

BUILDING RESILIENCE - BREAK CROP SUITABILITY ACROSS LANDSCAPES

Economic Analysis for 2024/25 and 2025/26

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pinion
ADVISORY

ABN 87 648 234 975

1300 746 466
hello@pinionadvisory.com
pinionadvisory.com

Office locations

SA	TAS	VIC	QLD	NSW
Adelaide	Devonport	Bendigo	Beenleigh	Barham
Clare	Hobart	Horsham	Wondai	Sydney
Freeling	Launceston	Mildura		
Naracoorte		Swan Hill		

Author
Emily Chambers, Agribusiness Consultant - Agronomy
Bachelor of Agricultural Science, The University of Adelaide

0488 036 220
echambers@pinionadvisory.com

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Methodology & assumptions

Economic analysis

GRAIN GROSS MARGIN

Grain gross margin was calculated based on the estimated grain yield (t/ha) provided for each zone of each trial site. If estimated grain yield data was not provided, a grain gross margin analysis could not be completed.

Grain price in December of the growing season year was provided by the Pinion Advisory Commodity Risk Management team, unless provided by the trial operator. For niche grain types (e.g. lupins in Lock 2024/25) that don't have well documented prices, a grain price was obtained from a historical pricing table in the 2026 SAGIT Gross Margin Guide.

Where provided by trial operators, input records (e.g. sowing rate, fertiliser and chemicals) were used to calculate variable costs. If this information was not provided, the examples outlined in the 2024 SAGIT Gross Margin Guide were used as a guide but were also tailored to the seasonal conditions. For example, in 2024/25, it was assumed that fewer fungicides were used than usual due to the dry conditions.

If using the 2024 SAGIT Gross Margin Guide, the rainfall zone for the site was determined based on average annual rainfall. SAGIT determines the rainfall zones as:

- Low (<350mm average annual rainfall).
- Medium (350-400mm average annual rainfall).
- High (>400mm average annual rainfall).

It should be noted that the 2024 SAGIT Gross Margin Guide was used as a baseline for analysis in the 2024/25 and 2025/26 seasons, as the 2025 edition is not available online.

HAY GROSS MARGIN

Hay gross margin was calculated based on estimated hay yield (t/ha) provided for each zone of each trial site. This was determined with biomass cuts at flowering crop stage. If estimated hay yield data was not provided, a hay gross margin analysis could not be completed.

Hay price assumed at the time of hay yield assessment is estimated and anecdotal, based on grower feedback. The hay prices used in this analysis assume good quality hay.

Where provided by trial operators, input records (e.g. sowing rate, fertiliser and chemicals) were used to calculate variable costs. If this information was not provided, the examples outlined in the 2024 SAGIT Gross Margin Guide were used as a guide but were also tailored to the seasonal conditions. For example, in 2024/25, it was assumed that fewer fungicides were used than usual due to the dry conditions.

If using the 2024 SAGIT Gross Margin Guide, the rainfall zone for the site was determined based on average annual rainfall. SAGIT determines the rainfall zones as:

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- High (>400mm average annual rainfall).

It should be noted that the 2024 SAGIT Gross Margin Guide was used as a baseline for analysis in the 2024/25 and 2025/26 seasons, as the 2025 edition is not available online.

PRICE ASSUMPTIONS FOR GROSS MARGIN ANALYSIS

Seed costs

Seed costs according to the 2024 SAGIT Gross Margin Guide. Includes inoculant, seed dressings and technology levies (where appropriate). Prices may vary depending on rainfall zone depending on seed dressings required.

	Lentils HRZ	Lentils MRZ	Lentils LRZ	GM canola	Lupins	Faba beans	Peas LRZ	Vetch
Seed cost ($/kg)	$1.02	$1.02	$0.97	$49.40	$0.55	$0.52	$0.49	$0.55

HRZ: High rainfall zone. MRZ: Medium rainfall zone. LRZ: Low rainfall zone.

Chemical costs

Prices are according to the 2024 SAGIT Gross Margin Guide. Where a product price wasn't available, an estimated retail price was used.

Fertiliser costs

Fertiliser costs according to the 2024 SAGIT Gross Margin Guide. Granulock SS price is estimated.

	MAP	Granulock SS	Zinc	SOA	Urea
Fertiliser cost ($/t or L)	$1050/t	$600/t	$13/L	$495/t	$720/t

Operational costs

Operational costs have been advised by Pinion Advisory Agribusiness Consultants and are based on a typical/average cost of ownership with near new equipment. This is the total cost to own and operate the machinery, including depreciation, interest, insurance, registration, repairs and maintenance, diesel and labour.

Operational costs would be lower if machinery is owned, second hand or older. Assume higher operational costs if the task is completed by a contractor.

In this gross margin analysis, it is assumed that one hay bale weighs 600kg.

	Seeding	Rolling	Spreading (per pass)	Spraying (per pass)	Hay cutting & conditioning
Operational cost ($/ha or bale)	$60/ha	$10/ha	$10/ha	$12/ha	$40/ha

	Baling	Raking & stacking	Windrowing	Harvesting
Operational cost ($/ha or bale)	$17.50/bale	$7/bale	$45/ha	$90/ha

Grain/hay freight costs

Assumed freight cost of $15/t for both grain and hay.

VALUE OF REMAINING (OR SUBTRACTED) NITROGEN FOR NEXT YEAR AFTER GRAIN HARVEST

Legume break crops often fix high quantities of nitrogen which can be valuable for the crop next year. To quantify the benefit of this additional nitrogen that remains in the cropping system after legume grain is harvested, a deep soil nitrogen test should have been completed prior to seeding and after harvest. This shows the net gain in nitrogen, or net loss of nitrogen, which is less common with legume crops. If this soil testing was not done, the value of remaining/subtracted nitrogen cannot be calculated.

Soil test results present nitrate and ammonium in mg/kg, so this was converted to kg N/ha, as this is how we frame fertiliser decisions. The difference between available nitrogen pre-seeding and post-harvest was calculated. To assign a monetary value to that additional (or subtracted) nitrogen, the cost of urea required to replace that quantity of nitrogen was used. The urea price used was for the following March, as this is likely when in-season urea would be ordered. The value of nitrogen doesn't include spreading costs for the next year.

COST OF ADDITIONAL NUTRIENT REMOVAL FROM HAY COMPARED TO GRAIN

When crops are cut for hay instead of harvested as grain, they can remove more nutrients as a greater proportion of plant material is exported from the paddock. It is important to consider the cost to replace lost nutrients for the next crop when deciding to cut a crop for hay.

The following resources were used to inform this analysis.

Use	Source
Grain nutrient removal (excl vetch)	LiquidAg 'Nutrient Removal Table'
Vetch grain nutrient removal (assumes upper end of range)	GRDC 'GrowNotes: Vetch'
Hay nutrient removal	GRDC 'Plan for nutrient removal impact when making hay cutting decisions'
Hay nutrient removal	Mallee Sustainable Farming 'Understanding nutrient removal and maximising input efficiency for 2025'

Based on the sources above, the following assumptions were created for nutrient removal from hay.

Macronutrient	Hay nutrient removal assumption (compared to grain)
Nitrogen (N)	1.5x quantity of N removed per tonne of hay
Phosphorus (P)	Minimal change
Potassium (K)	3x quantity of K removed per tonne of hay
Sulphur (S)	Minimal change (also low cost to replace with gypsum)

The table below outlines the quantity of additional nitrogen and potassium exported (kg/t) in hay compared to grain. The negative number means that there is a net loss of nutrients when hay is cut, compare to harvested grain.

	Lentils			Canola			Lupins		
	Grain	Hay	+/-	Grain	Hay	+/-	Grain	Hay	+/-
N removed (kg/t)	40	60	-20	41	61.5	-20.5	53	79.5	-26.5
K removed (kg/t)	8	24	-16	9	27	-18	10	30	-20

	Faba beans			Field peas			Vetch		
	Grain	Hay	+/-	Grain	Hay	+/-	Grain	Hay	+/-
N removed (kg/t)	41	61.5	-20.5	38	57	-19	26	39	-13
K removed (kg/t)	10	30	-20	9	27	-18	22	66	-44

These assumed quantities of additional nitrogen and potassium removed from hay were then used to determine the urea rate and MOP rate, respectively, required to replace the lost nutrients. Estimated prices for these products in the following urea were used to determine the cost of replacement.

SUMMARY OF ANALYSIS COMPLETED

A full analysis could not be completed for each site in each year due to insufficient data. The tables below summarise what analysis was able to be completed for each site/year.

	2024/25				
Type of analysis	**Jamestown**	**Booleroo**	**Punthari**	**Lock**	**Ungarra**
Grain gross margin	No	No	Yes	Yes	Yes
Value of remaining (or subtracted) nitrogen for next year after grain harvest	No	No	No	No	No
Hay gross margin	Yes	Yes	Yes	Yes	Yes
Cost of additional nutrient removal from hay compared to grain	Yes	Yes	Yes	Yes	Yes

Type of analysis	2025/26			
	Spalding	Melrose	Minnipa	Ungarra
Grain gross margin	Yes	Yes	No	Yes
Value of remaining (or subtracted) nitrogen for next year after grain harvest	Yes	Yes	No	No
Hay gross margin	Yes	Yes	Yes	No
Cost of additional nutrient removal from hay compared to grain	Yes	Yes	Yes	No

2024/25 Season

Jamestown, Upper North

LENTILS

Grain gross margin

Required data was not provided to complete this analysis.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	1.63	0.01	0.55
Hay price ($/t) (December 2024)		$400	
Total hay income ($/ha)	$652	$4	$220
Seed costs ($/ha)	$46	$46	$46
Chemical costs ($/ha)	$152	$152	$152
Fertiliser costs ($/ha)	$63	$63	$63
Operational costs ($/ha)	$239	$130	$193
Hay freight costs ($/ha)	$24	$0	$8
Total variable costs ($/ha)	$525	$391	$463
Gross margin ($/ha)	**$127**	**-$387**	**-$243**

Note: Hay making operational costs were not included for Location B, as hay yield was negligible.
Note: No input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume high rainfall zone (HRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	1.63	0.01	0.55
Estimated additional nitrogen removed with lentil hay (kg N/t)	20		
Urea rate required to replace N next year (kg/ha)	71	0	24
Urea price next year ($/t)	$900		
Total cost to replace N ($/ha)	**-$64**	**$0**	**-$22**
Estimated additional potassium removed with lentil hay (kg K/t)	16		
MOP rate required to replace K next year (kg/ha)	52	0	18
MOP price next year ($/t)	$1,400		
Total cost to replace K ($/ha)	**-$73**	**$0**	**-$25**

SUMMARY

	Lentils		
	Location A	**Location B**	**Location C**
Grain yield	NA	NA	NA
Grain gross margin	NA	NA	NA
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA
Hay yield	1.63	0.01	0.55
Hay gross margin	$127	-$387	-$243
Cost of additional nitrogen removal from hay compared to grain	-$64	$0	-$22
Cost of additional potassium removal from hay compared to grain	-$73	$0	-$25

Lentil hay gross margin at Jamestown in 2024/25 varied significantly across the different trial zones, with Location A producing the only positive gross margin. This was driven by yield, as the other two locations had very low yielding hay, which didn't cover the variable costs.

Despite Location A having a positive gross margin, the cost to replace additional nutrients removed from hay were greater than the positive gross margin. However, it should be noted that in a drought year where the crop did not make it to grain harvest,

cutting hay in Location A would still provide some income. Nutrient status could be assessed separately and may not be as severe if the soil has high starting levels of nitrogen and potassium.

Booleroo, Upper North

LENTILS

Grain gross margin

Required data was not provided to complete this analysis.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	0.23	0.26	0.34
Hay price ($/t) (December 2024)		$400	
Total hay income ($/ha)	$92	$104	$136
Seed costs ($/ha)	$41	$41	$41
Chemical costs ($/ha)	$152	$152	$152
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$180	$181	$184
Hay freight costs ($/ha)	$3	$4	$5
Total variable costs ($/ha)	$429	$431	$435
Gross margin ($/ha)	**-$337**	**-$327**	**-$299**

Note: No input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	0.23	0.26	0.34
Estimated additional nitrogen removed with lentil hay (kg N/t)		20	
Urea rate required to replace N next year (kg/ha)	10	11	15
Urea price next year ($/t)		$900	
Total cost to replace N ($/ha)	**-$9**	**-$10**	**-$13**
Estimated additional potassium removed with lentil hay (kg K/t)		16	
MOP rate required to replace K next year (kg/ha)	7	8	11

	Location within paddock		
MOP price next year ($/t)	$1,400		
Total cost to replace K ($/ha)	**-$10**	**-$12**	**-$15**

SUMMARY

As a result of severely low rainfall in 2024, estimated hay yields were low for all zones at the Booleroo trial site, resulting in negative gross margins. With estimated gross margins of -$300/ha or more, it is not worth the expense of hay cutting operations.

Since input records were not provided for this trial, the variable costs may be overestimated if typical operations (i.e. grass/imi sprays) were not completed as the season was already tough and costs were trying to be reduced.

	Lentils		
	Location A	**Location B**	**Location C**
Grain yield	NA	NA	NA
Grain gross margin	NA	NA	NA
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA
Hay yield	0.23	0.26	0.34
Hay gross margin	-$337	-$327	-$299
Cost of additional nitrogen removal from hay compared to grain	-$9	-$10	-$13
Cost of additional potassium removal from hay compared to grain	-$10	-$12	-$15

Punthari, Murray Plains

LENTILS

Grain gross margin

	Location within paddock		
	Sandy hill	Stoney mid-slope	Heavy flat
Grain yield (t/ha)	1.55	0.17	0.35
Grain price ($/t) (December 2024)	$915		
Total grain income ($/ha)	$1,418	$156	$320
Seed costs ($/ha)	$49	$49	$49
Chemical costs ($/ha)	$67	$67	$67
Fertiliser costs ($/ha)	$134	$134	$134
Operational costs ($/ha)	$232	$232	$232
Grain freight costs ($/ha)	$23	$3	$5
Total variable costs ($/ha)	$505	$484	$487
Gross margin ($/ha)	**$913**	**-$329**	**-$167**

Note: Most input records were provided for this site.
Note: Assume low rainfall zone (LRZ) for SAGIT input estimations, where required to fill gaps in records.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock		
	Sandy hill	Stoney mid-slope	Heavy flat
Hay yield (t/ha)	0.33	0.19	0.34
Hay price ($/t) (December 2024)	$400		
Total hay income ($/ha)	$132	$76	$136
Seed costs ($/ha)	$49	$49	$49
Chemical costs ($/ha)	$67	$67	$67
Fertiliser costs ($/ha)	$134	$134	$134
Operational costs ($/ha)	$196	$190	$196
Hay freight costs ($/ha)	$5	$3	$5
Total variable costs ($/ha)	$451	$443	$451
Gross margin ($/ha)	**-$319**	**-$367**	**-$315**

Note: Most input records were provided for this site.
Note: Assume low rainfall zone (LRZ) for SAGIT input estimations, where required to fill gaps in records.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Sandy hill	Stoney mid-slope	Heavy flat
Hay yield (t/ha)	0.33	0.19	0.34
Estimated additional nitrogen removed with lentil hay (kg N/t)	20		
Urea rate required to replace N next year (kg/ha)	14	8	15
Urea price next year ($/t)	$900		
Total cost to replace N ($/ha)	**-$13**	**-$7**	**-$13**
Estimated additional potassium removed with lentil hay (kg K/t)	16		
MOP rate required to replace K next year (kg/ha)	11	6	11
MOP price next year ($/t)	$1,400		
Total cost to replace K ($/ha)	**-$15**	**-$9**	**-$15**

GM CANOLA

Grain gross margin

	Location within paddock		
	Sandy hill	Stoney mid-slope	Heavy flat
Grain yield (t/ha)	5.98	2.81	6.07
Grain price ($/t) (December 2024)	$680		
Total grain income ($/ha)	$4,066	$1,911	$4,128
Seed costs ($/ha)	$99	$99	$99
Chemical costs ($/ha)	$64	$64	$64
Fertiliser costs ($/ha)	$310	$310	$310
Operational costs ($/ha)	$275	$275	$275
Grain freight costs ($/ha)	$90	$42	$91
Total variable costs ($/ha)	$802	$755	$804
Gross margin ($/ha)	**$3,229**	**$1,121**	**$3,289**

Note: Most input records were provided for this site.
Note: Assume low rainfall zone (LRZ) for SAGIT input estimations, where required to fill gaps in records.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock		
	Sandy hill	Stoney mid-slope	Heavy flat
Hay yield (t/ha)	1.95	1.14	2.49
Hay price ($/t) (December 2024)	$300		
Total hay income ($/ha)	$585	$342	$747
Seed costs ($/ha)	$99	$99	$99
Chemical costs ($/ha)	$64	$64	$64
Fertiliser costs ($/ha)	$310	$310	$310
Operational costs ($/ha)	$263	$228	$286
Hay freight costs ($/ha)	$29	$17	$37
Total variable costs ($/ha)	$730	$683	$761
Gross margin ($/ha)	**-$180**	**-$376**	**-$49**

Note: Most input records were provided for this site.
Note: Assume low rainfall zone (LRZ) for SAGIT input estimations, where required to fill gaps in records.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Sandy hill	Stoney mid-slope	Heavy flat
Hay yield (t/ha)	1.95	1.14	2.49
Estimated additional nitrogen removed with canola hay (kg N/t)	20.5		
Urea rate required to replace N next year (kg/ha)	87	51	111
Urea price next year ($/t)	$900		
Total cost to replace N ($/ha)	**-$78**	**-$46**	**-$100**
Estimated additional potassium removed with canola hay (kg K/t)	18		
MOP rate required to replace K next year (kg/ha)	70	41	90
MOP price next year ($/t)	$1,400		
Total cost to replace K ($/ha)	**-$98**	**-$57**	**-$125**

SUMMARY

Between lentils and canola at Punthari in 2024/25, the grain gross margins were higher at every trial zone, compared to hay gross margins. However, canola was the clear standout, with gross margins ranging from $1,156-3,324/ha. This is based on high estimated grain yields. It should be noted that these estimated grain yields of approx.

6t/ha seem unexpectedly high given the dry season and do not match the growers yields that were recorded on the header, which ranged from 0-1.97t/ha.

The stoney mid-slope had the lowest grain and hay gross margin in both lentils and canola, which was driven by low yields. Interestingly, the heavy flat performed well for canola but not so for lentils. This information of varied performance between zones can be applied to different areas of a paddock to determine an average outcome.

	Lentils			GM canola		
	Sandy hill	**Stoney mid-slope**	**Heavy flat**	**Sandy hill**	**Stoney mid-slope**	**Heavy flat**
Grain yield	1.55	0.17	0.35	5.98	2.81	6.07
Grain gross margin	$913	-$329	-$167	$3,264	$1,156	$3,324
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA	NA	NA	NA
Hay yield	0.33	0.19	0.34	1.95	1.14	2.49
Hay gross margin	-$319	-$367	-$315	-$145	-$341	-$14
Cost of additional nitrogen removal from hay compared to grain	-$13	-$7	-$13	-$78	-$46	-$100
Cost of additional potassium removal from hay compared to grain	-$15	-$9	-$15	-$98	-$57	-$125

Lock, Eyre Peninsula

LENTILS

Grain gross margin

	Location within paddock		
	Zone 1 - Loam soil	Zone 2 - Sandy soil	Zone 3 – Red soil
Grain yield (t/ha)	0.5	0.1	0.2
Grain price ($/t) (December 2024)	$915		
Total grain income ($/ha)	$458	$92	$183
Seed costs ($/ha)	$51	$51	$51
Chemical costs ($/ha)	$91	$91	$91
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$196	$196	$196
Grain freight costs ($/ha)	$8	$2	$3
Total variable costs ($/ha)	$395	$389	$391
Gross margin ($/ha)	**$60**	**-$300**	**-$210**

Note: Most input records were provided for this site.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations, where required to fill gaps in records.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

	Location within paddock		
	Zone 1 - Loam soil	Zone 2 - Sandy soil	Zone 3 – Red soil
Starting deep soil N (kg N/ha) i.e. pre-seeding	117	58	122
Final deep soil N (kg N/ha) i.e. post-harvest	97	32	49
Net difference (kg N/ha)	-20	-26	-73
Urea price ($/t) (March 2025)	$900		
$ value per kg of N	$1.96		
Benefit/cost of nitrogen for next year	**-$39**	**-$51**	**-$143**

Hay gross margin

	Location within paddock		
	Zone 1 - Loam soil	Zone 2 - Sandy soil	Zone 3 – Red soil
Hay yield (t/ha)	1.98	0.8	1.5
Hay price ($/t) (December 2024)		$400	
Total hay income ($/ha)	$792	$320	$600
Seed costs ($/ha)	$51	$51	$51
Chemical costs ($/ha)	$91	$91	$91
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$230	$180	$210
Hay freight costs ($/ha)	$30	$12	$23
Total variable costs ($/ha)	$452	$384	$424
Gross margin ($/ha)	**$338**	**-$66**	**$174**

Note: Most input records were provided for this site.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations, where required to fill gaps in records.

Cost of additional nutrient removal from hay compared to grain

Required data was not provided to complete this analysis.

LUPINS

Grain gross margin

	Location within paddock		
	Zone 1 - Loam soil	Zone 2 - Sandy soil	Zone 3 – Red soil
Grain yield (t/ha)	0.4	0.7	0.8
Grain price ($/t) (January 2025)		$540	
Total grain income ($/ha)	$216	$378	$432
Seed costs ($/ha)	$61	$61	$61
Chemical costs ($/ha)	$78	$78	$78
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$196	$196	$196
Grain freight costs ($/ha)	$6	$11	$12
Total variable costs ($/ha)	$378	$383	$384
Gross margin ($/ha)	**-$177**	**-$19**	**$33**

Note: Lupin price is sourced from historic pricing table in 2026 SAGIT Gross Margin Guide.
Note: Most input records were provided for this site.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations, where required to fill gaps in records.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock		
	Zone 1 - Loam soil	**Zone 2 - Sandy soil**	**Zone 3 – Red soil**
Hay yield (t/ha)	0.75	1.3	1.9
Hay price ($/t) (December 2024)		$400	
Total hay income ($/ha)	$300	$520	$760
Seed costs ($/ha)	$61	$61	$61
Chemical costs ($/ha)	$78	$78	$78
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$178	$201	$227
Hay freight costs ($/ha)	$11	$20	$29
Total variable costs ($/ha)	$365	$397	$432
Gross margin ($/ha)	**-$80**	**$109**	**$314**

Note: Most input records were provided for this site.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations, where required to fill gaps in records.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Zone 1 - Loam soil	**Zone 2 - Sandy soil**	**Zone 3 – Red soil**
Hay yield (t/ha)	0.75	1.3	1.9
Estimated additional nitrogen removed with lupin hay (kg N/t)		26.5	
Urea rate required to replace N next year (kg/ha)	43	75	109
Urea price next year ($/t)		$900	
Total cost to replace N ($/ha)	**-$39**	**-$67**	**-$99**
Estimated additional potassium removed with lupin hay (kg K/t)		20	
MOP rate required to replace K next year (kg/ha)	30	52	76
MOP price next year ($/t)		$1,400	
Total cost to replace K ($/ha)	**-$42**	**-$73**	**-$106**

SUMMARY

Across all trial zones and both crop types in 2024/25 at Lock, hay produced a more favourable gross margin than grain. For all hay outcomes with a positive gross margin, the cost in replacing additional nutrients removed from hay was still less than the gain in gross margin, making it a positive scenario.

The hay gross margin varied significantly between the trial zones, with no consistent trend. In lentils, the loam soil performed best, but then in lupins the red soil had the highest lupin gross margin. This is perhaps reflective of their unique suitability to different soil types. Overall, lentils produced slightly higher hay gross margin results.

	Lentils			Lupins		
	Zone 1 - Loam soil	**Zone 2 - Sandy soil**	**Zone 3 - Red soil**	**Zone 1 - Loam soil**	**Zone 2 - Sandy soil**	**Zone 3 - Red soil**
Grain yield	0.5	0.1	0.2	0.4	0.7	0.8
Grain gross margin	$62	-$298	-$208	-$162	-$5	$48
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA	NA	NA	NA
Hay yield	1.98	0.8	1.5	0.75	1.3	1.9
Hay gross margin	$340	-$64	$176	-$65	$123	$328
Cost of additional nitrogen removal from hay compared to grain	-$77	-$31	-$59	-$39	-$67	-$99
Cost of additional potassium removal from hay compared to grain	-$89	-$36	-$67	-$42	-$73	-$106

Ungarra, Eyre Peninsula

LENTILS

Grain gross margin

	Location within paddock		
	West	**East**	**South**
Grain yield (t/ha)	1.1	1.1	1.3
Grain price ($/t) (December 2024)	$960		
Total grain income ($/ha)	$1,056	$1,056	$1,248
Seed costs ($/ha)	$55	$55	$51
Chemical costs ($/ha)	$156	$156	$156
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$220	$220	$220
Grain freight costs ($/ha)	$17	$17	$20
Total variable costs ($/ha)	$501	$501	$499
Gross margin ($/ha)	**$556**	**$556**	**$749**

Note: Lentil price is recorded as it was on the day of harvest, according to the AIR EP team.
Note: Limited input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock		
	West	**East**	**South**
Hay yield (t/ha)	0.21	0.68	0.19
Hay price ($/t) (December 2024)	$400		
Total hay income ($/ha)	$84	$272	$76
Seed costs ($/ha)	$55	$55	$51
Chemical costs ($/ha)	$150	$150	$150
Fertiliser costs ($/ha)	$53	$53	$53
Operational costs ($/ha)	$179	$199	$178
Hay freight costs ($/ha)	$3	$10	$3
Total variable costs ($/ha)	$439	$467	$434
Gross margin ($/ha)	**-$355**	**-$195**	**-$358**

Note: Limited input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	West	East	South
Hay yield (t/ha)	0.21	0.68	0.19
Estimated additional nitrogen removed with lentil hay (kg N/t)	20		
Urea rate required to replace N next year (kg/ha)	9	30	8
Urea price next year ($/t)	$900		
Total cost to replace N ($/ha)	**-$8**	**-$27**	**-$7**
Estimated additional potassium removed with lentil hay (kg K/t)	16		
MOP rate required to replace K next year (kg/ha)	7	22	6
MOP price next year ($/t)	$1,400		
Total cost to replace K ($/ha)	**-$9**	**-$30**	**-$9**

FABA BEANS

Grain gross margin

	Location within paddock	
	West	East
Grain yield (t/ha)	1.5	1.4
Grain price ($/t) (December 2024)	$880	
Total grain income ($/ha)	$1,320	$1,232
Seed costs ($/ha)	$60	$60
Chemical costs ($/ha)	$121	$121
Fertiliser costs ($/ha)	$63	$63
Operational costs ($/ha)	$220	$220
Grain freight costs ($/ha)	$23	$21
Total variable costs ($/ha)	$486	$484
Gross margin ($/ha)	**$834**	**$748**

Note: Faba bean price is recorded as it was on the day of harvest, according to the AIR EP team.
Note: Limited input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock	
	West	East
Hay yield (t/ha)	0.52	0.75
Hay price ($/t) (December 2024)	$400	
Total hay income ($/ha)	$208	$300
Seed costs ($/ha)	$60	$60
Chemical costs ($/ha)	$114	$114
Fertiliser costs ($/ha)	$63	$63
Operational costs ($/ha)	$192	$202
Hay freight costs ($/ha)	$8	$11
Total variable costs ($/ha)	$437	$450
Gross margin ($/ha)	**-$229**	**-$150**

Note: Limited input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock	
	West	East
Hay yield (t/ha)	0.52	0.75
Estimated additional nitrogen removed with faba bean hay (kg N/t)	20.5	
Urea rate required to replace N next year (kg/ha)	23	33
Urea price next year ($/t)	$900	
Total cost to replace N ($/ha)	**-$21**	**-$30**
Estimated additional potassium removed with faba bean hay (kg K/t)	20	
MOP rate required to replace K next year (kg/ha)	21	30
MOP price next year ($/t)	$1,400	
Total cost to replace K ($/ha)	**-$29**	**-$42**

LENTIL/FABA BEANS INTERCROPPED

Grain gross margin

	Transect average (TA)		South point of paddock	
	Lentil component	Faba bean component	Lentil component	Faba bean component
Grain yield (t/ha)	1.17	0.78	1.02	0.68
Grain price ($/t) (December 2024)	$960	$880	$960	$880
Total grain income ($/ha)	$1,810		$1,578	
Seed costs ($/ha)	$46	$41	$46	$41
Chemical costs ($/ha)	$138		$138	
Fertiliser costs ($/ha)	$63		$63	
Operational costs ($/ha)	$220		$220	
Grain freight costs ($/ha)	$18	$12	$15	$10
Total variable costs ($/ha)	$537		$533	
Gross margin ($/ha)	**$1,273**		**$1,045**	

Note: Lentil and faba bean prices are recorded as it was on the day of harvest, according to the AIR EP team.
Note: Limited input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	South point of paddock	
	Lentil component	Faba bean component
Hay yield (t/ha)	0.26	0.38
Hay price ($/t) (December 2024)	$400	
Hay income ($/ha)	$104	$152
Total hay income ($/ha)	$256	
Seed costs ($/ha)	$46	$41
Chemical costs ($/ha)	$131	
Fertiliser costs ($/ha)	$63	
Operational costs ($/ha)	$197	
Hay freight costs ($/ha)	$10	
Total variable costs ($/ha)	$488	
Gross margin ($/ha)	**-$232**	

Note: Limited input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	South point of paddock	
	Lentil component	**Faba beans component**
Hay yield (t/ha)	0.26	0.38
Estimated additional nitrogen removed with lentil/faba bean hay (kg N/t)	20	20.5
Urea rate required to replace N next year (kg/ha)	11	17
Urea price next year ($/t)	$900	
Total cost to replace N ($/ha)	**-$10**	**-$15**
Estimated additional potassium removed with lentil/faba bean hay (kg K/t)	16	20
MOP rate required to replace K next year (kg/ha)	8	15
MOP price next year ($/t)	$1,400	
Total cost to replace K ($/ha)	**-$12**	**-$21**

SUMMARY

At Ungarra in 2024/25, across all trial zones and crop types, the grain gross margins were significantly higher than the hay gross margins. All hay gross margins were negative, as the hay income did not surpass the variable costs. Interestingly, the intercropped lentils and faba beans had the highest gross margins, at >$1000/ha, however this was recorded from a different area of the trial paddock and there is not comparison point for only lentils and only faba beans.

Faba beans generally had higher gross margins across the trial zones than lentils, with a difference of approx. >$200/ha, making them a clear winner. Although the grain price was lower for beans than it was for lentils, the extra yield of the beans made a strong contribution to higher gross margins. Lentils grown in the South zone produced a higher grain gross margin, which was on par with the faba bean gross margin in East.

	Lentils			Faba beans		Lentils/faba beans intercropped	
	West	East	South	West	East	Transect average (TA)	South point of paddock
Grain yield	1.1	1.1	1.3	1.5	1.4	1.95	1.7
Grain gross margin	$556	$556	$749	$834	$748	$1,273	$1,045
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA	NA	NA	NA	NA
Hay yield	0.21	0.68	0.19	0.52	0.75	NA	0.64
Hay gross margin	-$355	-$195	-$358	-$229	-$150	NA	-$232
Cost of additional nitrogen removal from hay compared to grain	-$8	-$27	-$7	-$21	-$30	NA	-$25
Cost of additional potassium removal from hay compared to grain	-$9	-$30	-$9	-$29	-$42	NA	-$33

2025/26 Season

Spalding, Upper North

LENTILS

Grain gross margin

	Location within paddock		
	Location A	**Location B**	**Location C**
Grain yield (t/ha)	2.22	2.15	2.48
Grain price ($/t) (December 2025)	$590		
Total grain income ($/ha)	$1,310	$1,269	$1,463
Seed costs ($/ha)	$46	$46	$46
Chemical costs ($/ha)	$181	$181	$181
Fertiliser costs ($/ha)	$63	$63	$63
Operational costs ($/ha)	$232	$232	$232
Grain freight costs ($/ha)	$33	$32	$37
Total variable costs ($/ha)	$556	$555	$559
Gross margin ($/ha)	**$754**	**$714**	**$904**

Note: No input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume high rainfall zone (HRZ) for SAGIT input estimations.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

	Location within paddock		
	Location A	**Location B**	**Location C**
Starting deep soil N (kg N/ha) i.e. pre-seeding	101	432	302
Final deep soil N (kg N/ha) i.e. post-harvest	310	223	158
Net difference (kg N/ha)	209	-209	-144
Urea price ($/t) (March 2026)	$795		
$ value per kg of N	$1.7		
Benefit/cost of nitrogen for next year	**$361**	**-$361**	**-$249**

Note: Based on sampling depth of 0-60cm. However, missing the 30-60cm depth for Location A).

Hay gross margin

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	3.82	3.75	3.16
Hay price ($/t) (December 2025)	$400		
Total hay income ($/ha)	$1,528	$1,500	$1,264
Seed costs ($/ha)	$46	$46	$46
Chemical costs ($/ha)	$174	$174	$174
Fertiliser costs ($/ha)	$63	$63	$63
Operational costs ($/ha)	$344	$341	$316
Hay freight costs ($/ha)	$57	$56	$47
Total variable costs ($/ha)	$685	$681	$647
Gross margin ($/ha)	**$843**	**$819**	**$617**

Note: No input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume high rainfall zone (HRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	3.82	3.75	3.16
Estimated additional nitrogen removed with lentil hay (kg N/t)	20		
Urea rate required to replace N next year (kg/ha)	166	163	137
Urea price next year ($/t)	$795		
Total cost to replace N ($/ha)	**-$132**	**-$130**	**-$109**
Estimated additional potassium removed with lentil hay (kg K/t)	16		
MOP rate required to replace K next year (kg/ha)	122	120	101
MOP price next year ($/t)	$1,400		
Total cost to replace K ($/ha)	**-$171**	**-$168**	**-$142**

SUMMARY

Lentil hay gross margins at Spalding in 2025/26 were generally higher than the grain gross margin, except for Location C. However, once the cost to replace addition nitrogen and potassium removed from hay are taken in consideration, the grain gross margin is more favourable.

The nitrogen results from both pre-seeding and post-harvest seem unexpectedly high and perhaps should not be relied upon for this analysis. There is also significant

variability in the nitrogen results with a positive $361/ha value of remaining N for Location A, but -$361/ha cost for Location B. However, if the lentils did in fact use more nitrogen than they fixed, it may make a stronger case for hay.

	Lentils		
	Location A	**Location B**	**Location C**
Grain yield	2.22	2.15	2.48
Grain gross margin	$754	$714	$904
Value of remaining (or subtracted) nitrogen for next year after grain harvest	$361	-$361	-$249
Hay yield	3.82	3.75	3.16
Hay gross margin	$843	$819	$617
Cost of additional nitrogen removal from hay compared to grain	-$132	-$130	-$109
Cost of additional potassium removal from hay compared to grain	-$171	-$168	-$142

Melrose, Upper North

LENTILS

Grain gross margin

	Location within paddock		
	Location A	**Location B**	**Location C**
Grain yield (t/ha)	1.7	1.39	1.54
Grain price ($/t) (December 2025)	$590		
Total grain income ($/ha)	$1,003	$820	$909
Seed costs ($/ha)	$46	$46	$46
Chemical costs ($/ha)	$181	$181	$181
Fertiliser costs ($/ha)	$63	$63	$63
Operational costs ($/ha)	$232	$232	$232
Grain freight costs ($/ha)	$26	$21	$23
Total variable costs ($/ha)	$548	$543	$545
Gross margin ($/ha)	**$455**	**$277**	**$363**

Note: No input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume high rainfall zone (HRZ) for SAGIT input estimations.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

	Location within paddock		
	Location A	**Location B**	**Location C**
Starting deep soil N (kg N/ha) i.e. pre-seeding	130	274	144
Final deep soil N (kg N/ha) i.e. post-harvest	151	324	180
Net difference (kg N/ha)	21	50	36
Urea price ($/t) (March 2026)	$795		
$ value per kg of N	$1.7		
Benefit/cost of nitrogen for next year	**$36**	**$86**	**$62**

Note: Based on sampling depth of 0-60cm.

Hay gross margin

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	3.6	2.01	2.79
Hay price ($/t) (December 2025)		$400	
Total hay income ($/ha)	$1,440	$804	$1,116
Seed costs ($/ha)	$46	$46	$46
Chemical costs ($/ha)	$174	$174	$174
Fertiliser costs ($/ha)	$63	$63	$63
Operational costs ($/ha)	$335	$267	$301
Hay freight costs ($/ha)	$54	$30	$42
Total variable costs ($/ha)	$673	$581	$626
Gross margin ($/ha)	**$767**	**$223**	**$490**

Note: No input records were provided for this site, so analysis is based on assumptions, as outlined in methodology.
Note: Assume high rainfall zone (HRZ) for SAGIT input estimations.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock		
	Location A	**Location B**	**Location C**
Hay yield (t/ha)	3.6	2.01	2.79
Estimated additional nitrogen removed with lentil hay (kg N/t)		20	
Urea rate required to replace N next year (kg/ha)	157	87	121
Urea price next year ($/t)		$795	
Total cost to replace N ($/ha)	**-$124**	**-$69**	**-$96**
Estimated additional potassium removed with lentil hay (kg K/t)		16	
MOP rate required to replace K next year (kg/ha)	115	64	89
MOP price next year ($/t)		$1,400	
Total cost to replace K ($/ha)	**-$161**	**-$90**	**-$125**

SUMMARY

At Melrose in 2025/26, there was variability across trial zones regarding whether grain or hay gross margins performed better. At Location B, the grain gross margin was higher than the hay gross margin, and then also had an additional benefit from the value of remaining nitrogen.

At Location A and C, the hay gross margin is higher than the grain gross margin. However, once the flow on effects for next year are factored in (i.e. benefit of remaining

nitrogen after grain and cost of replacing nutrients after hay), the grain scenario is slightly better for Location A and significantly better for Location C.

	Lentils		
	Location A	**Location B**	**Location C**
Grain yield	1.7	1.39	1.54
Grain gross margin	$455	$277	$363
Value of remaining (or subtracted) nitrogen for next year after grain harvest	$36	$86	$62
Hay yield	3.6	2.01	2.79
Hay gross margin	$767	$223	$490
Cost of additional nitrogen removal from hay compared to grain	-$124	-$69	-$96
Cost of additional potassium removal from hay compared to grain	-$161	-$90	-$125

Minnipa, Eyre Peninsula

PEAS

Grain gross margin

Required data was not provided to complete this analysis.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock	
	Red flat	**Sandy soil**
Hay yield (t/ha)	0.72	0.41
Hay price ($/t) (December 2025)	$400	
Total hay income ($/ha)	$288	$164
Seed costs ($/ha)	$29	$29
Chemical costs ($/ha)	$69	$69
Fertiliser costs ($/ha)	$53	$53
Operational costs ($/ha)	$201	$187
Hay freight costs ($/ha)	$11	$6
Total variable costs ($/ha)	$366	$348
Gross margin ($/ha)	**-$75**	**-$181**

Note: Most input records were provided for this site.
Note: Assume low rainfall zone (LRZ) for SAGIT input estimations, where required to fill gaps in records.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock	
	Red flat	Sandy soil
Hay yield (t/ha)	0.72	0.41
Estimated additional nitrogen removed with pea hay (kg N/t)	19	
Urea rate required to replace N next year (kg/ha)	30	17
Urea price next year ($/t)	$795	
Total cost to replace N ($/ha)	**-$24**	**-$13**
Estimated additional potassium removed with pea hay (kg K/t)	18	
MOP rate required to replace K next year (kg/ha)	26	15
MOP price next year ($/t)	$1,400	
Total cost to replace K ($/ha)	**-$36**	**-$21**

VETCH

Grain gross margin

Required data was not provided to complete this analysis.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

	Location within paddock	
	Red flat	Sandy soil
Hay yield (t/ha)	1.29	0.3
Hay price ($/t) (December 2025)	$400	
Total hay income ($/ha)	$516	$120
Seed costs ($/ha)	$33	$33
Chemical costs ($/ha)	$69	$69
Fertiliser costs ($/ha)	$53	$53
Operational costs ($/ha)	$225	$183
Hay freight costs ($/ha)	$19	$5
Total variable costs ($/ha)	$399	$342
Gross margin ($/ha)	**$117**	**-$222**

Note: Most input records were provided for this site.
Note: Assume low rainfall zone (LRZ) for SAGIT input estimations, where required to fill gaps in records.

Cost of additional nutrient removal from hay compared to grain

	Location within paddock	
	Red flat	Sandy soil
Hay yield (t/ha)	1.29	0.3
Estimated additional nitrogen removed with vetch hay (kg N/t)	13	
Urea rate required to replace N next year (kg/ha)	36	8
Urea price next year ($/t)	$795	
Total cost to replace N ($/ha)	**-$29**	**-$7**
Estimated additional potassium removed with vetch hay (kg K/t)	44	
MOP rate required to replace K next year (kg/ha)	114	26
MOP price next year ($/t)	$1,400	
Total cost to replace K ($/ha)	**-$159**	**-$37**

SUMMARY

Hay gross margin results were generally poor at Minnipa in 2025/26. Only vetch on the red flat produced a positive gross margin, but this was then entirely counteracted by high nutrient replacement costs after removing hay. However, in a low yielding year, it may still be advantageous to cut a crop for hay and get some income. The peas and vetch both yielded higher on the red flat than the sandy soil.

	Peas		Vetch	
	Red flat	Sandy soil	Red flat	Sandy soil
Grain yield	NA	NA	NA	NA
Grain gross margin	NA	NA	NA	NA
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA	NA
Hay yield	0.72	0.41	1.29	0.3
Hay gross margin	-$78	-$184	$117	-$222
Cost of additional nitrogen removal from hay compared to grain	-$24	-$13	-$29	-$7
Cost of additional potassium removal from hay compared to grain	-$36	-$21	-$159	-$37

Ungarra, Eyre Peninsula

LENTILS

Grain gross margin

	Location within paddock		
	East	Central	West
Grain yield (t/ha)	3.35	0.86	1.82
Grain price ($/t) (December 2025)	$590		
Total grain income ($/ha)	$1,977	$507	$1,074
Seed costs ($/ha)	$58	$58	$58
Chemical costs ($/ha)	$179	$179	$179
Fertiliser costs ($/ha)	$59	$59	$59
Operational costs ($/ha)	$208	$208	$208
Grain freight costs ($/ha)	$50	$13	$27
Total variable costs ($/ha)	$555	$517	$532
Gross margin ($/ha)	**$1,422**	**-$10**	**$542**

Note: Most input records were provided for this site.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations, where required to fill gaps in records.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

Required data was not provided to complete this analysis.

Cost of additional nutrient removal from hay compared to grain

Required data was not provided to complete this analysis.

FABA BEANS

Grain gross margin

	Location within paddock		
	East	Central	West
Grain yield (t/ha)	3.93	2.48	3.7
Grain price ($/t) (December 2025)	$425		
Total grain income ($/ha)	$1,670	$1,054	$1,573
Seed costs ($/ha)	$52	$52	$52
Chemical costs ($/ha)	$128	$128	$128
Fertiliser costs ($/ha)	$85	$85	$85
Operational costs ($/ha)	$196	$196	$196
Grain freight costs ($/ha)	$59	$37	$56
Total variable costs ($/ha)	$520	$498	$516
Gross margin ($/ha)	**$1,151**	**$556**	**$1,056**

Note: Most input records were provided for this site.
Note: Assume medium rainfall zone (MRZ) for SAGIT input estimations, where required to fill gaps in records.

Value of remaining (or subtracted) nitrogen for next year after grain harvest

Required data was not provided to complete this analysis.

Hay gross margin

Required data was not provided to complete this analysis.

Cost of additional nutrient removal from hay compared to grain

Required data was not provided to complete this analysis.

SUMMARY

Grain gross margins varied significantly across the different trial zones at Ungarra in 2025/26, but did follow a trend. The East zone performed best in both lentils and faba beans, followed by West and then Central. Lentils in East had the highest gross margin, $1,422/ha, but then also had a negative gross margin result in Central. Faba beans performed more consistently across all zones, with positive gross margins across the board.

	Lentils			Faba beans		
	East	Central	West	East	Central	West
Grain yield	3.35	0.86	1.82	3.93	2.48	3.7
Grain gross margin	$1,422	-$10	$542	$1,151	$556	$1,056
Value of remaining (or subtracted) nitrogen for next year after grain harvest	NA	NA	NA	NA	NA	NA
Hay yield	NA	NA	NA	NA	NA	NA
Hay gross margin	NA	NA	NA	NA	NA	NA
Cost of additional nitrogen removal from hay compared to grain	NA	NA	NA	NA	NA	NA
Cost of additional potassium removal from hay compared to grain	NA	NA	NA	NA	NA	NA

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