or become stressed. 	<ul style="list-style-type: none"> • May take a couple of six month shearing's to fine tune other key events around shearing such as lambing.

FURTHER INFORMATION

Kevin, Robyn and Bryan gathered information or advice from the following people when considering shearing more regularly.

- Mark Bazeley from Riverina Wool, Moama NSW. Mark speaks on the bus at the *Peppin-Shaw Riverina Ewe Flock Competition*, held in February each year.
- Bill Walker from *Classings Merino Breeding Advisory and Wool Testing Laboratory*, Murray Bridge SA. See the website www.classings.com.au

Other useful resources include websites, the Making More from Sheep Manual and industry magazines.

You can also create your own business case and assess the impact of shearing every eight months on your own property, using the templates provided in section 3.

Section 3: How can you make the change?

Section 3 provides all of the tools necessary to work through a business case process to assess an innovation. You can assess the option of shearing more regularly on your own property by completing the templates below.

WHAT ARE THE BENEFITS?

Benefits can be measurable, such as income and wool yield; or non-measurable, such as safety and achievement of business goals. List all the benefits associated with each option in the table below.

Option 1: 12 month shearing	Option 2: 8 month shearing	Option 3: 6 month shearing

WHAT ARE THE LIKELY COSTS?

Partial budget is the correct term for the workings farmers do on the back of an envelope when they have a new idea or project in the pipeline. Partial budgets are useful in evaluating the effects of changing management practices, such as shearing more regularly. Only things which will alter as a result of change are included.

A partial budget should answer the following questions:

1. What new income will be derived from the change in practice?
 - This includes all wool and lamb income received from the new practice of shearing every eight months.
2. What costs are associated with the old practice and will no longer apply?
 - This includes all variable costs, overhead costs, financial costs and depreciation associated with shearing every twelve months.
3. What new costs will occur from the change in practice?
 - This includes all variable costs, overhead costs, financial costs and depreciation associated with shearing every eight months.
4. What income is associated with the old practice and will be foregone?
 - This includes all wool and lamb income derived from the old practice of shearing every twelve months. This income is no longer received due to the change in practice, hence foregone.
5. What changes will there be to physical assets?
 - For this innovation, there has been no significant change in physical assets at Aston Station.

Detail the expected cost of implementing each option in your business in the partial budget template. Include figures for income, overhead, variable and financial costs in the areas highlighted.

Partial Budget

	Shearing every 12 months	Shearing every 8 months			
		Year 1 (2 shearings)	Year 2 (1 shearing)	Average	
BENEFITS					
<i>New Income</i>					
Wool income					
Lambs - \$ per lambs weaned					
<i>Variable Costs Saved per Hd</i>					
Shearing costs					
Chemical costs for flies					
Chemical costs for lice					
Freight costs - wool					
Wool selling costs					
Sheep selling costs					
<i>Overhead Costs Saved</i>					
Electricity					
Labour - crutching					
Labour - lamb marking					
Total Benefits	A			B	A+B=C Gains
COSTS					
<i>Income Foregone</i>					
Wool income					
Lambs - \$ per lambs weaned					
<i>New Variable Costs</i>					
Shearing costs					
chemical costs for flies					
Chemical costs for lice					
Freight costs - wool					
Wool selling costs					
Sheep selling costs					
<i>New Overhead Costs</i>					
Electricity					
Labour - crutching					
Labour - lamb marking					
Total Costs	D			E	D+E=F Losses
Overall Benefit/Cost (per head)	A-D=G			B-E+H	E-F=I Gains-Losses

WHAT ARE THE LIKELY RISKS?

List the risks involved with shearing more regularly and identify how they can be managed in your business.

What are the risks with shearing more regularly?	How is this risk managed?

WHAT ELSE IS THERE TO CONSIDER?

Address any other factors to consider for each option in the following table.

What to consider?	Option 2: Shearing every 8 months	Option 3: Shearing every 6 months
WHS		
Labour		
Ease of implementation		
Time taken to implement		
Other		

CONTRIBUTORS

Bestprac would like to acknowledge the contribution of Kevin, Robyn and Bryan Ingram, Aston Station NSW.

To view more innovation profiles, business cases and videos of innovations in the pastoral zone, visit the Bestprac website www.bestprac.info

