Income & Cost Budgets

Winter Crops – 2021

A joint initiative between the

Bureau for Food and Agricultural Policy (BFAP)

and the

Protein Research Foundation (PRF)

and the

Oil & Protein Seeds Development Trust / Oilseeds Advisory Committee

and

Grain South Africa

May 2021

INCOME & COST BUDGETS FOR WINTER CROPS - 2021 SEASON

Foreword

The Protein Research Foundation (PRF) strives to make a significant contribution to the promotion of local production of protein on a sustainable basis, in order to satisfy the growing demand for protein for animal production purposes as well as the optimal utilisation thereof, which will lead to an increase in the standard of living of all people in the Republic of South Africa. The main objectives of the Protein Research Foundation (PRF) are to replace imported protein used in animal feed with locally produced protein and to encourage the better utilisation of this protein. The objectives are promoted through research funding and technology transfer.

Historically, the Protein Research Foundation (PRF), Grain South Africa (GSA), the Bureau for Food and Agricultural Policy (BFAP) and agribusinesses have published their individual cost of production budgets which focusses on summer- and winter crops produced in South Africa's key agro-ecological zones, both under dryland- and irrigation cultivation. Given the existing activities associated within the organisations and the extent of the coverage of South African agricultural production, these initiatives are once again integrated to compile the 2021 winter crop budgets.

It is acknowledged that regional variation will occur and that estimates will differ from farm to farm. Whilst every care has been taken in preparing this report, it is advised to adjust the estimates according to the farm's respective location, yield potential, cultivation system and/or strategies.

Disclaimer

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Area coverage

Table 1 and Table 2 indicates the area of coverage and include the dryland and irrigated crops. The source of data and collaborators are also presented. The collaborators are sincerely grateful for the interaction and assistance with data, knowledge and other inputs from each organisation, agribusiness and farmers.

Table 1.1: Area coverage: Dryland

Area	Dryland Crops	Source & Collaborators
Southern Cape		
Caledon	Wheat, Barley, Canola, Oats & Lupines	Overberg Agri, GSA & BFAP
Bredasdorp	Wheat, Barley, Canola, Oats & Lupines	Overberg Agri, GSA & BFAP
Eastern Ruêns (high potential)	Wheat, Barley, Canola, Oats & Lupines	SSK, GSA & BFAP
Eastern Ruêns (normal potential)	Wheat, Barley, Canola, Oats & Lupines	SSK, GSA & BFAP
Eastern Ruêns (low potential)	Wheat, Barley, Canola, Oats & Lupines	SSK, GSA & BFAP
Western Cape		
Southern Swartland	Wheat & Canola	Kaap Agri, Overberg Agri, GSA & BFAP
Moorreesburg, Malmesbury & Porterville	Wheat, Canola & Oats	Kaap Agri, Overberg Agri, GSA & BFAP
Darling-vlakte – Hopefield (Sandveld)	Wheat, Canola & Lupines	Kaap Agri, Overberg Agri, GSA & BFAP
Rooi Karoo	Wheat & Canola	Kaap Agri, Overberg Agri, GSA & BFAP
Free State		
Eastern Free State	Wheat	GSA / VKB / BFAP / Individual Farmers
Central Free State	Wheat	GSA / VKB / BFAP / Individual Farmers

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Table 1.2: Area coverage: Irrigation

Area	Irrigated Crops	Source & Collaborators
Northern Cape		
GWK Area	Wheat, Barley & Canola	GWK, GSA & BFAP
Free State		
Eastern Free State	Wheat	GSA / VKB / BFAP / Individual Farmers
Limpopo		
Britz / Northam / Koedoeskop	Wheat & Barley	GSA, Obaro & BFAP

Yield Assumptions

Figure 1.1 and Figure 1.2 reports the yield assumptions for dryland and irrigated crops. The yield assumptions represent target yields which were determined in a round table discussion which are based on the crop potential in the respective regions, historic trends and expert opinions. It is important to note that intra-regional variations will occur, and it is recommended that producers adjust their respective target yields based on their location and potential. Table 1.3 illustrates descriptive statistics for yield trends and projections over the period from 2005-2021.

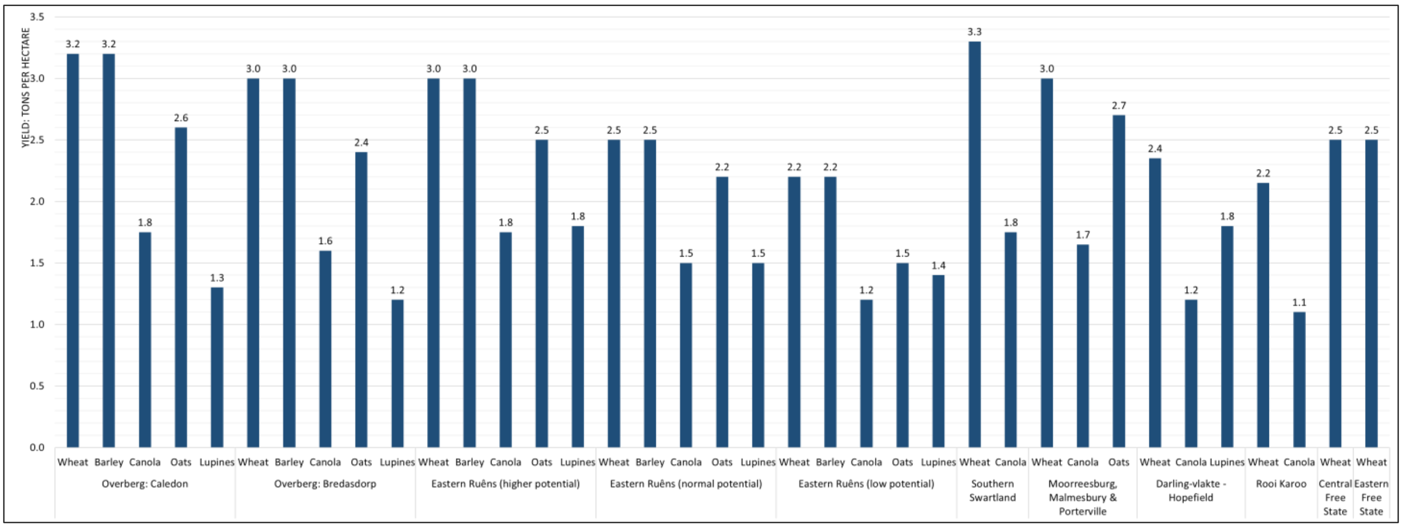

Figure 1.1: Dryland winter crop yield assumptions

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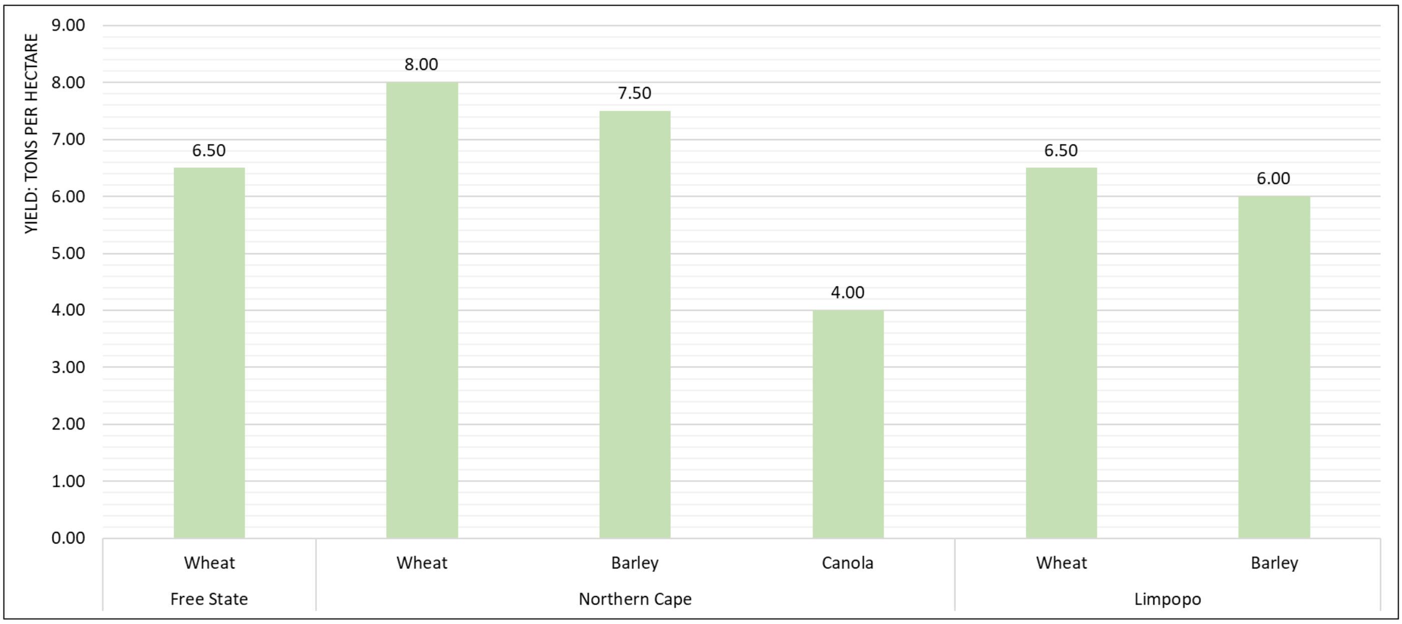

Figure 1.2: Irrigated winter crops yield assumptions

Table 1.3: Industry yield trends & projections: 2005-2021

	Wheat: Winter area	Wheat: Summer area	Wheat: Irrigation	Barley: Winter area	Barley: Summer area	Canola
Mean (2005-2021)	2.60	2.86	6.21	2.83	6.37	1.34
3-year average (2019-2021)	2.68	3.65	6.55	3.13	7.12	1.69
5-year average (2017-2021)	2.53	3.80	6.75	3.16	6.85	1.51
Min (2005-2021)	1.80	1.53	5.27	1.95	5.19	0.90
Median (2005-2021)	2.50	2.65	6.25	2.97	6.45	1.27
Max (2005-2021)	3.40	4.40	7.15	3.95	7.20	2.25

Source: BFAP, 2021

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Crop Price Assumptions

Annually, the Bureau for Food and Agricultural Policy (BFAP) presents an outlook of agricultural production, consumption, prices and trade in South Africa over a 10-year period. The information presented is based on assumptions about a range of economic, technological, environmental, political, institutional, and social factors. The outlook is generated by the BFAP system of models. A number of critical assumptions have to be made for baseline projections. One of the most important assumptions is that normal weather conditions will prevail in Southern Africa and around the world; therefore, yields grow constantly over the baseline as technology improves. Assumptions regarding the outlook of macroeconomic conditions are based on a combination of projections developed by the International Monetary Fund (IMF), the World Bank and the Bureau for Economic Research (BER) at Stellenbosch University. Baseline projections for world commodity markets were generated by FAPRI at the University of Missouri. Once the critical assumptions are captured in the BFAP system of models, the Outlook for all commodities is simulated within a closed system of equations. This implies that, for example, any shocks in the grain sector are transmitted to the livestock sector and vice versa. Therefore, for each commodity, important components of supply and demand are identified, after which an equilibrium is established through balance sheet principles by equalling total demand to total supply.

Figure 1.3 illustrates the commodity price assumptions for wheat, barley, canola and oats that were used as base price for the winter crop budgets for the 2021 production season. Table 1.4 illustrates the standard deduction from the base SAFEX or derived price as presented in Figure 1.3. The sensitivity analysis in the respective crop budgets makes provision for variation in price and yield and indicates the gross margin under each price and yield combination.

Table 1.4: Deductions from SAFEX price to derive a farm gate price per region

	Wheat	Barley	Canola	Oats
SAFEX / Derived Price: 2021	X	X (adjusted with price link for Southern Cape & Northern producing regions)	X	X
- transport differential	X	X	X (for selective regions)	Standard wheat transport differential + transport to processing facilities (estimate R200-250 per ton)
- grade differential (BS, B1, B2, B3 & COW)	Based on historic averages; updated with new grading system	-	-	-
- silo, handling & administration costs	X	X	-	-
- statutory levies	X	X	X	X
+ price premiums	-	X	Back payment calculated at 10% of derived price	-

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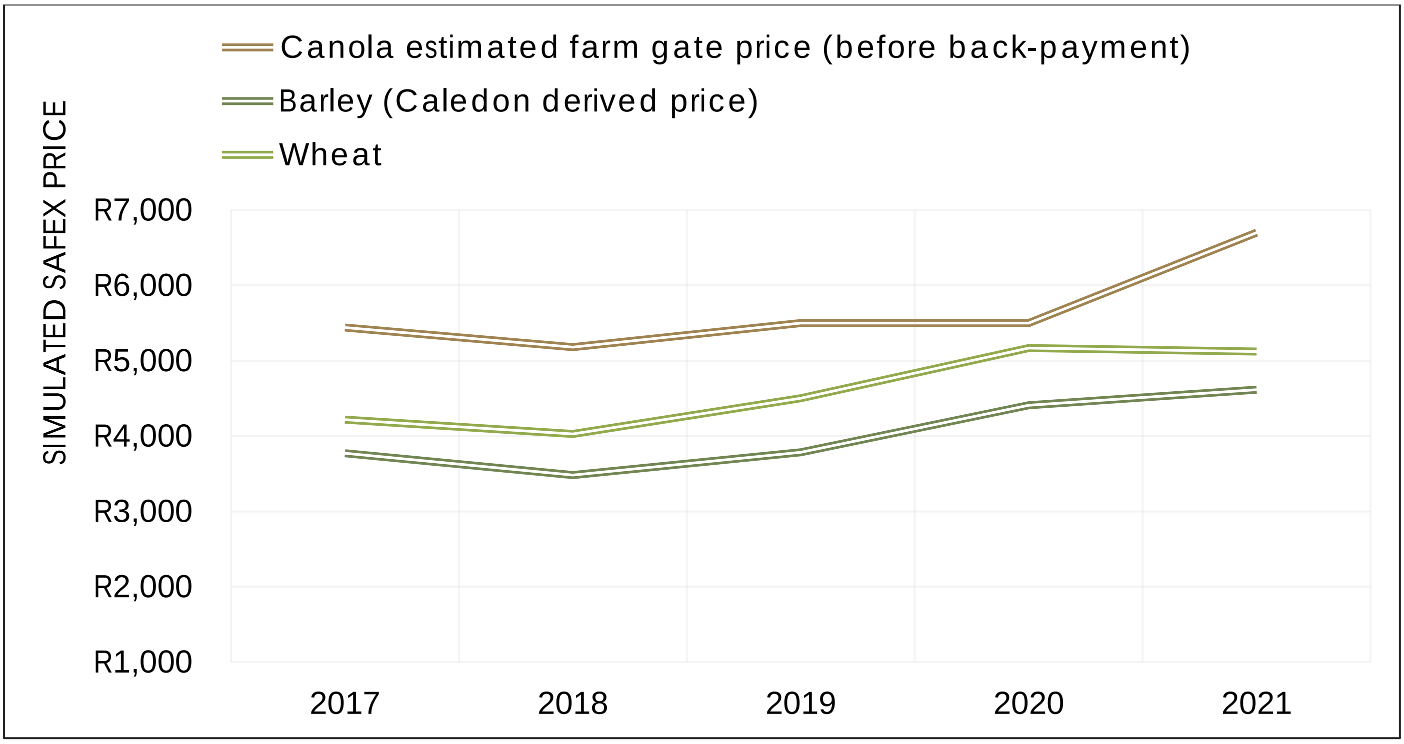

Figure 1.3: BFAP average annual commodity price projections: 2017-2021

Source: BFAP, 2021

Global agricultural commodity prices have increased rapidly since the final quarter of 2020. The price of oilseeds has reached levels last seen in 2012, due to low supply and high demand, and global stocks are expected to reach a 5-year low at the end of the season. Supply has been limited due to weather concerns and disruptions in palm oil production due lack of foreign labour (in an effort to contain COVID-19). While China has been rebuilding its pig herd following African Swine Fever, driving up demand. Tight oilseed supplies are expected to ease as Southern hemisphere soybeans become available.

These global price dynamics have also spilled over into South African markets. South Africa is still a net importer of vegetable oil, hence prices tend to trade at import parity and consequently international prices are key to determining local levels. The same is true for wheat, where South Africa typically imports up to 50% of the domestic requirement.

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Key Input Cost Trends

Figure 1.4 illustrates the cost trends for fuel, urea, MAP and potassium chloride over the period from January 2019 to February 2021. Around the time of the hard lockdown in South Africa (February to May 2020) the fertiliser cost reported an increase, and decreased again from May to July 2020. After the July decrease, the cost of nitrogen and phosphates never returned back to their original pre-lockdown levels, and continued to report an increasing trend. The cost of potassium continued to decrease after May 2020. The opposite lockdown trend was observed for fuel, the price decreased during the lockdown period and increased again after May 2020. Persistent uncertainty in the macro-economic environment could entail continuous volatility in the Rand / USD exchange rate, which could impact the cost of imported inputs such as fuel, fertilisers, chemicals and machinery / implements. If inflationary pressures in the US persist, this would likely force the US Reserve to increase interest rates leading to a stronger US dollar and consequently a weaker Rand

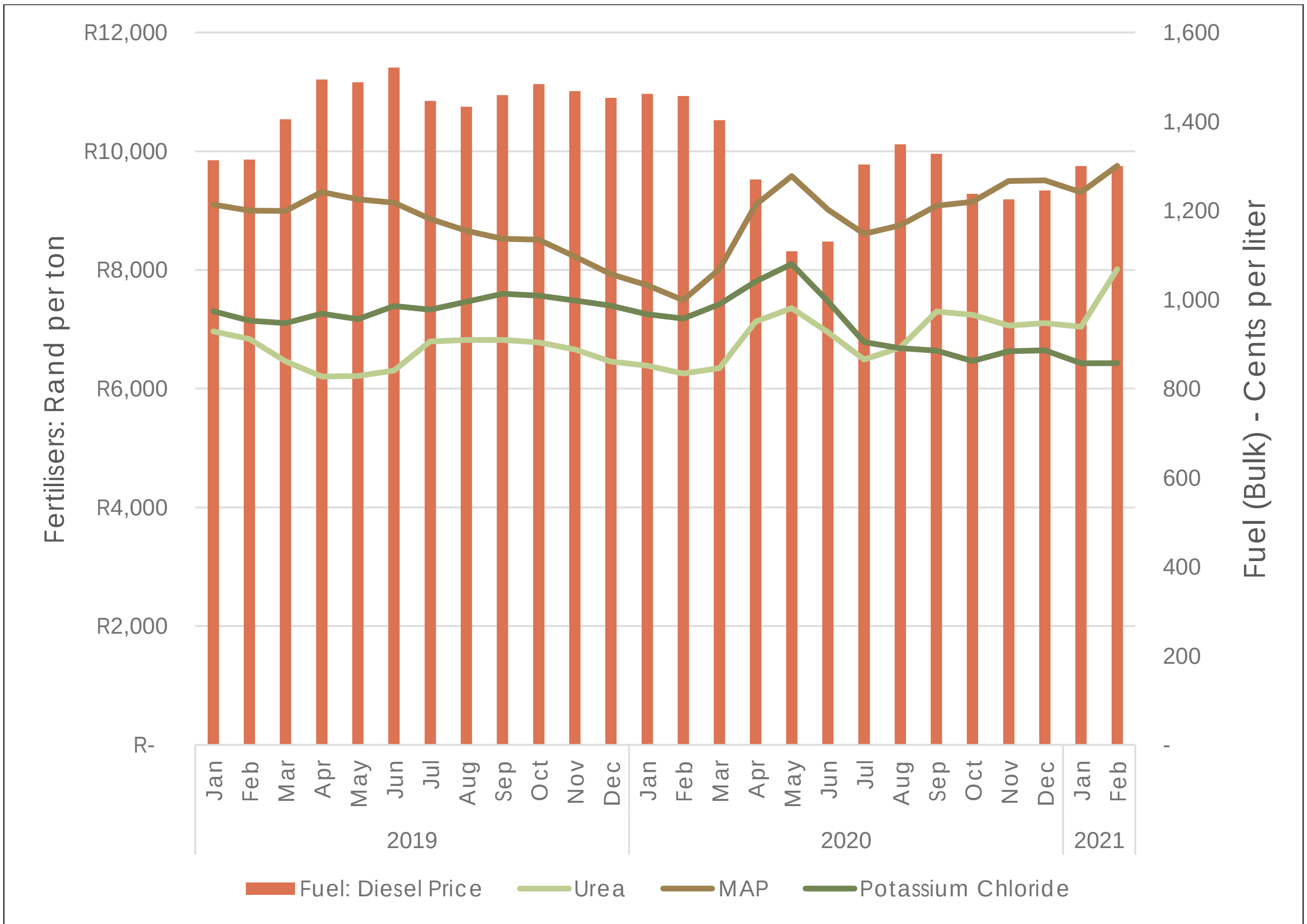

Figure 1.4: Fertiliser & fuel cost trends: January 2019 to February 2021 & 2021 projections

Source: Grain SA & BFAP, April 2021

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INCOME & COST BUDGETS – DRYLAND PRODUCTION REGION

Southern Cape: Caledon

Table 2.1: Income & cost budgets for wheat, barley, canola, oats & lupines for Southern Cape (Caledon region) – Dryland

		Southern Cape: Caledon				
Crop		Wheat	Barley	Canola	Oats	Lupines
Production System		Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME						
Yield: Deterministic	T/HA	3.20	3.20	1.75	2.60	1.30
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R4,955	R6,700	R4,955	R4,450
Total deductions	R/TON	R714	R677	R30	R865	R139
- Transport differential	R/TON	R600	R600	R-	R825	R100
- Grade differential	R/TON	R3	R-	R-	R-	R-
- Marketing, handling & statutory levies	R/TON	R111	R77	R30	R40	R39
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R65	R670	R-	R-
Net Farm Gate Price	R/TON	R4,241	R4,212	R7,340	R4,091	R4,311
GROSS INCOME	R/HA	R13,571	R13,480	R12,845	R10,636	R5,605
2) VARIABLE EXPENDITURES						
Contracting	R/HA	R-	R-	R-	R-	R-
Crop insurance	R/HA	R39	R39	R37	R31	R16
Fertilizer	R/HA	R2,146	R2,165	R2,111	R1,677	R483
Lime	R/HA	R181	R181	R181	R152	R152
Seed	R/HA	R594	R491	R1,367	R486	R980
Fuel	R/HA	R669	R722	R625	R656	R618
Herbicide	R/HA	R731	R606	R517	R406	R438
Insecticide	R/HA	R277	R273	R727	R202	R170
Fungicides	R/HA	R505	R607	R447	R397	R265
Marketing costs	R/HA	R60	R75	R17	R-	R-
Repairs and maintenance	R/HA	R767	R768	R720	R758	R731
Casual labour	R/HA	R8	R8	R8	R8	R8
Aerial spray	R/HA	R-	R-	R-	R-	R-
Other expenditure	R/HA	R115	R120	R110	R93	R93
TOTAL VARIABLE EXPENDITURE	R/HA	R6,092	R6,053	R6,867	R4,864	R3,954
TOTAL VARIABLE EXPENDITURE	R/TON	R1,904	R1,891	R3,924	R1,871	R3,042
3.1) GROSS MARGIN:	R/HA	R7,479	R7,427	R5,978	R5,772	R1,651
3.2) GROSS MARGIN:	R/TON	R2,337	R2,321	R3,416	R2,220	R1,270
Break-even yield	T/HA	1.44	1.44	0.94	1.19	0.92
Break-even price	R/TON	R1,904	R1,891	R3,924	R1,871	R3,042

Source: Overberg Agri, GSA & BFAP, April 2021

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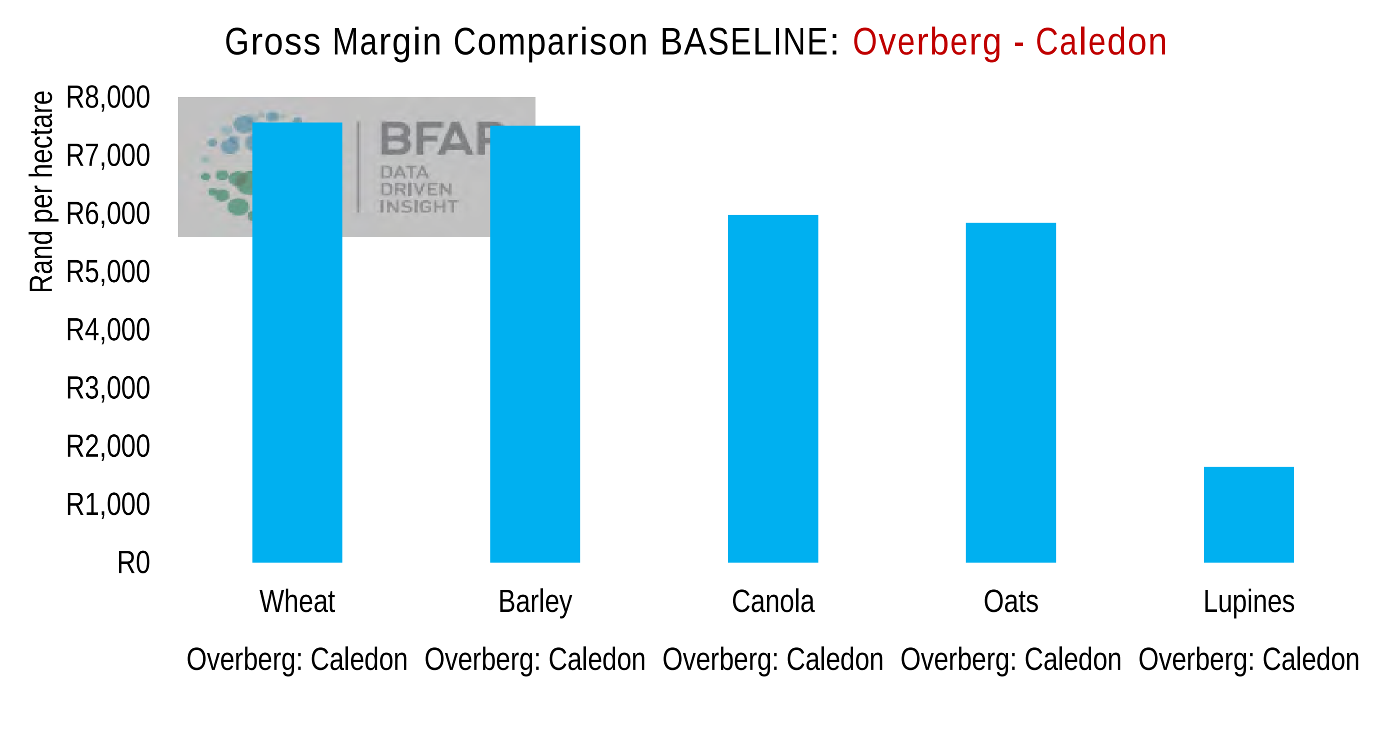

Figure 2.1: Gross margin comparison – Baseline: Southern Cape: Caledon region

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): OVERBERG - CALEDON							
PRODUCERS PRICE	YIELD (T/HA) 2.50	2.75	3.00	3.20	3.50	3.75	4.00
R3,241	R 2,010	R 2,821	R 3,631	R 4,279	R 5,251	R 6,062	R 6,872
R3,491	R 2,635	R 3,508	R 4,381	R 5,079	R 6,126	R 6,999	R 7,872
R3,741	R 3,260	R 4,196	R 5,131	R 5,879	R 7,001	R 7,937	R 8,872
R3,991	R 3,885	R 4,883	R 5,881	R 6,679	R 7,876	R 8,874	R 9,872
R4,241	R 4,510	R 5,571	R 6,631	R 7,479	R 8,751	R 9,812	R 10,872
R4,491	R 5,135	R 6,258	R 7,381	R 8,279	R 9,626	R 10,749	R 11,872
R4,741	R 5,760	R 6,946	R 8,131	R 9,079	R 10,501	R 11,687	R 12,872
R4,991	R 6,385	R 7,633	R 8,881	R 9,879	R 11,376	R 12,624	R 13,872
R5,241	R 7,010	R 8,321	R 9,631	R 10,679	R 12,251	R 13,562	R 14,872

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): OVERBERG - CALEDON							
PRODUCERS PRICE	YIELD (T/HA) 2.50	2.75	3.00	3.20	3.50	3.75	4.00
R3,212	R 1,979	R 2,782	R 3,585	R 4,227	R 5,191	R 5,994	R 6,797
R3,462	R 2,604	R 3,469	R 4,335	R 5,027	R 6,066	R 6,932	R 7,797
R3,712	R 3,229	R 4,157	R 5,085	R 5,827	R 6,941	R 7,869	R 8,797
R3,962	R 3,854	R 4,844	R 5,835	R 6,627	R 7,816	R 8,807	R 9,797
R4,212	R 4,479	R 5,532	R 6,585	R 7,427	R 8,691	R 9,744	R 10,797
R4,462	R 5,104	R 6,219	R 7,335	R 8,227	R 9,566	R 10,682	R 11,797
R4,712	R 5,729	R 6,907	R 8,085	R 9,027	R 10,441	R 11,619	R 12,797
R4,962	R 6,354	R 7,594	R 8,835	R 9,827	R 11,316	R 12,557	R 13,797
R5,212	R 6,979	R 8,282	R 9,585	R 10,627	R 12,191	R 13,494	R 14,797

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CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): OVERBERG - CALEDON

PRODUCERS PRICE	YIELD (T/HA) 1.00	1.25	1.50	1.75	2.00	2.25	2.50
R6,340	-R 527	R 1,058	R 2,643	R 4,228	R 5,813	R 7,398	R 8,983
R6,590	-R 277	R 1,371	R 3,018	R 4,666	R 6,313	R 7,961	R 9,608
R6,840	-R 27	R 1,683	R 3,393	R 5,103	R 6,813	R 8,523	R 10,233
R7,090	R 223	R 1,996	R 3,768	R 5,541	R 7,313	R 9,086	R 10,858
R7,340	R 473	R 2,308	R 4,143	R 5,978	R 7,813	R 9,648	R 11,483
R7,590	R 723	R 2,621	R 4,518	R 6,416	R 8,313	R 10,211	R 12,108
R7,840	R 973	R 2,933	R 4,893	R 6,853	R 8,813	R 10,773	R 12,733
R8,090	R 1,223	R 3,246	R 5,268	R 7,291	R 9,313	R 11,336	R 13,358
R8,340	R 1,473	R 3,558	R 5,643	R 7,728	R 9,813	R 11,898	R 13,983

CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): OVERBERG - CALEDON

YIELD	PRICE (R/TON) R 6,590	R 6,840	R 7,090	R 7,340	R 7,590	R 7,840	R 8,090
0.75	-R 9,403	-R 9,216	-R 9,028	-R 8,841	-R 8,653	-R 8,466	-R 8,278
1.00	-R 7,756	-R 7,506	-R 7,256	-R 7,006	-R 6,756	-R 6,506	-R 6,256
1.25	-R 6,108	-R 5,796	-R 5,483	-R 5,171	-R 4,858	-R 4,546	-R 4,233
1.50	-R 4,461	-R 4,086	-R 3,711	-R 3,336	-R 2,961	-R 2,586	-R 2,211
1.75	-R 2,813	-R 2,376	-R 1,938	-R 1,501	-R 1,063	-R 626	-R 188
2.00	-R 1,166	-R 666	-R 166	R 334	R 834	R 1,334	R 1,834
2.25	R 482	R 1,044	R 1,607	R 2,169	R 2,732	R 3,294	R 3,857
2.50	R 2,129	R 2,754	R 3,379	R 4,004	R 4,629	R 5,254	R 5,879
2.75	R 3,777	R 4,464	R 5,152	R 5,839	R 6,527	R 7,214	R 7,902

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Southern Cape: Bredasdorp

Table 2.2: Income & cost budgets for wheat, barley, canola, oats & lupines for Southern Cape (Bredasdorp region) - Dryland

		Southern Cape: Bredasdorp				
Crop		Wheat	Barley	Canola	Oats	Lupines
Production System		Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME						
Yield: Deterministic	T/HA	3.00	3.00	1.60	2.40	1.20
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R4,955	R6,700	R4,955	R4,450
Total deductions	R/TON	R714	R677	R30	R865	R100
- Transport differential	R/TON	R600	R600	R-	R825	R100
- Grade differential	R/TON	R3	R-	R-	R-	R-
- Marketing, handling & statutory levies	R/TON	R111	R77	R30	R40	R39
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R65	R670	R-	R-
Net Farm Gate Price	R/TON	R4,241	R4,212	R7,340	R4,091	R4,311
GROSS INCOME	R/HA	R12,723	R12,637	R11,744	R9,817	R5,174
2) VARIABLE EXPENDITURES						
Contracting	R/HA	R-	R-	R-	R-	R-
Crop insurance	R/HA	R37	R36	R34	R28	R15
Fertilizer	R/HA	R1,999	R1,906	R2,083	R1,542	R940
Lime	R/HA	R181	R181	R181	R152	R152
Seed	R/HA	R594	R453	R1,367	R486	R784
Fuel	R/HA	R695	R750	R715	R656	R739
Herbicide	R/HA	R731	R606	R517	R406	R438
Insecticide	R/HA	R277	R273	R727	R202	R170
Fungicides	R/HA	R505	R607	R447	R397	R265
Marketing costs	R/HA	R56	R70	R16	R-	R-
Repairs and maintenance	R/HA	R715	R737	R610	R699	R676
Casual labour	R/HA	R8	R8	R8	R8	R8
Aerial spray	R/HA	R-	R-	R-	R-	R-
Other expenditure	R/HA	R121	R122	R115	R107	R96
TOTAL VARIABLE EXPENDITURE	R/HA	R5,918	R5,748	R6,820	R4,681	R4,282
TOTAL VARIABLE EXPENDITURE	R/TON	R1,973	R1,916	R4,262	R1,951	R3,568
3.1) GROSS MARGIN:	R/HA	R6,805	R6,889	R4,924	R5,136	R892
3.2) GROSS MARGIN:	R/TON	R2,268	R2,296	R3,078	R2,140	R743
Break-even yield	T/HA	1.40	1.36	0.93	1.14	0.99
Break-even price	R/TON	R1,973	R1,916	R4,262	R1,951	R3,568

Source: Overberg Agri, GSA & BFAP, April 2021

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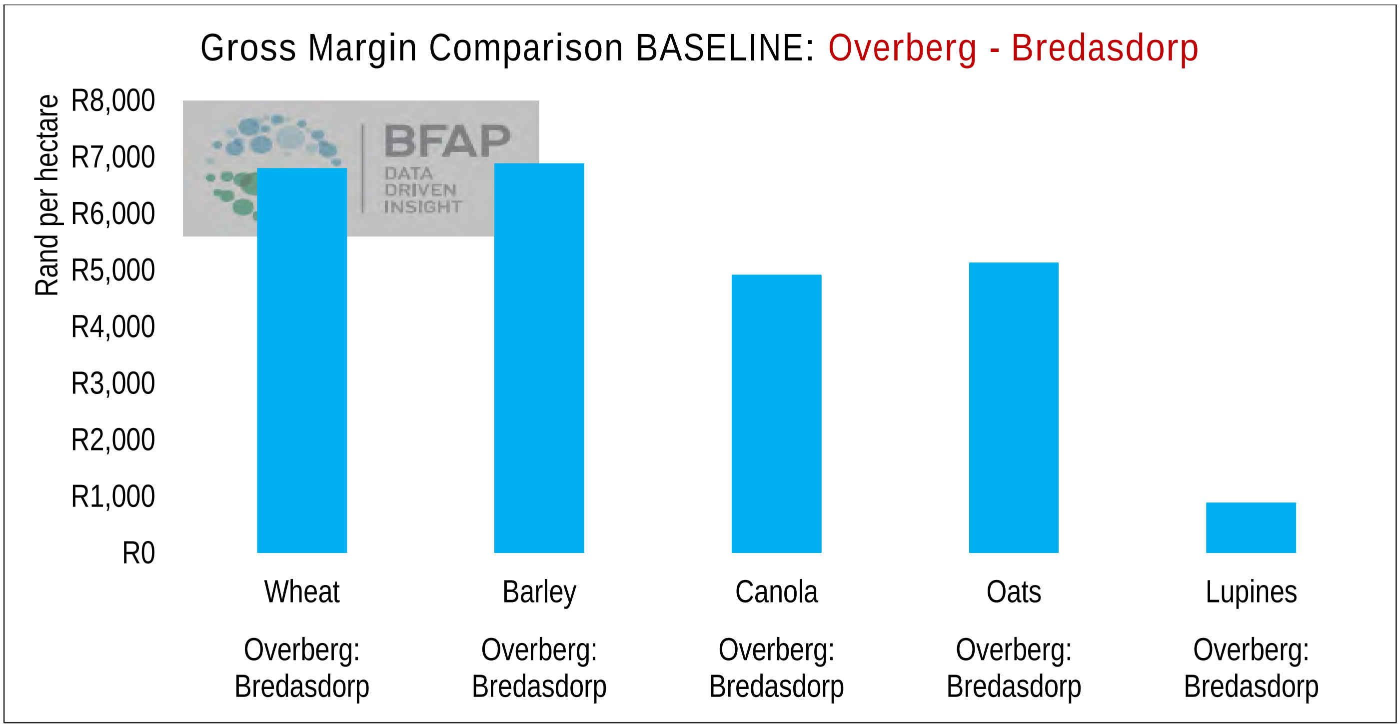

Figure 2.2: Gross margin comparison – Baseline: Southern Cape: Bredasdorp region

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): OVERBERG - BREDASDORP

PRODUCERS PRICE	YIELD (T/HA) 2.25	2.50	2.75	3.00	3.25	3.50	3.75
R3,241	R 1,374	R 2,184	R 2,994	R 3,805	R 4,615	R 5,425	R 6,235
R3,491	R 1,936	R 2,809	R 3,682	R 4,555	R 5,427	R 6,300	R 7,173
R3,741	R 2,499	R 3,434	R 4,369	R 5,305	R 6,240	R 7,175	R 8,110
R3,991	R 3,061	R 4,059	R 5,057	R 6,055	R 7,052	R 8,050	R 9,048
R4,241	R 3,624	R 4,684	R 5,744	R 6,805	R 7,865	R 8,925	R 9,985
R4,491	R 4,186	R 5,309	R 6,432	R 7,555	R 8,677	R 9,800	R 10,923
R4,741	R 4,749	R 5,934	R 7,119	R 8,305	R 9,490	R 10,675	R 11,860
R4,991	R 5,311	R 6,559	R 7,807	R 9,055	R 10,302	R 11,550	R 12,798
R5,241	R 5,874	R 7,184	R 8,494	R 9,805	R 11,115	R 12,425	R 13,735

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): OVERBERG - BREDASDORP

PRODUCERS PRICE	YIELD (T/HA) 2.25	2.50	2.75	3.00	3.25	3.50	3.75
R3,212	R 1,480	R 2,283	R 3,086	R 3,889	R 4,692	R 5,495	R 6,299
R3,462	R 2,042	R 2,908	R 3,774	R 4,639	R 5,505	R 6,370	R 7,236
R3,712	R 2,605	R 3,533	R 4,461	R 5,389	R 6,317	R 7,245	R 8,174
R3,962	R 3,167	R 4,158	R 5,149	R 6,139	R 7,130	R 8,120	R 9,111
R4,212	R 3,730	R 4,783	R 5,836	R 6,889	R 7,942	R 8,995	R 10,049
R4,462	R 4,292	R 5,408	R 6,524	R 7,639	R 8,755	R 9,870	R 10,986
R4,712	R 4,855	R 6,033	R 7,211	R 8,389	R 9,567	R 10,745	R 11,924
R4,962	R 5,417	R 6,658	R 7,899	R 9,139	R 10,380	R 11,620	R 12,861
R0	R 5,980	R 7,283	R 8,586	R 9,889	R 11,192	R 12,495	R 13,799

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BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): OVERBERG - BREDASDORP							
PRODUCERS	YIELD (T/HA)						
PRICE	1.00	1.25	1.50	1.60	1.75	2.00	2.25
R6,340	-R 480	R 1,105	R 2,690	R 3,324	R 4,275	R 5,860	R 7,445
R6,590	-R 230	R 1,418	R 3,065	R 3,724	R 4,713	R 6,360	R 8,008
R6,840	R 20	R 1,730	R 3,440	R 4,124	R 5,150	R 6,860	R 8,570
R7,090	R 270	R 2,043	R 3,815	R 4,524	R 5,588	R 7,360	R 9,133
R7,340	R 520	R 2,355	R 4,190	R 4,924	R 6,025	R 7,860	R 9,695
R7,590	R 770	R 2,668	R 4,565	R 5,324	R 6,463	R 8,360	R 10,258
R7,840	R 1,020	R 2,980	R 4,940	R 5,724	R 6,900	R 8,860	R 10,820
R8,090	R 1,270	R 3,293	R 5,315	R 6,124	R 7,338	R 9,360	R 11,383
R8,340	R 1,520	R 3,605	R 5,690	R 6,524	R 7,775	R 9,860	R 11,945

CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): OVERBERG - BREDASDORP							
	PRICE (R/TON)						
YIELD	R 6,590	R 6,840	R 7,090	R 7,340	R 7,590	R 7,840	R 8,090
0.75	-R 8,682	-R 8,494	-R 8,307	-R 8,119	-R 7,932	-R 7,744	-R 7,557
1.00	-R 7,034	-R 6,784	-R 6,534	-R 6,284	-R 6,034	-R 5,784	-R 5,534
1.25	-R 5,387	-R 5,074	-R 4,762	-R 4,449	-R 4,137	-R 3,824	-R 3,512
1.50	-R 3,739	-R 3,364	-R 2,989	-R 2,614	-R 2,239	-R 1,864	-R 1,489
1.60	-R 3,080	-R 2,680	-R 2,280	-R 1,880	-R 1,480	-R 1,080	-R 680
1.75	-R 2,092	-R 1,654	-R 1,217	-R 779	-R 342	R 96	R 533
2.00	-R 444	R 56	R 556	R 1,056	R 1,556	R 2,056	R 2,556
2.25	R 1,203	R 1,766	R 2,328	R 2,891	R 3,453	R 4,016	R 4,578
2.50	R 2,851	R 3,476	R 4,101	R 4,726	R 5,351	R 5,976	R 6,601

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Southern Cape: Eastern Ruêns (high potential)

Table 2.3: Income & cost budgets for wheat, barley, canola, oats & lupines for Southern Cape (Eastern Ruêns – high potential) - Dryland

		Southern Cape: Eastern Ruêns (high potential)				
Crop		Wheat	Barley	Canola	Oats	Lupines
Production System		Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME						
Yield: Deterministic	T/HA	3.00	3.00	1.75	2.50	1.80
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R4,955	R6,700	R4,955	R4,450
Total deductions	R/TON	R714	R677	R5	R865	R139
- Transport differential	R/TON	R600	R600	R-	R825	R100
- Grade differential	R/TON	R3	R-	R-	R-	R-
- Marketing, handling & statutory levies	R/TON	R111	R77	R5	R40	R39
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R65	R670	R-	R-
Net Farm Gate Price	R/TON	R4,241	R4,212	R7,365	R4,091	R4,311
GROSS INCOME	R/HA	R12,723	R12,637	R12,889	R10,227	R7,760
2) VARIABLE EXPENDITURES						
Contracting	R/HA	R-	R-	R-	R-	R-
Crop insurance	R/HA	R37	R36	R37	R29	R-
Fertilizer	R/HA	R1,877	R1,818	R1,972	R1,591	R693
Lime	R/HA	R226	R226	R226	R226	R-
Seed	R/HA	R535	R435	R911	R506	R928
Fuel	R/HA	R494	R503	R503	R492	R472
Herbicide	R/HA	R684	R680	R1,113	R647	R745
Insecticide	R/HA	R116	R101	R493	R132	R149
Fungicides	R/HA	R598	R720	R637	R394	R262
Marketing costs	R/HA	R64	R88	R31	R22	R-
Repairs and maintenance	R/HA	R609	R645	R617	R609	R573
Casual labour	R/HA	R17	R18	R12	R17	R16
Aerial spray	R/HA	R-	R-	R-	R-	R-
Other expenditure	R/HA	R121	R122	R115	R107	R96
TOTAL VARIABLE EXPENDITURE	R/HA	R5,377	R5,392	R6,668	R4,771	R3,932
TOTAL VARIABLE EXPENDITURE	R/TON	R1,792	R1,797	R3,810	R1,908	R2,184
3.1) GROSS MARGIN:	R/HA	R7,346	R7,245	R6,221	R5,455	R3,828
3.2) GROSS MARGIN:	R/TON	R2,449	R2,415	R3,555	R2,182	R2,127
Break-even yield	T/HA	1.27	1.28	0.91	1.17	0.91
Break-even price	R/TON	R1,792	R1,797	R3,810	R1,908	R2,184

Source: SSK, GSA & BFAP, April 2021

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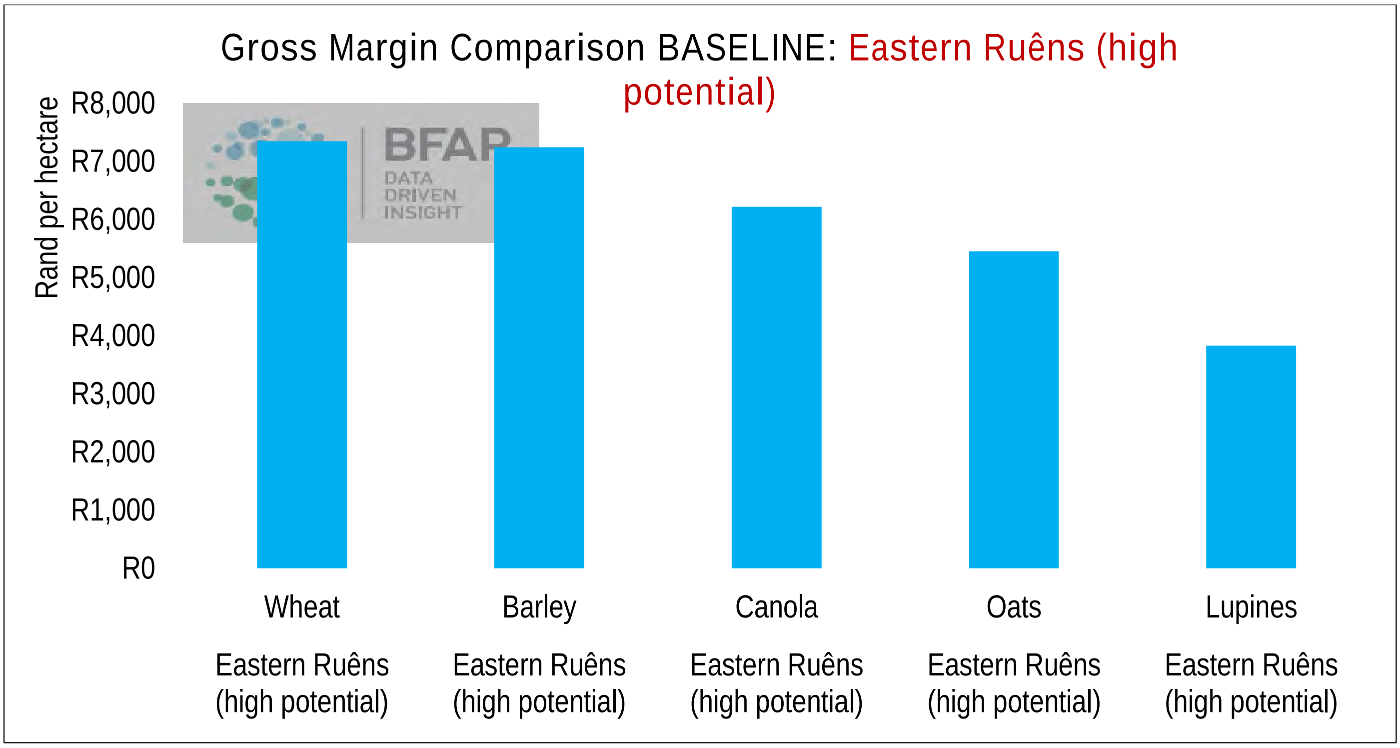

Figure 2.3: Gross margin comparison – Baseline: Southern Cape: Eastern Ruêns – High potential

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (HIGH POTENTIAL)

PRODUCERS PRICE	YIELD (T/HA) 2.25	2.50	2.75	3.00	3.25	3.50	3.75
R3,241	R 1,915	R 2,726	R 3,536	R 4,346	R 5,156	R 5,966	R 6,777
R3,491	R 2,478	R 3,351	R 4,223	R 5,096	R 5,969	R 6,841	R 7,714
R3,741	R 3,040	R 3,976	R 4,911	R 5,846	R 6,781	R 7,716	R 8,652
R3,991	R 3,603	R 4,601	R 5,598	R 6,596	R 7,594	R 8,591	R 9,589
R4,241	R 4,165	R 5,226	R 6,286	R 7,346	R 8,406	R 9,466	R 10,527
R4,491	R 4,728	R 5,851	R 6,973	R 8,096	R 9,219	R 10,341	R 11,464
R4,741	R 5,290	R 6,476	R 7,661	R 8,846	R 10,031	R 11,216	R 12,402
R4,991	R 5,853	R 7,101	R 8,348	R 9,596	R 10,844	R 12,091	R 13,339
R5,241	R 6,415	R 7,726	R 9,036	R 10,346	R 11,656	R 12,966	R 14,277

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (HIGH POTENTIAL)

PRODUCERS PRICE	YIELD (T/HA) 2.25	2.50	2.75	3.00	3.25	3.50	3.75
R3,212	R 1,836	R 2,639	R 3,442	R 4,245	R 5,048	R 5,851	R 6,654
R3,462	R 2,398	R 3,264	R 4,129	R 4,995	R 5,861	R 6,726	R 7,592
R3,712	R 2,961	R 3,889	R 4,817	R 5,745	R 6,673	R 7,601	R 8,529
R3,962	R 3,523	R 4,514	R 5,504	R 6,495	R 7,486	R 8,476	R 9,467
R4,212	R 4,086	R 5,139	R 6,192	R 7,245	R 8,298	R 9,351	R 10,404
R4,462	R 4,648	R 5,764	R 6,879	R 7,995	R 9,111	R 10,226	R 11,342
R4,712	R 5,211	R 6,389	R 7,567	R 8,745	R 9,923	R 11,101	R 12,279
R4,962	R 5,773	R 7,014	R 8,254	R 9,495	R 10,736	R 11,976	R 13,217
R0	R 6,336	R 7,639	R 8,942	R 10,245	R 11,548	R 12,851	R 14,154

CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (HIGH POTENTIAL)														
PRODUCERS	YIELD (T/HA)													
PRICE		1.00		1.25		1.50		1.75		2.00		2.25		2.50
R6,365	-R	303	R	1,288	R	2,880	R	4,471	R	6,062	R	7,653	R	9,245
R6,615	-R	53	R	1,601	R	3,255	R	4,908	R	6,562	R	8,216	R	9,870
R6,865	R	197	R	1,913	R	3,630	R	5,346	R	7,062	R	8,778	R	10,495
R7,115	R	447	R	2,226	R	4,005	R	5,783	R	7,562	R	9,341	R	11,120
R7,365	R	697	R	2,538	R	4,380	R	6,221	R	8,062	R	9,903	R	11,745
R7,615	R	947	R	2,851	R	4,755	R	6,658	R	8,562	R	10,466	R	12,370
R7,865	R	1,197	R	3,163	R	5,130	R	7,096	R	9,062	R	11,028	R	12,995
R8,115	R	1,447	R	3,476	R	5,505	R	7,533	R	9,562	R	11,591	R	13,620
R0	R	1,697	R	3,788	R	5,880	R	7,971	R	10,062	R	12,153	R	14,245

CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (HIGH POTENTIAL)														
	PRICE (R/TON)													
YIELD	R	6,615	R	6,865	R	7,115	R	7,365	R	7,615	R	7,865	R	8,115
0.75	-R	9,053	-R	8,865	-R	8,678	-R	8,490	-R	8,303	-R	8,115	-R	7,928
1.00	-R	7,399	-R	7,149	-R	6,899	-R	6,649	-R	6,399	-R	6,149	-R	5,899
1.25	-R	5,745	-R	5,433	-R	5,120	-R	4,808	-R	4,495	-R	4,183	-R	3,870
1.50	-R	4,091	-R	3,716	-R	3,341	-R	2,966	-R	2,591	-R	2,216	-R	1,841
1.75	-R	2,438	-R	2,000	-R	1,563	-R	1,125	-R	688	-R	250	R	187
2.00	-R	784	-R	284	R	216	R	716	R	1,216	R	1,716	R	2,216
2.25	R	870	R	1,432	R	1,995	R	2,557	R	3,120	R	3,682	R	4,245
2.50	R	2,524	R	3,149	R	3,774	R	4,399	R	5,024	R	5,649	R	6,274
2.75	R	4,177	R	4,865	R	5,552	R	6,240	R	6,927	R	7,615	R	8,302

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Southern Cape: Eastern Ruêns (normal potential)

Table 2.4: Income & cost budgets for wheat, barley, canola, oats & lupines for Southern Cape (Eastern Ruêns – normal potential) - Dryland

		Southern Cape: Eastern Ruêns (normal potential)				
Crop		Wheat	Barley	Canola	Oats	Lupines
Production System		Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME						
Yield: Deterministic	T/HA	2.50	2.50	1.50	2.20	1.50
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R4,955	R6,700	R4,955	R4,450
Total deductions	R/TON	R714	R677	R135	R865	R139
- Transport differential	R/TON	R600	R600	R130	R825	R100
- Grade differential	R/TON	R3	R-	R-	R-	R-
- Marketing, handling & statutory levies	R/TON	R111	R77	R5	R40	R39
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R65	R670	R-	R-
Net Farm Gate Price	R/TON	R4,241	R4,212	R7,235	R4,091	R4,311
GROSS INCOME	R/HA	R10,602	R10,531	R10,853	R8,999	R6,467
2) VARIABLE EXPENDITURES						
Contracting	R/HA	R-	R-	R-	R-	R-
Crop insurance	R/HA	R30	R30	R31	R26	R-
Fertilizer	R/HA	R1,540	R1,498	R1,601	R1,212	R590
Lime	R/HA	R226	R226	R226	R226	R-
Seed	R/HA	R463	R300	R838	R460	R795
Fuel	R/HA	R494	R503	R503	R492	R472
Herbicide	R/HA	R684	R680	R1,113	R647	R745
Insecticide	R/HA	R116	R101	R493	R132	R149
Fungicides	R/HA	R598	R720	R637	R394	R262
Marketing costs	R/HA	R54	R74	R26	R22	R-
Repairs and maintenance	R/HA	R573	R573	R617	R573	R573
Casual labour	R/HA	R16	R16	R12	R16	R16
Aerial spray	R/HA	R-	R-	R-	R-	R-
Other expenditure	R/HA	R121	R122	R115	R107	R96
TOTAL VARIABLE EXPENDITURE	R/HA	R4,915	R4,844	R6,214	R4,306	R3,696
TOTAL VARIABLE EXPENDITURE	R/TON	R1,966	R1,937	R4,143	R1,957	R2,464
3.1) GROSS MARGIN:	R/HA	R5,688	R5,688	R4,638	R4,693	R2,770
3.2) GROSS MARGIN:	R/TON	R2,275	R2,275	R3,092	R2,133	R1,847
Break-even yield	T/HA	1.16	1.15	0.86	1.05	0.86
Break-even price	R/TON	R1,966	R1,937	R4,143	R1,957	R2,464

Source: SSK, GSA & BFAP, April 2021

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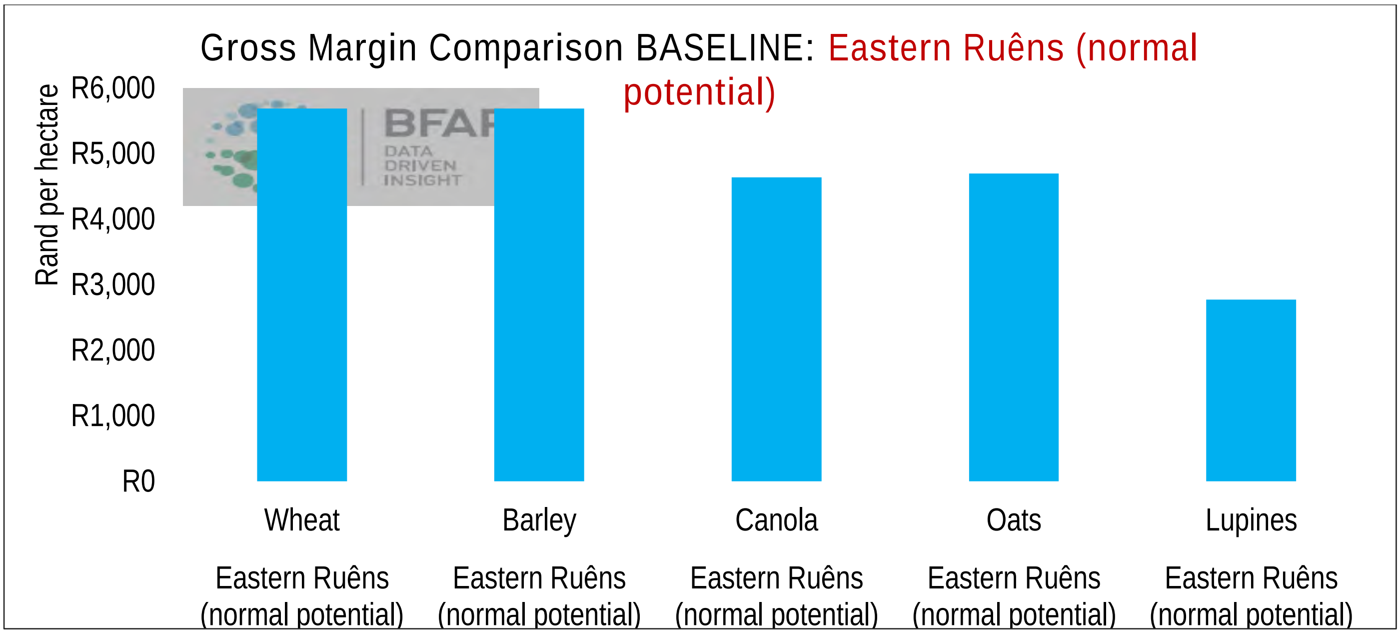

Figure 2.4: Gross margin comparison – Baseline: Southern Cape: Eastern Ruêns – Normal potential

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (NORMAL POTENTIAL)

PRODUCERS PRICE	YIELD (T/HA) 1.75	2.00	2.25	2.50	2.75	3.00	3.25
R3,241	R 757	R 1,567	R 2,377	R 3,188	R 3,998	R 4,808	R 5,618
R3,491	R 1,194	R 2,067	R 2,940	R 3,813	R 4,685	R 5,558	R 6,431
R3,741	R 1,632	R 2,567	R 3,502	R 4,438	R 5,373	R 6,308	R 7,243
R3,991	R 2,069	R 3,067	R 4,065	R 5,063	R 6,060	R 7,058	R 8,056
R4,241	R 2,507	R 3,567	R 4,627	R 5,688	R 6,748	R 7,808	R 8,868
R4,491	R 2,944	R 4,067	R 5,190	R 6,313	R 7,435	R 8,558	R 9,681
R4,741	R 3,382	R 4,567	R 5,752	R 6,938	R 8,123	R 9,308	R 10,493
R4,991	R 3,819	R 5,067	R 6,315	R 7,563	R 8,810	R 10,058	R 11,306
R5,241	R 4,257	R 5,567	R 6,877	R 8,188	R 9,498	R 10,808	R 12,118

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (NORMAL POTENTIAL)

PRODUCERS PRICE	YIELD (T/HA) 1.75	2.00	2.25	2.50	2.75	3.00	3.25
R3,212	R 778	R 1,581	R 2,384	R 3,188	R 3,991	R 4,794	R 5,597
R3,462	R 1,216	R 2,081	R 2,947	R 3,813	R 4,678	R 5,544	R 6,409
R3,712	R 1,653	R 2,581	R 3,509	R 4,438	R 5,366	R 6,294	R 7,222
R3,962	R 2,091	R 3,081	R 4,072	R 5,063	R 6,053	R 7,044	R 8,034
R4,212	R 2,528	R 3,581	R 4,634	R 5,688	R 6,741	R 7,794	R 8,847
R4,462	R 2,966	R 4,081	R 5,197	R 6,313	R 7,428	R 8,544	R 9,659
R4,712	R 3,403	R 4,581	R 5,759	R 6,938	R 8,116	R 9,294	R 10,472
R4,962	R 3,841	R 5,081	R 6,322	R 7,563	R 8,803	R 10,044	R 11,284
R5,212	R 4,278	R 5,581	R 6,884	R 8,188	R 9,491	R 10,794	R 12,097

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CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (NORMAL POTENTIAL)							
PRODUCERS PRICE	YIELD (T/HA)						
	0.75	1.00	1.25	1.50	1.75	2.00	2.25
R6,235	-R 1,538	R 21	R 1,580	R 3,138	R 4,697	R 6,256	R 7,815
R6,485	-R 1,350	R 271	R 1,892	R 3,513	R 5,135	R 6,756	R 8,377
R6,735	-R 1,163	R 521	R 2,205	R 3,888	R 5,572	R 7,256	R 8,940
R6,985	-R 975	R 771	R 2,517	R 4,263	R 6,010	R 7,756	R 9,502
R7,235	-R 788	R 1,021	R 2,830	R 4,638	R 6,447	R 8,256	R 10,065
R7,485	-R 600	R 1,271	R 3,142	R 5,013	R 6,885	R 8,756	R 10,627
R7,735	-R 413	R 1,521	R 3,455	R 5,388	R 7,322	R 9,256	R 11,190
R7,985	-R 225	R 1,771	R 3,767	R 5,763	R 7,760	R 9,756	R 11,752
R8,235	-R 38	R 2,021	R 4,080	R 6,138	R 8,197	R 10,256	R 12,315

CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (NORMAL POTENTIAL)							
	PRICE (R/TON)						
YIELD	R 6,485	R 6,735	R 6,985	R 7,235	R 7,485	R 7,735	R 7,985
0.50	-R 8,659	-R 8,534	-R 8,409	-R 8,284	-R 8,159	-R 8,034	-R 7,909
0.75	-R 7,038	-R 6,851	-R 6,663	-R 6,476	-R 6,288	-R 6,101	-R 5,913
1.00	-R 5,417	-R 5,167	-R 4,917	-R 4,667	-R 4,417	-R 4,167	-R 3,917
1.25	-R 3,796	-R 3,483	-R 3,171	-R 2,858	-R 2,546	-R 2,233	-R 1,921
1.50	-R 2,174	-R 1,799	-R 1,424	-R 1,049	-R 674	-R 299	R 76
1.75	-R 553	-R 116	R 322	R 759	R 1,197	R 1,634	R 2,072
2.00	R 1,068	R 1,568	R 2,068	R 2,568	R 3,068	R 3,568	R 4,068
2.25	R 2,689	R 3,252	R 3,814	R 4,377	R 4,939	R 5,502	R 6,064
2.50	R 4,311	R 4,936	R 5,561	R 6,186	R 6,811	R 7,436	R 8,061

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Southern Cape: Eastern Ruêns (low potential)

Table 2.4: Income & cost budgets for wheat, barley, canola, oats & lupines for Southern Cape (Eastern Ruêns – low potential) - Dryland

Southern Cape: Eastern Ruêns (low potential)						
Crop		Wheat	Barley	Canola	Oats	Lupines
Production System		Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME						
Yield: Deterministic	T/HA	2.20	2.20	1.20	1.50	1.40
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R4,955	R6,700	R4,955	R4,450
Total deductions	R/TON	R712	R641	R135	R865	R104
- Transport differential	R/TON	R600	R600	R130	R825	R100
- Grade differential	R/TON	R3	R-	R-	R-	R-
- Marketing, handling & statutory levies	R/TON	R109	R41	R5	R40	R4
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R-	R670	R-	R-
Net Farm Gate Price	R/TON	R4,243	R4,249	R7,235	R4,091	R4,346
GROSS INCOME	R/HA	R9,335	R9,347	R8,682	R6,136	R6,085
2) VARIABLE EXPENDITURES						
Contracting	R/HA	R-	R-	R-	R-	R-
Crop insurance	R/HA	R27	R27	R25	R18	R-
Fertilizer	R/HA	R1,540	R1,498	R1,601	R1,212	R590
Lime	R/HA	R226	R226	R226	R226	R-
Seed	R/HA	R463	R362	R872	R460	R795
Fuel	R/HA	R494	R503	R503	R492	R472
Herbicide	R/HA	R684	R680	R1,113	R647	R745
Insecticide	R/HA	R116	R101	R493	R132	R149
Fungicides	R/HA	R598	R720	R637	R394	R262
Marketing costs	R/HA	R47	R65	R21	R22	R-
Repairs and maintenance	R/HA	R501	R501	R525	R481	R573
Casual labour	R/HA	R14	R14	R12	R12	R16
Aerial spray	R/HA	R-	R-	R-	R-	R-
Other expenditure	R/HA	R121	R122	R115	R107	R96
TOTAL VARIABLE EXPENDITURE	R/HA	R4,831	R4,820	R6,144	R4,203	R3,696
TOTAL VARIABLE EXPENDITURE	R/TON	R2,196	R2,191	R5,120	R2,802	R2,640
3.1) GROSS MARGIN:	R/HA	R4,505	R4,527	R2,538	R1,933	R2,388
3.2) GROSS MARGIN:	R/TON	R2,048	R2,058	R2,115	R1,289	R1,706
Break-even yield	T/HA	1.14	1.13	0.85	1.03	0.85
Break-even price	R/TON	R2,196	R2,191	R5,120	R2,802	R2,640

Source: SSK, GSA & BFAP, April 2021

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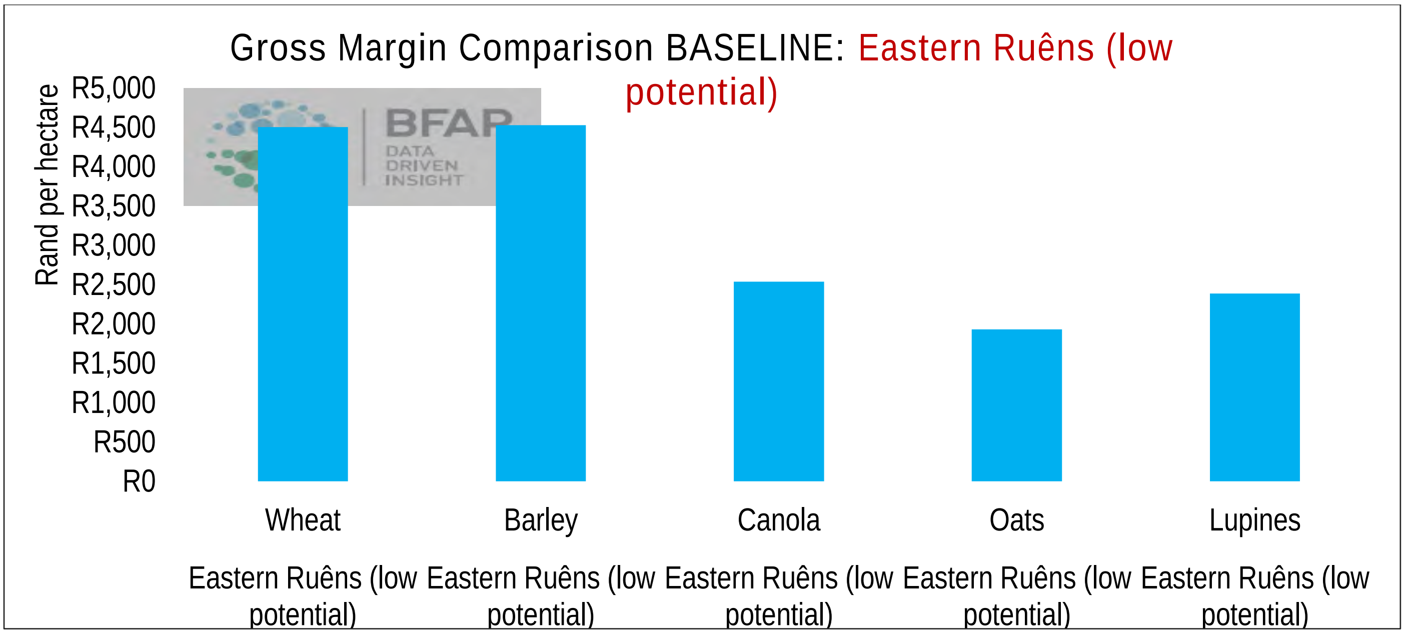

Figure 2.4: Gross margin comparison – Baseline: Southern Cape: Eastern Ruêns – Low potential

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (LOW POTENTIAL)							
PRODUCERS PRICE	YIELD (T/HA)						
	1.45	1.70	1.95	2.20	2.45	2.70	2.95
R3,243	-R 128	R 683	R 1,494	R 2,305	R 3,115	R 3,926	R 4,737
R3,493	R 235	R 1,108	R 1,981	R 2,855	R 3,728	R 4,601	R 5,475
R3,743	R 597	R 1,533	R 2,469	R 3,405	R 4,340	R 5,276	R 6,212
R3,993	R 960	R 1,958	R 2,956	R 3,955	R 4,953	R 5,951	R 6,950
R4,243	R 1,322	R 2,383	R 3,444	R 4,505	R 5,565	R 6,626	R 7,687
R4,493	R 1,685	R 2,808	R 3,931	R 5,055	R 6,178	R 7,301	R 8,425
R4,743	R 2,047	R 3,233	R 4,419	R 5,605	R 6,790	R 7,976	R 9,162
R4,993	R 2,410	R 3,658	R 4,906	R 6,155	R 7,403	R 8,651	R 9,900
R5,243	R 2,772	R 4,083	R 5,394	R 6,705	R 8,015	R 9,326	R 10,637

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (LOW POTENTIAL)							
PRODUCERS PRICE	YIELD (T/HA)						
	1.45	1.70	1.95	2.20	2.45	2.70	2.95
R3,249	-R 109	R 703	R 1,515	R 2,327	R 3,139	R 3,951	R 4,764
R3,499	R 253	R 1,128	R 2,002	R 2,877	R 3,752	R 4,626	R 5,501
R3,749	R 616	R 1,553	R 2,490	R 3,427	R 4,364	R 5,301	R 6,239
R3,999	R 978	R 1,978	R 2,977	R 3,977	R 4,977	R 5,976	R 6,976
R4,249	R 1,341	R 2,403	R 3,465	R 4,527	R 5,589	R 6,651	R 7,714
R4,499	R 1,703	R 2,828	R 3,952	R 5,077	R 6,202	R 7,326	R 8,451
R4,749	R 2,066	R 3,253	R 4,440	R 5,627	R 6,814	R 8,001	R 9,189
R4,999	R 2,428	R 3,678	R 4,927	R 6,177	R 7,427	R 8,676	R 9,926
R5,249	R 2,791	R 4,103	R 5,415	R 6,727	R 8,039	R 9,351	R 10,664

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CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (LOW POTENTIAL)

PRODUCERS PRICE	YIELD (T/HA) 0.45	0.70	0.95	1.20	1.45	1.70	1.95
R6,235	-R 3,339	-R 1,780	-R 221	R 1,338	R 2,896	R 4,455	R 6,014
R6,485	-R 3,226	-R 1,605	R 16	R 1,638	R 3,259	R 4,880	R 6,501
R6,735	-R 3,114	-R 1,430	R 254	R 1,938	R 3,621	R 5,305	R 6,989
R6,985	-R 3,001	-R 1,255	R 491	R 2,238	R 3,984	R 5,730	R 7,476
R7,235	-R 2,889	-R 1,080	R 729	R 2,538	R 4,346	R 6,155	R 7,964
R7,485	-R 2,776	-R 905	R 966	R 2,838	R 4,709	R 6,580	R 8,451
R7,735	-R 2,664	-R 730	R 1,204	R 3,138	R 5,071	R 7,005	R 8,939
R7,985	-R 2,551	-R 555	R 1,441	R 3,438	R 5,434	R 7,430	R 9,426
R8,235	-R 2,439	-R 380	R 1,679	R 3,738	R 5,796	R 7,855	R 9,914

CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): EASTERN RUÊNS (LOW POTENTIAL)

YIELD	PRICE (R/TON) R 6,485	R 6,735	R 6,985	R 7,235	R 7,485	R 7,735	R 7,985
0.20	-R 9,352	-R 9,302	-R 9,252	-R 9,202	-R 9,152	-R 9,102	-R 9,052
0.45	-R 7,731	-R 7,618	-R 7,506	-R 7,393	-R 7,281	-R 7,168	-R 7,056
0.70	-R 6,109	-R 5,934	-R 5,759	-R 5,584	-R 5,409	-R 5,234	-R 5,059
0.95	-R 4,488	-R 4,251	-R 4,013	-R 3,776	-R 3,538	-R 3,301	-R 3,063
1.20	-R 2,867	-R 2,567	-R 2,267	-R 1,967	-R 1,667	-R 1,367	-R 1,067
1.45	-R 1,246	-R 883	-R 521	-R 158	R 204	R 567	R 929
1.70	R 376	R 801	R 1,226	R 1,651	R 2,076	R 2,501	R 2,926
1.95	R 1,997	R 2,484	R 2,972	R 3,459	R 3,947	R 4,434	R 4,922
2.20	R 3,618	R 4,168	R 4,718	R 5,268	R 5,818	R 6,368	R 6,918

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Western Cape: Southern Swartland

Table 2.5: Income & cost budgets for wheat & canola for Southern Swartland - Dryland

		Southern Swartland	
Crop		Wheat	Canola
Production System		Dryland	Dryland
1) INCOME			
Yield: Deterministic	T/HA	3.30	1.75
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R6,700
Total deductions	R/TON	R717	R30
- Transport differential	R/TON	R600	R-
- Grade differential	R/TON	R3	R-
- Marketing, handling & statutory levies	R/TON	R114	R30
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R670
Net Farm Gate Price	R/TON	R4,238	R7,340
GROSS INCOME	R/HA	R13,985	R12,845
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R-	R-
Crop insurance	R/HA	R37	R37
Fertilizer	R/HA	R2,674	R2,469
Lime	R/HA	R181	R181
Seed	R/HA	R713	R911
Fuel	R/HA	R499	R382
Herbicide	R/HA	R1,067	R663
Insecticide	R/HA	R119	R176
Fungicides	R/HA	R831	R436
Marketing costs	R/HA	R62	R17
Repairs and maintenance	R/HA	R728	R697
Casual labour	R/HA	R-	R-
Aerial spray	R/HA	R-	R-
Other expenditure	R/HA	R94	R94
TOTAL VARIABLE EXPENDITURE	R/HA	R7,003	R6,063
TOTAL VARIABLE EXPENDITURE	R/TON	R2,122	R3,465
3.1) GROSS MARGIN:	R/HA	R6,982	R6,782
3.2) GROSS MARGIN:	R/TON	R2,116	R3,875
Break-even yield	T/HA	1.65	0.83
Break-even price	R/HA	R2,122	R3,465

Source: Kaap Agri, GSA & BFAP, April 2021

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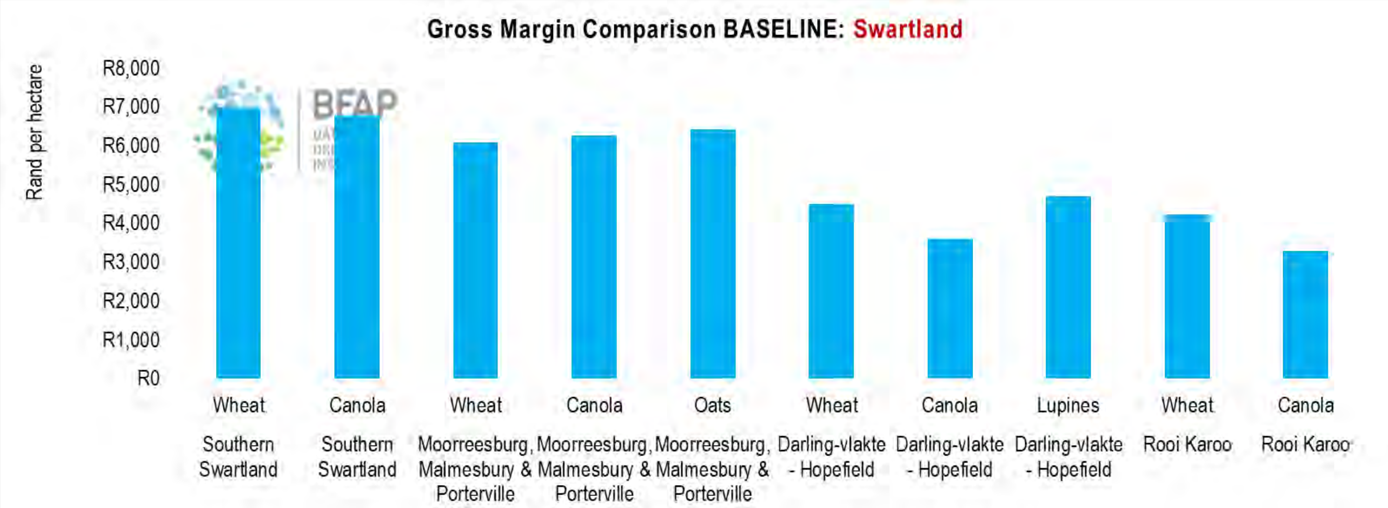

Figure 2.5: Gross margin comparison – Baseline: Western Cape: Swartland

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): SOUTHERN SWARTLAND														
PRODUCERS	YIELD (T/HA)													
PRICE		2.50		2.75		3.00		3.30		3.50		3.75		4.00
R3,238	R	1,092	R	1,901	R	2,711	R	3,682	R	4,329	R	5,139	R	5,948
R3,488	R	1,717	R	2,589	R	3,461	R	4,507	R	5,204	R	6,076	R	6,948
R3,738	R	2,342	R	3,276	R	4,211	R	5,332	R	6,079	R	7,014	R	7,948
R3,988	R	2,967	R	3,964	R	4,961	R	6,157	R	6,954	R	7,951	R	8,948
R4,238	R	3,592	R	4,651	R	5,711	R	6,982	R	7,829	R	8,889	R	9,948
R4,488	R	4,217	R	5,339	R	6,461	R	7,807	R	8,704	R	9,826	R	10,948
R4,738	R	4,842	R	6,026	R	7,211	R	8,632	R	9,579	R	10,764	R	11,948
R4,988	R	5,467	R	6,714	R	7,961	R	9,457	R	10,454	R	11,701	R	12,948
R5,238	R	6,092	R	7,401	R	8,711	R	10,282	R	11,329	R	12,639	R	13,948

CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): SOUTHERN SWARTLAND														
PRODUCERS	YIELD (T/HA)													
PRICE		1.00		1.25		1.50		1.75		2.00		2.25		2.50
R6,340	R	277	R	1,862	R	3,447	R	5,032	R	6,617	R	8,202	R	9,787
R6,590	R	527	R	2,174	R	3,822	R	5,469	R	7,117	R	8,764	R	10,412
R6,840	R	777	R	2,487	R	4,197	R	5,907	R	7,617	R	9,327	R	11,037
R7,090	R	1,027	R	2,799	R	4,572	R	6,344	R	8,117	R	9,889	R	11,662
R7,340	R	1,277	R	3,112	R	4,947	R	6,782	R	8,617	R	10,452	R	12,287
R7,590	R	1,527	R	3,424	R	5,322	R	7,219	R	9,117	R	11,014	R	12,912
R7,840	R	1,777	R	3,737	R	5,697	R	7,657	R	9,617	R	11,577	R	13,537
R8,090	R	2,027	R	4,049	R	6,072	R	8,094	R	10,117	R	12,139	R	14,162
R8,340	R	2,277	R	4,362	R	6,447	R	8,532	R	10,617	R	12,702	R	14,787

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CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): SOUTHERN SWARTLAND

	PRICE (R/TON)						
YIELD	R 6,590	R 6,840	R 7,090	R 7,340	R 7,590	R 7,840	R 8,090
0.75	-R 8,103	-R 7,915	-R 7,728	-R 7,540	-R 7,353	-R 7,165	-R 6,978
1.00	-R 6,455	-R 6,205	-R 5,955	-R 5,705	-R 5,455	-R 5,205	-R 4,955
1.25	-R 4,808	-R 4,495	-R 4,183	-R 3,870	-R 3,558	-R 3,245	-R 2,933
1.50	-R 3,160	-R 2,785	-R 2,410	-R 2,035	-R 1,660	-R 1,285	-R 910
1.75	-R 1,513	-R 1,075	-R 638	-R 200	R 237	R 675	R 1,112
2.00	R 135	R 635	R 1,135	R 1,635	R 2,135	R 2,635	R 3,135
2.25	R 1,782	R 2,345	R 2,907	R 3,470	R 4,032	R 4,595	R 5,157
2.50	R 3,430	R 4,055	R 4,680	R 5,305	R 5,930	R 6,555	R 7,180
2.50	R 3,430	R 4,055	R 4,680	R 5,305	R 5,930	R 6,555	R 7,180

Notes:

- Please refer to *Methodology, Approach & Definitions* for in-depth interpretation of enterprise budgets.
- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for producers to allocate them individually.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- Marketing cost assumes that approximately 15% of the wheat, barley and canola crop requires drying
- The cost of fertiliser reflects a combination of nitrogen, phosphorous, potassium and other macro- and micro nutrients.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Table 2.6: Income & cost budgets for wheat, canola & oats for Moorreesburg, Malmesbury & Porterville - Dryland

		Moorreesburg, Malmesbury & Porterville		
Crop		Wheat	Canola	Oats
Production System		Dryland	Dryland	Dryland
1) INCOME				
Yield: Deterministic	T/HA	3.00	1.65	2.70
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R6,700	R4,955
Total deductions	R/TON	R717	R30	R865
- Transport differential	R/TON	R600	R-	R825
- Grade differential	R/TON	R3	R-	R-
- Marketing, handling & statutory levies	R/TON	R114	R30	R-
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R670	R40
Net Farm Gate Price	R/TON	R4,238	R7,340	R4,091
GROSS INCOME	R/HA	R12,714	R12,111	R11,045
2) VARIABLE EXPENDITURES				
Contracting	R/HA	R-	R-	R-
Crop insurance	R/HA	R33	R35	R32
Fertilizer	R/HA	R2,404	R2,199	R1,658
Lime	R/HA	R181	R152	R185
Seed	R/HA	R680	R911	R469
Fuel	R/HA	R490	R424	R461
Herbicide	R/HA	R1,065	R663	R508
Insecticide	R/HA	R119	R206	R259
Fungicides	R/HA	R791	R436	R215
Marketing costs	R/HA	R56	R16	R-
Repairs and maintenance	R/HA	R720	R695	R723
Casual labour	R/HA	R-	R8	R8
Aerial spray	R/HA	R-	R-	R-
Other expenditure	R/HA	R94	R94	R94
TOTAL VARIABLE EXPENDITURE	R/HA	R6,634	R5,838	R4,613
TOTAL VARIABLE EXPENDITURE	R/TON	R2,211	R3,538	R1,709
3.1) GROSS MARGIN:	R/HA	R6,080	R6,273	R6,432
3.2) GROSS MARGIN:	R/TON	R2,027	R3,802	R2,382
Break-even yield	T/HA	1.57	0.80	1.13
Break-even price	R/TON	R2,211	R3,538	R1,709

Source: Kaap Agri, Overberg Agri, GSA & BFAP, April 2021

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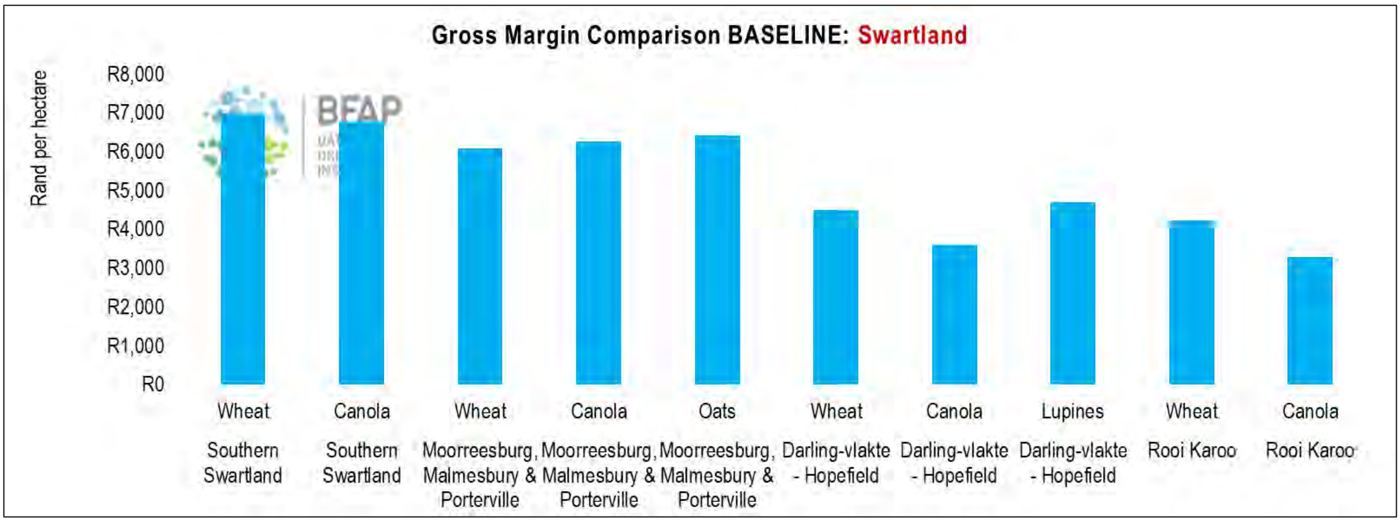

Figure 2.6: Gross margin comparison – Baseline: Swartland

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): MOORREESBURG, MALMESBURY & PORTERVILLE

PRODUCERS PRICE	YIELD (T/HA) 2.25	2.50	2.75	3.00	3.25	3.50	3.75
R3,238	R 651	R 1,461	R 2,270	R 3,080	R 3,889	R 4,699	R 5,508
R3,488	R 1,214	R 2,086	R 2,958	R 3,830	R 4,702	R 5,574	R 6,446
R3,738	R 1,776	R 2,711	R 3,645	R 4,580	R 5,514	R 6,449	R 7,383
R3,988	R 2,339	R 3,336	R 4,333	R 5,330	R 6,327	R 7,324	R 8,321
R4,238	R 2,901	R 3,961	R 5,020	R 6,080	R 7,139	R 8,199	R 9,258
R4,488	R 3,464	R 4,586	R 5,708	R 6,830	R 7,952	R 9,074	R 10,196
R4,738	R 4,026	R 5,211	R 6,395	R 7,580	R 8,764	R 9,949	R 11,133
R4,988	R 4,589	R 5,836	R 7,083	R 8,330	R 9,577	R 10,824	R 12,071
R5,238	R 5,151	R 6,461	R 7,770	R 9,080	R 10,389	R 11,699	R 13,008

CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): MOORREESBURG, MALMESBURY & PORTERVILLE

PRODUCERS PRICE	YIELD (T/HA) 1.00	1.25	1.50	1.65	1.75	2.00	2.25
R6,340	R 502	R 2,087	R 3,672	R 4,623	R 5,257	R 6,842	R 8,427
R6,590	R 752	R 2,400	R 4,047	R 5,036	R 5,695	R 7,342	R 8,990
R6,840	R 1,002	R 2,712	R 4,422	R 5,448	R 6,132	R 7,842	R 9,552
R7,090	R 1,252	R 3,025	R 4,797	R 5,861	R 6,570	R 8,342	R 10,115
R7,340	R 1,502	R 3,337	R 5,172	R 6,273	R 7,007	R 8,842	R 10,677
R7,590	R 1,752	R 3,650	R 5,547	R 6,686	R 7,445	R 9,342	R 11,240
R7,840	R 2,002	R 3,962	R 5,922	R 7,098	R 7,882	R 9,842	R 11,802
R8,090	R 2,252	R 4,275	R 6,297	R 7,511	R 8,320	R 10,342	R 12,365
R8,340	R 2,502	R 4,587	R 6,672	R 7,923	R 8,757	R 10,842	R 12,927

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CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): MOORREESBURG, MALMESBURY & PORTERVILLE							
	PRICE (R/TON)						
YIELD	R 6,590	R 6,840	R 7,090	R 7,340	R 7,590	R 7,840	R 8,090
0.50	-R 8,623	-R 8,498	-R 8,373	-R 8,248	-R 8,123	-R 7,998	-R 7,873
1.00	-R 5,328	-R 5,078	-R 4,828	-R 4,578	-R 4,328	-R 4,078	-R 3,828
1.25	-R 3,680	-R 3,368	-R 3,055	-R 2,743	-R 2,430	-R 2,118	-R 1,805
1.50	-R 2,033	-R 1,658	-R 1,283	-R 908	-R 533	-R 158	R 217
1.65	-R 1,044	-R 632	-R 219	R 193	R 606	R 1,018	R 1,431
1.75	-R 385	R 52	R 490	R 927	R 1,365	R 1,802	R 2,240
2.00	R 1,262	R 1,762	R 2,262	R 2,762	R 3,262	R 3,762	R 4,262
2.25	R 2,910	R 3,472	R 4,035	R 4,597	R 5,160	R 5,722	R 6,285
2.50	R 4,557	R 5,182	R 5,807	R 6,432	R 7,057	R 7,682	R 8,307

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Western Cape: Darling-vlakte – Hopefield

Table 2.7: Income & cost budgets for wheat, canola & lupines for Darling-vlakte – Hopefield (Sandveld region) - Dryland

		Darling-vlakte – Hopefield (Sandveld region)		
Crop		Wheat	Canola	Lupines
Production System		Dryland	Dryland	Dryland
1) INCOME				
Yield: Deterministic	T/HA	2.35	1.20	1.80
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R6,700	R4,450
Total deductions	R/TON	R717	R30	R139
- Transport differential	R/TON	R600	R-	R100
- Grade differential	R/TON	R3	R-	R-
- Marketing, handling & statutory levies	R/TON	R114	R30	R39
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R670	R-
Net Farm Gate Price	R/TON	R4,238	R7,340	R4,311
GROSS INCOME	R/HA	R9,959	R8,808	R7,760
2) VARIABLE EXPENDITURES				
Contracting	R/HA	R-	R-	R-
Crop insurance	R/HA	R26	R25	R22
Fertilizer	R/HA	R2,053	R1,929	R409
Lime	R/HA	R127	R127	R181
Seed	R/HA	R615	R911	R588
Fuel	R/HA	R500	R355	R360
Herbicide	R/HA	R923	R575	R667
Insecticide	R/HA	R119	R176	R84
Fungicides	R/HA	R361	R436	R164
Marketing costs	R/HA	R44	R12	R-
Repairs and maintenance	R/HA	R596	R547	R571
Casual labour	R/HA	R-	R8	R8
Aerial spray	R/HA	R-	R-	R-
Other expenditure	R/HA	R94	R94	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R5,458	R5,194	R3,053
TOTAL VARIABLE EXPENDITURE	R/TON	R2,323	R4,328	R1,696
3.1) GROSS MARGIN:	R/HA	R4,501	R3,614	R4,708
3.2) GROSS MARGIN:	R/TON	R1,915	R3,012	R2,615
Break-even yield	T/HA	1.29	0.71	0.71
Break-even price	R/TON	R2,323	R4,328	R1,696

Source: Kaap Agri, Overberg Agri, GSA & BFAP, April 2021

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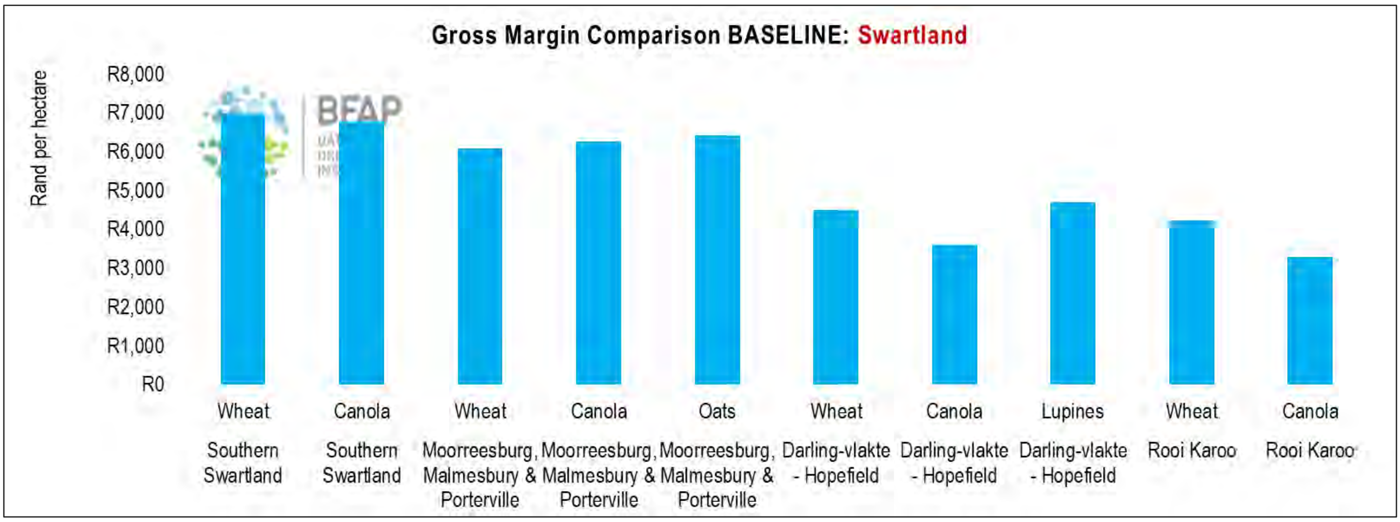

Figure 2.7: Gross margin comparison – Baseline: Swartland

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): Darling-vlakte - Hopefield

PRODUCERS PRICE	YIELD (T/HA) 1.50	1.75	2.00	2.35	2.50	2.75	3.00
R3,238	-R 601	R 208	R 1,018	R 2,151	R 2,637	R 3,446	R 4,256
R3,488	-R 226	R 646	R 1,518	R 2,739	R 3,262	R 4,134	R 5,006
R3,738	R 149	R 1,083	R 2,018	R 3,326	R 3,887	R 4,821	R 5,756
R3,988	R 524	R 1,521	R 2,518	R 3,914	R 4,512	R 5,509	R 6,506
R4,238	R 899	R 1,958	R 3,018	R 4,501	R 5,137	R 6,196	R 7,256
R4,488	R 1,274	R 2,396	R 3,518	R 5,089	R 5,762	R 6,884	R 8,006
R4,738	R 1,649	R 2,833	R 4,018	R 5,676	R 6,387	R 7,571	R 8,756
R4,988	R 2,024	R 3,271	R 4,518	R 6,264	R 7,012	R 8,259	R 9,506
R5,238	R 2,399	R 3,708	R 5,018	R 6,851	R 7,637	R 8,946	R 10,256

CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): Darling-vlakte - Hopefield

PRODUCERS PRICE	YIELD (T/HA) 0.50	0.75	1.00	1.20	1.50	1.75	2.00
R6,340	-R 2,024	-R 439	R 1,146	R 2,414	R 4,316	R 5,901	R 7,486
R6,590	-R 1,899	-R 251	R 1,396	R 2,714	R 4,691	R 6,339	R 7,986
R6,840	-R 1,774	-R 64	R 1,646	R 3,014	R 5,066	R 6,776	R 8,486
R7,090	-R 1,649	R 124	R 1,896	R 3,314	R 5,441	R 7,214	R 8,986
R7,340	-R 1,524	R 311	R 2,146	R 3,614	R 5,816	R 7,651	R 9,486
R7,590	-R 1,399	R 499	R 2,396	R 3,914	R 6,191	R 8,089	R 9,986
R7,840	-R 1,274	R 686	R 2,646	R 4,214	R 6,566	R 8,526	R 10,486
R8,090	-R 1,149	R 874	R 2,896	R 4,514	R 6,941	R 8,964	R 10,986
R8,340	-R 1,024	R 1,061	R 3,146	R 4,814	R 7,316	R 9,401	R 11,486

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CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): Darling-vlakte - Hopefield														
	PRICE (R/TON)													
YIELD	R	6,590	R	6,840	R	7,090	R	7,340	R	7,590	R	7,840	R	8,090
0.25	-R	8,047	-R	7,985	-R	7,922	-R	7,860	-R	7,797	-R	7,735	-R	7,672
0.50	-R	6,400	-R	6,275	-R	6,150	-R	6,025	-R	5,900	-R	5,775	-R	5,650
0.75	-R	4,752	-R	4,565	-R	4,377	-R	4,190	-R	4,002	-R	3,815	-R	3,627
1.00	-R	3,105	-R	2,855	-R	2,605	-R	2,355	-R	2,105	-R	1,855	-R	1,605
1.20	-R	1,787	-R	1,487	-R	1,187	-R	887	-R	587	-R	287	R	13
1.50	R	190	R	565	R	940	R	1,315	R	1,690	R	2,065	R	2,440
1.75	R	1,838	R	2,275	R	2,713	R	3,150	R	3,588	R	4,025	R	4,463
2.00	R	3,485	R	3,985	R	4,485	R	4,985	R	5,485	R	5,985	R	6,485
2.25	R	5,133	R	5,695	R	6,258	R	6,820	R	7,383	R	7,945	R	8,508

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Table 2.8: Income & cost budgets for wheat & canola for Rooi Karoo - Dryland

		Rooi Karoo	
Crop		Wheat	Canola
Production System		Dryland	Dryland
1) INCOME			
Yield: Deterministic	T/HA	2.15	1.10
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R6,700
Total deductions	R/TON	R717	R30
- Transport differential	R/TON	R600	R-
- Grade differential	R/TON	R3	R-
- Marketing, handling & statutory levies	R/TON	R114	R30
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R670
Net Farm Gate Price	R/TON	R4,238	R7,340
GROSS INCOME	R/HA	R9,111	R8,074
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R-	R-
Crop insurance	R/HA	R24	R23
Fertilizer	R/HA	R1,604	R1,561
Lime	R/HA	R136	R136
Seed	R/HA	R583	R911
Fuel	R/HA	R473	R383
Herbicide	R/HA	R850	R575
Insecticide	R/HA	R119	R176
Fungicides	R/HA	R361	R436
Marketing costs	R/HA	R40	R11
Repairs and maintenance	R/HA	R591	R566
Casual labour	R/HA	R-	R8
Aerial spray	R/HA	R-	R-
Other expenditure	R/HA	R94	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R4,876	R4,785
TOTAL VARIABLE EXPENDITURE	R/TON	R2,268	R4,350
3.1) GROSS MARGIN:	R/HA	R4,236	R3,289
3.2) GROSS MARGIN:	R/TON	R1,970	R2,990
Break-even yield	T/HA	1.15	0.65
Break-even price	R/TON	R2,268	R4,350

Source: Kaap Agri, Overberg Agri, GSA & BFAP, April 2021

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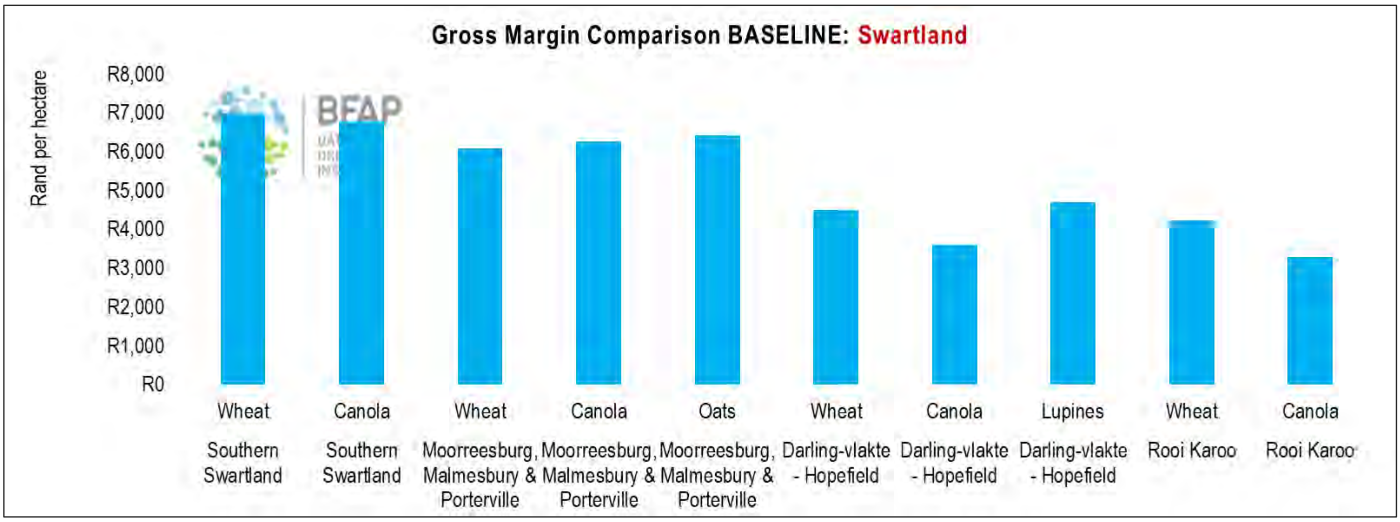

Figure 2.8: Gross margin comparison – Baseline: Swartland

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): ROOI KAROO							
PRODUCERS PRICE	YIELD (T/HA)						
	1.50	1.75	2.00	2.15	2.25	2.50	2.75
R3,238	-R 19	R 790	R 1,600	R 2,086	R 2,409	R 3,219	R 4,028
R3,488	R 356	R 1,228	R 2,100	R 2,623	R 2,972	R 3,844	R 4,716
R3,738	R 731	R 1,665	R 2,600	R 3,161	R 3,534	R 4,469	R 5,403
R3,988	R 1,106	R 2,103	R 3,100	R 3,698	R 4,097	R 5,094	R 6,091
R4,238	R 1,481	R 2,540	R 3,600	R 4,236	R 4,659	R 5,719	R 6,778
R4,488	R 1,856	R 2,978	R 4,100	R 4,773	R 5,222	R 6,344	R 7,466
R4,738	R 2,231	R 3,415	R 4,600	R 5,311	R 5,784	R 6,969	R 8,153
R4,988	R 2,606	R 3,853	R 5,100	R 5,848	R 6,347	R 7,594	R 8,841
R5,238	R 2,981	R 4,290	R 5,600	R 6,386	R 6,909	R 8,219	R 9,528

CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): ROOI KAROO							
PRODUCERS PRICE	YIELD (T/HA)						
	0.50	0.75	1.00	1.10	1.25	1.50	1.75
R6,340	-R 1,615	-R 30	R 1,555	R 2,189	R 3,140	R 4,725	R 6,310
R6,590	-R 1,490	R 157	R 1,805	R 2,464	R 3,452	R 5,100	R 6,747
R6,840	-R 1,365	R 345	R 2,055	R 2,739	R 3,765	R 5,475	R 7,185
R7,090	-R 1,240	R 532	R 2,305	R 3,014	R 4,077	R 5,850	R 7,622
R7,340	-R 1,115	R 720	R 2,555	R 3,289	R 4,390	R 6,225	R 8,060
R7,590	-R 990	R 907	R 2,805	R 3,564	R 4,702	R 6,600	R 8,497
R7,840	-R 865	R 1,095	R 3,055	R 3,839	R 5,015	R 6,975	R 8,935
R8,090	-R 740	R 1,282	R 3,305	R 4,114	R 5,327	R 7,350	R 9,372
R8,340	-R 615	R 1,470	R 3,555	R 4,389	R 5,640	R 7,725	R 9,810

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CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): ROOI KAROO														
	PRICE (R/TON)													
YIELD	R	6,590	R	6,840	R	7,090	R	7,340	R	7,590	R	7,840	R	8,090
0.25	-R	7,374	-R	7,311	-R	7,249	-R	7,186	-R	7,124	-R	7,061	-R	6,999
0.50	-R	5,726	-R	5,601	-R	5,476	-R	5,351	-R	5,226	-R	5,101	-R	4,976
0.75	-R	4,079	-R	3,891	-R	3,704	-R	3,516	-R	3,329	-R	3,141	-R	2,954
1.00	-R	2,431	-R	2,181	-R	1,931	-R	1,681	-R	1,431	-R	1,181	-R	931
1.10	-R	1,772	-R	1,497	-R	1,222	-R	947	-R	672	-R	397	-R	122
1.25	-R	784	-R	471	-R	159	R	154	R	466	R	779	R	1,091
1.50	R	864	R	1,239	R	1,614	R	1,989	R	2,364	R	2,739	R	3,114
1.75	R	2,511	R	2,949	R	3,386	R	3,824	R	4,261	R	4,699	R	5,136
2.00	R	4,159	R	4,659	R	5,159	R	5,659	R	6,159	R	6,659	R	7,159

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
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Table 2.9: Income & cost budgets for wheat for Eastern & Central Free State - Dryland

		Eastern Free State	Central Free State
Crop		Wheat	Wheat
Production System		Dryland	Dryland
1) INCOME			
Yield: Deterministic	T/HA	2.50	2.50
SAFEX SIMULATED / DERIVED PRICE: 2021	R/TON	R4,955	R4,955
Total deductions	R/TON	R383	R388
- Transport differential	R/TON	R283	R288
- Grade differential	R/TON	R3	R3
- Marketing, handling & statutory levies	R/TON	R97	R97
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R-
Net Farm Gate Price	R/TON	R4,572	R4,567
GROSS INCOME	R/HA	R11,430	R11,419
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R821	R821
Crop insurance	R/HA	R354	R913
Fertilizer	R/HA	R1,848	R1,556
Lime	R/HA	R420	R519
Seed	R/HA	R497	R497
Fuel	R/HA	R824	R886
Herbicide	R/HA	R297	R315
Insecticide	R/HA	R580	R172
Fungicides	R/HA	R-	R-
Marketing costs	R/HA	R43	R43
Repairs and maintenance	R/HA	R647	R1,026
Casual labour	R/HA	R-	R-
Aerial spray	R/HA	R-	R-
Other expenditure	R/HA	R13	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R6,344	R6,748
TOTAL VARIABLE EXPENDITURE	R/TON	R2,537	R2,699
3.1) GROSS MARGIN:	R/HA	R5,086	R4,670
3.2) GROSS MARGIN:	R/TON	R2,034	R1,868
Break-even yield	T/HA	1.39	1.48
Break-even price	R/TON	R2,537	R2,699

Source: VKB, GSA & BFAP, April 2021

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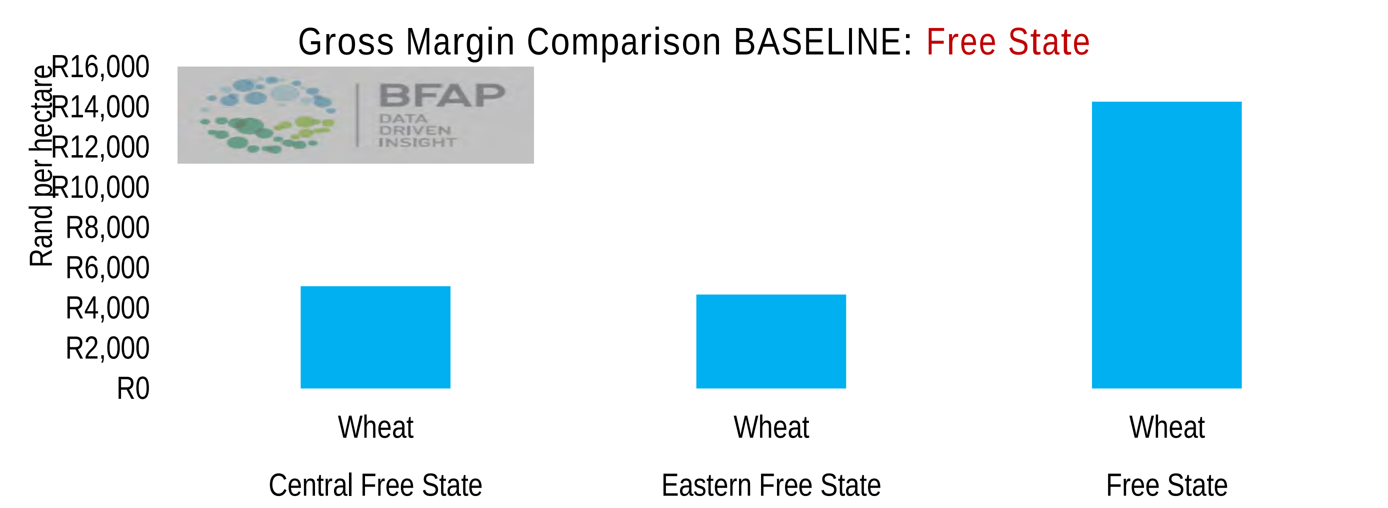

Figure 2.9: Gross margin comparison – Baseline: Free State (Eastern & Central regions)

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): CENTRAL FREE STATE							
PRODUCERS	YIELD (T/HA)						
PRICE	1.75	2.00	2.25	2.50	2.75	3.00	3.25
R3,572	-R 93	R 800	R 1,693	R 2,586	R 3,479	R 4,372	R 5,265
R3,822	R 345	R 1,300	R 2,256	R 3,211	R 4,167	R 5,122	R 6,077
R4,072	R 782	R 1,800	R 2,818	R 3,836	R 4,854	R 5,872	R 6,890
R4,322	R 1,220	R 2,300	R 3,381	R 4,461	R 5,542	R 6,622	R 7,702
R4,572	R 1,657	R 2,800	R 3,943	R 5,086	R 6,229	R 7,372	R 8,515
R4,822	R 2,095	R 3,300	R 4,506	R 5,711	R 6,917	R 8,122	R 9,327
R5,072	R 2,532	R 3,800	R 5,068	R 6,336	R 7,604	R 8,872	R 10,140
R5,322	R 2,970	R 4,300	R 5,631	R 6,961	R 8,292	R 9,622	R 10,952
R5,572	R 3,407	R 4,800	R 6,193	R 7,586	R 8,979	R 10,372	R 11,765

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN FREE STATE							
PRODUCERS	YIELD (T/HA)						
PRICE	1.75	2.00	2.25	2.50	2.75	3.00	3.25
R3,567	-R 505	R 387	R 1,278	R 2,170	R 3,062	R 3,954	R 4,846
R3,817	-R 68	R 887	R 1,841	R 2,795	R 3,750	R 4,704	R 5,658
R4,067	R 370	R 1,387	R 2,403	R 3,420	R 4,437	R 5,454	R 6,471
R4,317	R 807	R 1,887	R 2,966	R 4,045	R 5,125	R 6,204	R 7,283
R4,567	R 1,245	R 2,387	R 3,528	R 4,670	R 5,812	R 6,954	R 8,096
R4,817	R 1,682	R 2,887	R 4,091	R 5,295	R 6,500	R 7,704	R 8,908
R5,067	R 2,120	R 3,387	R 4,653	R 5,920	R 7,187	R 8,454	R 9,721
R5,317	R 2,557	R 3,887	R 5,216	R 6,545	R 7,875	R 9,204	R 10,533
R5,567	R 2,995	R 4,387	R 5,778	R 7,170	R 8,562	R 9,954	R 11,346

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Northern Cape

Table 3.1: Income & cost budgets for wheat, barley & canola for Northern Cape - Irrigation

Area		Northern Cape: Irrigation		
Crop		Wheat	Barley	Canola
Production System		Irrigation	Irrigation	Irrigation
1) INCOME				
Yield: Deterministic	T/HA	8.00	7.50	4.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2021	R/TON	R4,955	R4,955	R6,700
Total deductions	R/TON	R575	R538	R160
- Transport differential	R/TON	R461	R461	R130
- Grade differential	R/TON	R3	R-	R-
- Marketing, handling & statutory levies	R/TON	R111	R77	R30
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R65	R670
Net Farm Gate Price	R/TON	R4,380	R4,212	R7,210
GROSS INCOME	R/HA	R35,039	R31,593	R28,840
2) VARIABLE EXPENDITURES				
Contracting	R/HA	R1,418	R1,418	R1,407
Crop insurance	R/HA	R2,172	R1,959	R1,154
Fertilizer	R/HA	R8,316	R6,760	R4,523
Lime	R/HA	R1,035	R1,035	R-
Seed	R/HA	R1,656	R1,383	R1,058
Fuel	R/HA	R1,049	R1,021	R833
Herbicide	R/HA	R384	R384	R1,811
Insecticide	R/HA	R1,087	R274	R605
Fungicides	R/HA	R235	R260	R1,124
Marketing costs	R/HA	R200	R225	R39
Repairs and maintenance	R/HA	R894	R894	R931
Casual labour	R/HA	R-	R-	R-
Irrigation: Water	R/HA	R1,026	R1,060	R975
Irrigation: Electricity	R/HA	R3,246	R3,084	R3,084
Aerial spray	R/HA	R675	R225	R-
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R830	R829	R769
TOTAL VARIABLE EXPENDITURE	R/HA	R24,222	R20,809	R18,312
TOTAL VARIABLE EXPENDITURE	R/TON	R3,028	R2,775	R4,578
3.1) GROSS MARGIN:	R/HA	R10,817	R10,784	R10,528
3.2) GROSS MARGIN:	R/TON	R1,352	R1,438	R2,632
Break-even yield	T/HA	5.53	4.94	2.54
Break-even price	R/TON	R3,028	R2,775	R4,578

Source: GWK, GSA & BFAP, April 2021

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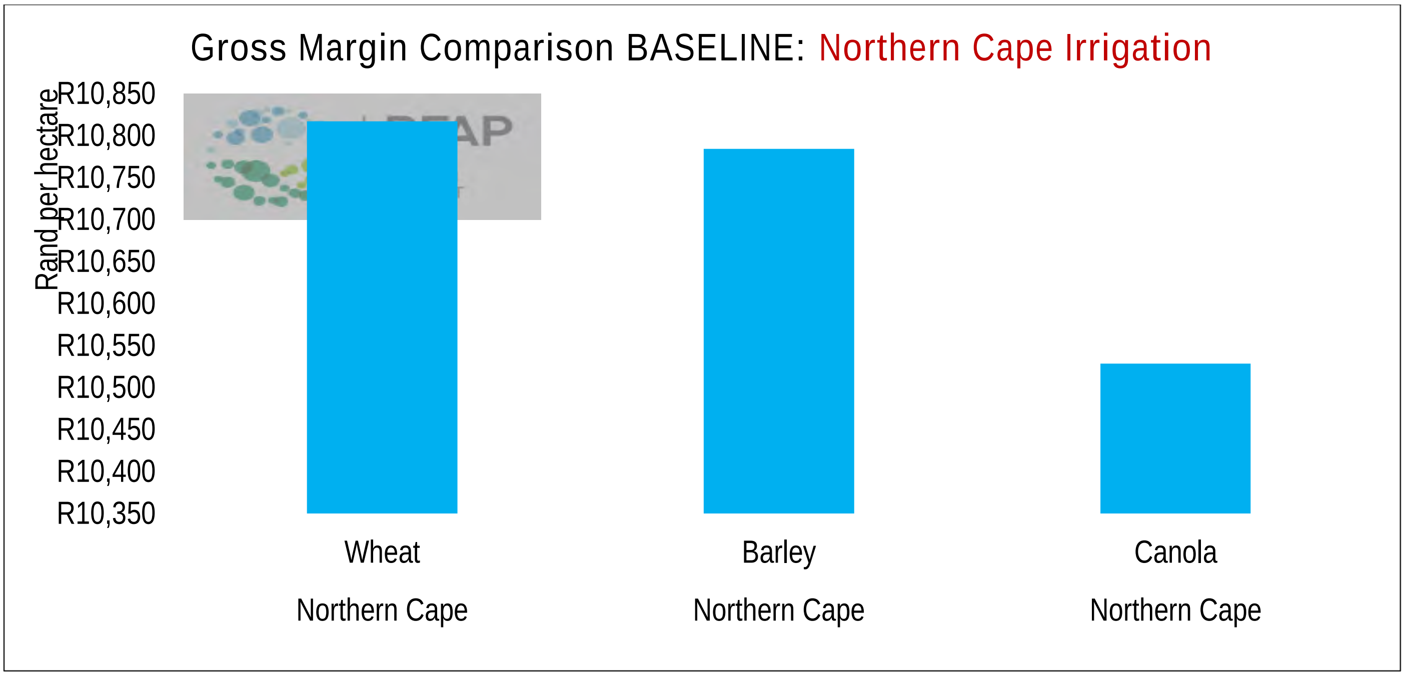

Figure 3.1: Gross margin comparison – Baseline: Northern Cape Irrigation

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTHERN CAPE - IRRIGATION

PRODUCERS PRICE	YIELD (T/HA) 7.25	7.50	7.75	8.00	8.25	8.50	8.75
R3,380	R 282	R 1,127	R 1,972	R 2,817	R 3,662	R 4,507	R 5,352
R3,630	R 2,095	R 3,002	R 3,910	R 4,817	R 5,725	R 6,632	R 7,540
R3,880	R 3,907	R 4,877	R 5,847	R 6,817	R 7,787	R 8,757	R 9,727
R4,130	R 5,720	R 6,752	R 7,785	R 8,817	R 9,850	R 10,882	R 11,915
R4,380	R 7,532	R 8,627	R 9,722	R 10,817	R 11,912	R 13,007	R 14,102
R4,630	R 9,345	R 10,502	R 11,660	R 12,817	R 13,975	R 15,132	R 16,290
R4,880	R 11,157	R 12,377	R 13,597	R 14,817	R 16,037	R 17,257	R 18,477
R5,130	R 12,970	R 14,252	R 15,535	R 16,817	R 18,100	R 19,382	R 20,665
R5,380	R 14,782	R 16,127	R 17,472	R 18,817	R 20,162	R 21,507	R 22,852

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTHERN CAPE - IRRIGATION

PRODUCERS PRICE	YIELD (T/HA) 6.75	7.00	7.25	7.50	7.75	8.00	8.25
R3,212	R 875	R 1,678	R 2,481	R 3,284	R 4,088	R 4,891	R 5,694
R3,462	R 2,563	R 3,428	R 4,294	R 5,159	R 6,025	R 6,891	R 7,756
R3,712	R 4,250	R 5,178	R 6,106	R 7,034	R 7,963	R 8,891	R 9,819
R3,962	R 5,938	R 6,928	R 7,919	R 8,909	R 9,900	R 10,891	R 11,881
R4,212	R 7,625	R 8,678	R 9,731	R 10,784	R 11,838	R 12,891	R 13,944
R4,462	R 9,313	R 10,428	R 11,544	R 12,659	R 13,775	R 14,891	R 16,006
R4,712	R 11,000	R 12,178	R 13,356	R 14,534	R 15,713	R 16,891	R 18,069
R4,962	R 12,688	R 13,928	R 15,169	R 16,409	R 17,650	R 18,891	R 20,131
R5,212	R 14,375	R 15,678	R 16,981	R 18,284	R 19,588	R 20,891	R 22,194

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CANOLA SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTHERN CAPE - IRRIGATION														
PRODUCERS	YIELD (T/HA)													
PRICE		3.25		3.50		3.75		4.00		4.25		4.50		4.75
R6,210	R	1,871	R	3,423	R	4,976	R	6,528	R	8,081	R	9,633	R	11,186
R6,460	R	2,683	R	4,298	R	5,913	R	7,528	R	9,143	R	10,758	R	12,373
R6,710	R	3,496	R	5,173	R	6,851	R	8,528	R	10,206	R	11,883	R	13,561
R6,960	R	4,308	R	6,048	R	7,788	R	9,528	R	11,268	R	13,008	R	14,748
R7,210	R	5,121	R	6,923	R	8,726	R	10,528	R	12,331	R	14,133	R	15,936
R7,460	R	5,933	R	7,798	R	9,663	R	11,528	R	13,393	R	15,258	R	17,123
R7,710	R	6,746	R	8,673	R	10,601	R	12,528	R	14,456	R	16,383	R	18,311
R7,960	R	7,558	R	9,548	R	11,538	R	13,528	R	15,518	R	17,508	R	19,498
R8,210	R	8,371	R	10,423	R	12,476	R	14,528	R	16,581	R	18,633	R	20,686

CANOLA MARGIN ABOVE / BELOW WHEAT (GROSS MARGIN PER HECTARE): NORTHERN CAPE - IRRIGATION														
	PRICE (R/TON)													
YIELD	R	6,460	R	6,710	R	6,960	R	7,210	R	7,460	R	7,710	R	7,960
3.00	-R	9,749	-R	8,999	-R	8,249	-R	7,499	-R	6,749	-R	5,999	-R	5,249
3.25	-R	8,134	-R	7,321	-R	6,509	-R	5,696	-R	4,884	-R	4,071	-R	3,259
3.50	-R	6,519	-R	5,644	-R	4,769	-R	3,894	-R	3,019	-R	2,144	-R	1,269
3.75	-R	4,904	-R	3,966	-R	3,029	-R	2,091	-R	1,154	-R	216	R	721
4.00	-R	3,289	-R	2,289	-R	1,289	-R	289	R	711	R	1,711	R	2,711
4.25	-R	1,674	-R	611	R	451	R	1,514	R	2,576	R	3,639	R	4,701
4.50	-R	59	R	1,066	R	2,191	R	3,316	R	4,441	R	5,566	R	6,691
4.75	R	1,556	R	2,744	R	3,931	R	5,119	R	6,306	R	7,494	R	8,681
5.00	R	3,171	R	4,421	R	5,671	R	6,921	R	8,171	R	9,421	R	10,671

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Limpopo

Table 3.2: Income & cost budgets for wheat & barley for Limpopo - Irrigation

Area		Limpopo: Irrigation	
Crop		Wheat	Barley
Production System		Irrigation	Irrigation
1) INCOME			
Yield: Deterministic	T/HA	6.50	6.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2021	R/TON	R4,955	R4,955
Total deductions	R/TON	R338	R301
- Transport differential	R/TON	R224	R224
- Grade differential	R/TON	R3	R-
- Marketing, handling & statutory levies	R/TON	R111	R77
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-	R65
Net Farm Gate Price	R/TON	R4,617	R4,435
GROSS INCOME	R/HA	R30,010	R26,611
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R886	R886
Crop insurance	R/HA	R1,681	R1,490
Fertilizer	R/HA	R4,183	R3,537
Lime	R/HA	R605	R605
Seed	R/HA	R1,282	R1,245
Fuel	R/HA	R1,120	R1,111
Herbicide	R/HA	R288	R464
Insecticide	R/HA	R183	R165
Fungicides	R/HA	R-	R-
Marketing costs	R/HA	R122	R141
Repairs and maintenance	R/HA	R790	R675
Casual labour	R/HA	R-	R-
Irrigation: Water	R/HA	R1,569	R1,336
Irrigation: Electricity	R/HA	R3,195	R2,721
Aerial spray	R/HA	R320	R333
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R620	R484
TOTAL VARIABLE EXPENDITURE	R/HA	R16,843	R15,194
TOTAL VARIABLE EXPENDITURE	R/TON	R2,591	R2,532
3.1) GROSS MARGIN:	R/HA	R13,167	R11,418
3.2) GROSS MARGIN:	R/TON	R2,026	R1,903
Break-even yield	T/HA	3.65	3.43
Break-even price	R/TON	R2,591	R2,532

Source: GSA, BFAP & Obaro, April 2021

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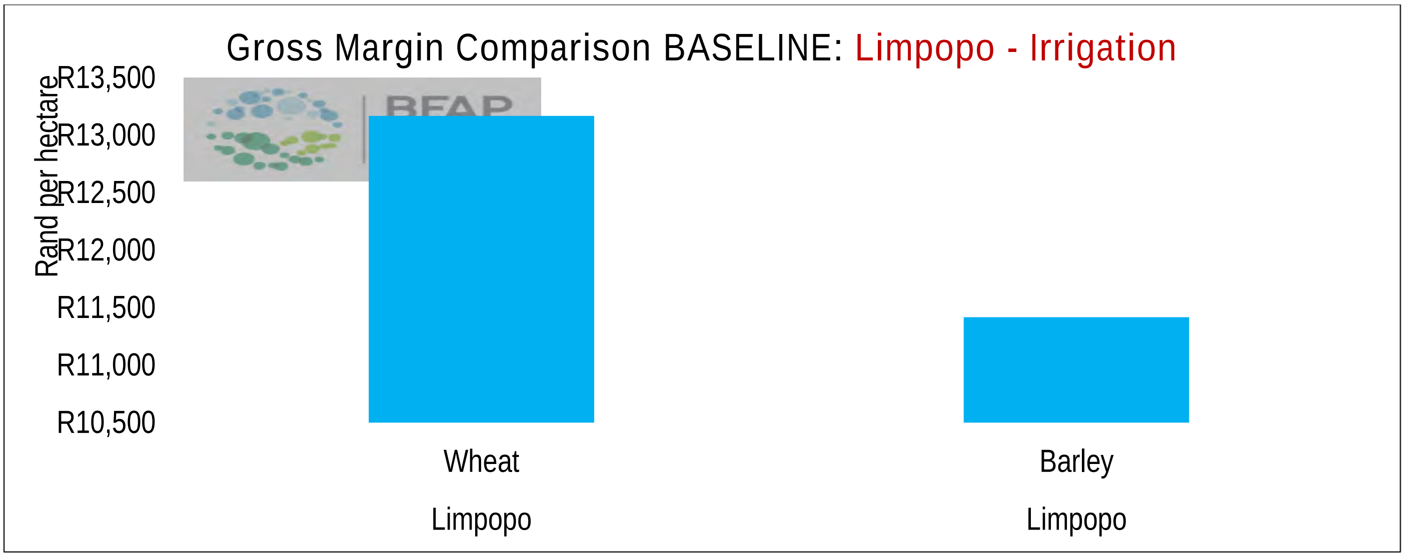

Figure 3.2: Gross margin comparison – Baseline: Limpopo Irrigation

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): LIMPOPO - IRRIGATION							
PRODUCERS	YIELD (T/HA)						
PRICE	5.75	6.00	6.25	6.50	6.75	7.00	7.25
R3,617	R 3,955	R 4,859	R 5,763	R 6,667	R 7,572	R 8,476	R 9,380
R3,867	R 5,392	R 6,359	R 7,326	R 8,292	R 9,259	R 10,226	R 11,193
R4,117	R 6,830	R 7,859	R 8,888	R 9,917	R 10,947	R 11,976	R 13,005
R4,367	R 8,267	R 9,359	R 10,451	R 11,542	R 12,634	R 13,726	R 14,818
R4,617	R 9,705	R 10,859	R 12,013	R 13,167	R 14,322	R 15,476	R 16,630
R4,867	R 11,142	R 12,359	R 13,576	R 14,792	R 16,009	R 17,226	R 18,443
R5,117	R 12,580	R 13,859	R 15,138	R 16,417	R 17,697	R 18,976	R 20,255
R5,367	R 14,017	R 15,359	R 16,701	R 18,042	R 19,384	R 20,726	R 22,068
R5,617	R 15,455	R 16,859	R 18,263	R 19,667	R 21,072	R 22,476	R 23,880

BARLEY SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): LIMPOPO - IRRIGATION							
PRODUCERS	YIELD (T/HA)						
PRICE	5.25	5.50	5.75	6.00	6.25	6.50	6.75
R3,435	R 2,841	R 3,700	R 4,559	R 5,418	R 6,277	R 7,136	R 7,994
R3,685	R 4,154	R 5,075	R 5,997	R 6,918	R 7,839	R 8,761	R 9,682
R3,935	R 5,466	R 6,450	R 7,434	R 8,418	R 9,402	R 10,386	R 11,369
R4,185	R 6,779	R 7,825	R 8,872	R 9,918	R 10,964	R 12,011	R 13,057
R4,435	R 8,091	R 9,200	R 10,309	R 11,418	R 12,527	R 13,636	R 14,744
R4,685	R 9,404	R 10,575	R 11,747	R 12,918	R 14,089	R 15,261	R 16,432
R4,935	R 10,716	R 11,950	R 13,184	R 14,418	R 15,652	R 16,886	R 18,119
R5,185	R 12,029	R 13,325	R 14,622	R 15,918	R 17,214	R 18,511	R 19,807
R5,435	R 13,341	R 14,700	R 16,059	R 17,418	R 18,777	R 20,136	R 21,494

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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Eastern Free State

Table 3.3: Income & cost budgets for wheat for Eastern Free State - Irrigation

Area		Eastern Free State: Irrigation
Crop		Wheat
Production System		Irrigation
1) INCOME		
Yield: Deterministic	T/HA	6.50
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2021	R/TON	R4,955
Total deductions	R/TON	R388
- Transport differential	R/TON	R288
- Grade differential	R/TON	R3
- Marketing, handling & statutory levies	R/TON	R97
Price premiums / Canola back-payment (10% of contracted price)	R/TON	R-
Net Farm Gate Price	R/TON	R4,567
GROSS INCOME	R/HA	R29,688
2) VARIABLE EXPENDITURES		
Contracting	R/HA	R1,263
Crop insurance	R/HA	R2,375
Fertilizer	R/HA	R4,391
Lime	R/HA	R420
Seed	R/HA	R1,988
Fuel	R/HA	R758
Herbicide	R/HA	R326
Insecticide	R/HA	R558
Fungicides	R/HA	R-
Marketing costs	R/HA	R113
Repairs and maintenance	R/HA	R1,512
Casual labour	R/HA	R-
Irrigation: Water	R/HA	R468
Irrigation: Electricity	R/HA	R1,235
Aerial spray	R/HA	R-
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R18
TOTAL VARIABLE EXPENDITURE	R/HA	R15,423
TOTAL VARIABLE EXPENDITURE	R/TON	R2,373
3.1) GROSS MARGIN:	R/HA	R14,265
3.2) GROSS MARGIN:	R/TON	R2,195
Break-even yield	T/HA	3.38
Break-even price	R/TON	R2,373

Source: VKB, GSA & BFAP, April 2021

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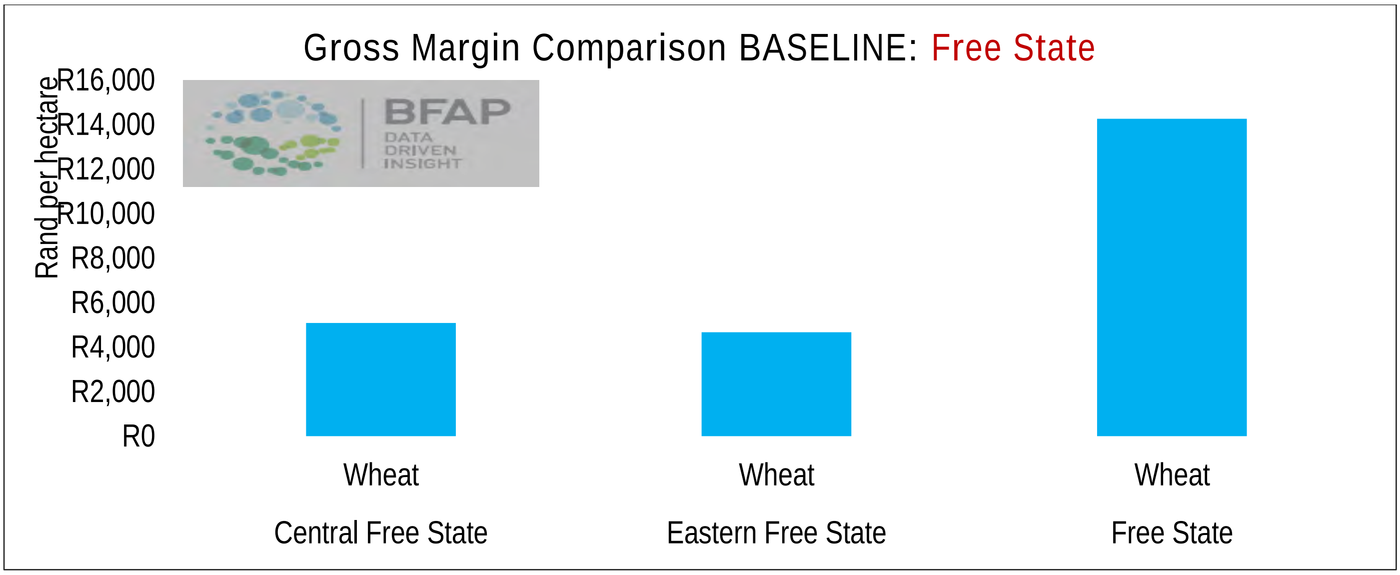

Figure 3.3: Gross margin comparison – Baseline: Limpopo Irrigation

WHEAT SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): FREE STATE IRRIGATION							
PRODUCERS PRICE	YIELD (T/HA) 5.75	6.00	6.25	6.50	6.75	7.00	7.25
R3,567	R 5,089	R 5,981	R 6,873	R 7,765	R 8,657	R 9,549	R 10,440
R3,817	R 6,527	R 7,481	R 8,436	R 9,390	R 10,344	R 11,299	R 12,253
R4,067	R 7,964	R 8,981	R 9,998	R 11,015	R 12,032	R 13,049	R 14,065
R4,317	R 9,402	R 10,481	R 11,561	R 12,640	R 13,719	R 14,799	R 15,878
R4,567	R 10,839	R 11,981	R 13,123	R 14,265	R 15,407	R 16,549	R 17,690
R4,817	R 12,277	R 13,481	R 14,686	R 15,890	R 17,094	R 18,299	R 19,503
R5,067	R 13,714	R 14,981	R 16,248	R 17,515	R 18,782	R 20,049	R 21,315
R5,317	R 15,152	R 16,481	R 17,811	R 19,140	R 20,469	R 21,799	R 23,128
R5,567	R 16,589	R 17,981	R 19,373	R 20,765	R 22,157	R 23,549	R 24,940

Notes:

- The cost items reflect the input allocation based on the target yield for the respective crops.
- Although some expenditure items are zero, it is reflected in the budgets to allow for individual inclusion.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The costs for wheat, barley & oats seeds reflect a combination of own- and purchased seed.
- It is important to note that overhead costs are not included and should be accounted for. Overhead costs such as interest on production loans, labour, management and administration will vary to a large extent from producer to producer. Producers will therefore have to deduct the farm business' overhead cost from the gross margins as stipulated in the tables and figures to calculate the net income per crop.

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