

Income & Cost Budgets

Summer Crops – 2023/24

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

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INCOME & COST BUDGETS FOR SUMMER CROPS – 2023/24 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.

The collaboration between the Protein Research Foundation (PRF), Grain South Africa, the Bureau for Food and Agricultural Policy (BFAP) and many agribusinesses across South Africa's key producing regions creates the benefit to leverage upon each organisation's ground-level expertise, as well as valuable resources in the field of production systems and commodity enterprise budgets. The purpose of this report is to present regional commodity enterprise budgets for the 2023/24 summer crop season.

It is acknowledged that intra-regional variation will occur and that enterprise budgets 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

The views expressed in this document reflect those of BFAP and do not constitute any specific advice as to decisions or actions that should be taken. Whilst every care has been taken in preparing this document, no representation, warranty, or undertaking (expressed or implied) is given and no responsibility or liability is accepted by BFAP as to the accuracy or completeness of the information contained herein. In addition, BFAP accepts no responsibility or liability for any damages of whatsoever nature which any person may suffer as a result of any decision or action taken on the basis of the information contained herein. All opinions and estimates contained in this report may be changed after publication at any time without notice

Area coverage

Table 1.1 and Table 1.2 provides an overview of the area of coverage for dryland and irrigated summer crops in South Africa's key agro-ecological producing regions. The coordinators of this initiative 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
KwaZulu-Natal		
Bloedrivier	Maize & Soybeans	GSA / BFAP / Individual Farmers
Mpumalanga		
Middelburg / Trichardt	Maize, Soybeans & Grain Sorghum	GSA / BFAP / Individual Farmers
Ermelo	Maize & Soybeans	GSA / BFAP / Individual Farmers
Eastern Free State		
Reitz region	Maize, soybeans, sunflower & dry beans	GSA / VKB / BFAP / Individual Farmers
Northern Free State		
Northern Free State – Water table soils / higher potential	Maize	GSA / Senwes / BFAP
Northern Free State – Normal potential	Maize	GSA / Senwes / BFAP
Northern Free State	Maize, soybeans, sunflower, ground nuts & grain sorghum	GSA / Senwes / BFAP
North West		
Koster	Maize, soybeans & sunflower	GSA / NWK / BFAP / Individual Farmers
Lichtenburg	Maize, soybeans, sunflower & ground nuts	GSA / NWK / BFAP / Individual Farmers

Table 1.2: Area coverage: Irrigation

Area	Irrigated Crops	Source & Collaborators
Northern Cape		
GWK Area	Maize, soybeans, ground nuts & sunflower	GWK, GSA & BFAP
KwaZulu-Natal		
Bergville	Maize & soybeans	GSA & Individual Farmers
North West		
Brits / Northam / Koedoeskop	Maize, soybeans, sunflower & sorghum	GSA, NWK & Individual Farmers
Limpopo		
Loskop Irrigation Scheme	Maize & Soybeans	GSA & Individual Farmers

Yield Assumptions

Figure 1.1 and Figure 1.2 indicate the yield assumptions for dryland and irrigated crops. These assumptions represent target yields which were formulated in round table discussions. These levels are based on 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 target yields based on their location and potential.

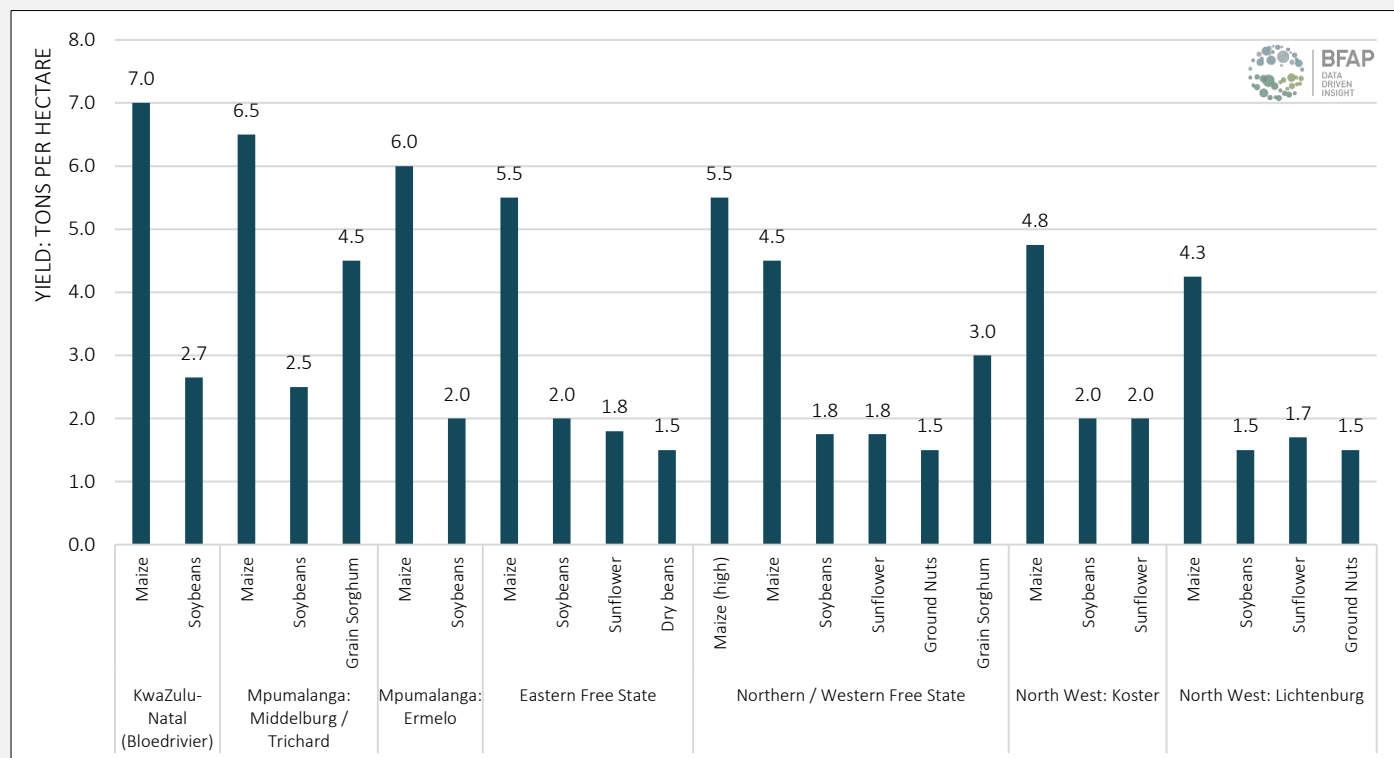


Figure 1.1: Dryland crops yield assumptions

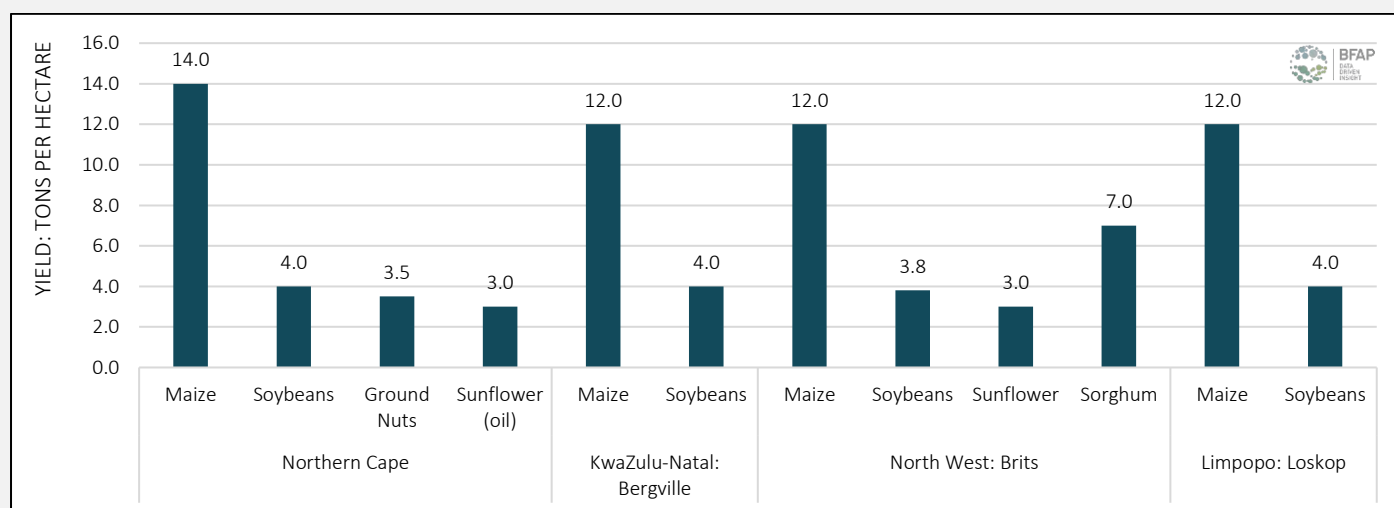


Figure 1.2: Irrigated crops yield assumptions

Crop Price Assumptions

Annually, the Bureau for Food and Agricultural Policy (BFAP) presents a baseline outlook for agricultural production, consumption, prices and trade in South Africa over a 10-year horizon. The outlook is generated within the BFAP system of models and is based on a coherent set of assumptions about a range of economic, technological, environmental, political, institutional, and social factors. Of the range of critical assumptions underpinning the baseline projections, one of the most important is that stable weather conditions will prevail in Southern Africa and around the world; therefore, yields grow constantly over the baseline as technology improves. Consequently, it does not represent a forecast, but rather a single plausible future outcome, based on fundamental factors underpinning markets. It presents a future equilibrium and a benchmark against which further analysis can be measured and understood.

Assumptions related to the future macro-economic environment 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, as well as the Food and Agriculture Association (FAO) of the United Nations. Once these critical assumptions are captured in the BFAP system of models, the Outlook for all commodities is simulated within a closed system of equations. This captures the interlinkages between sectors and, for example, any shocks in the grain sector are transmitted to the livestock sector and vice versa. For each commodity, important components of supply and demand are identified, after which an equilibrium is established through balance sheet principles by equating total demand to total supply.

Figure 1.3 illustrates the key commodity price assumptions for white maize, yellow maize, sorghum, sunflower and soybeans that were used in the summer crop budgets for the 2023/24 production season. Further deductions were made to calculate a farm gate price for each agro-ecological producing region. 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.

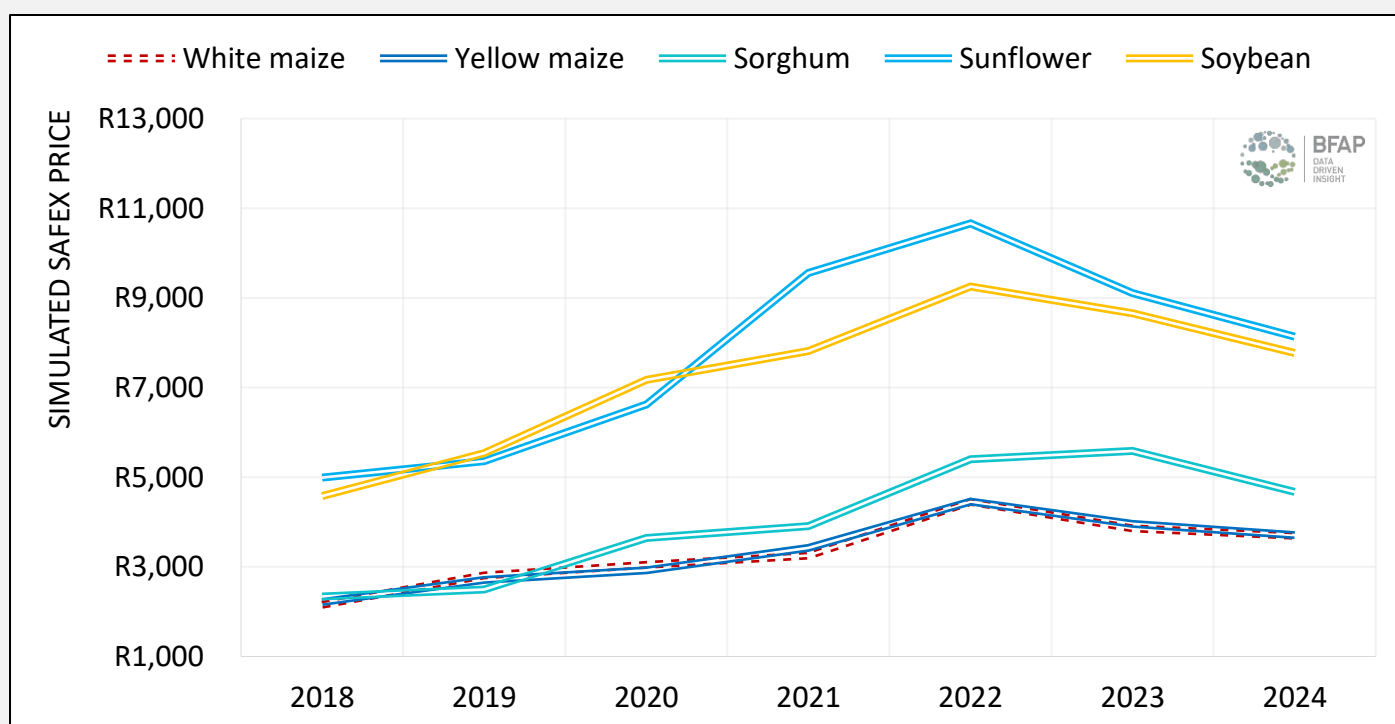


Figure 1.3: BFAP average annual commodity price projections: 2018-2024

Source: BFAP, October 2023

Key Input Cost Trends

Figure 1.4 illustrates the cost trends for fuel and fertilisers over the period from January 2020 to September 2023. Since 2022, the cost of inputs has declined as the world adjusted after the Covid-19 pandemic and the Russia-Ukrainian war disrupting supply chains. However, input costs remain well above 2020 levels. When comparing the cost in 2023 to the average cost from 2016 to 2018, fertiliser remained 90% higher, diesel 41% and herbicides 105%. In recent months, input costs have started to increase once again, following geopolitical conflicts, persistent economic uncertainty and its impact on the macroeconomic environment (especially the Rand / dollar exchange rate).

When comparing September 2022 to September 2023 input cost levels, the weighted average fertiliser price (combination between nitrogen, phosphorus and potassium) has indicated a year-on-year decrease of 35%, with nitrogen decreasing by 32% (urea = -36% and LAN28 = -28%), MAP by 30% and potassium by 47%. The cost of herbicide and insecticides decreased by 19% and 29% from September 2022 to September 2023 respectively. The price of fuel only showed a modest decline of 4% (Grain SA, 2023).

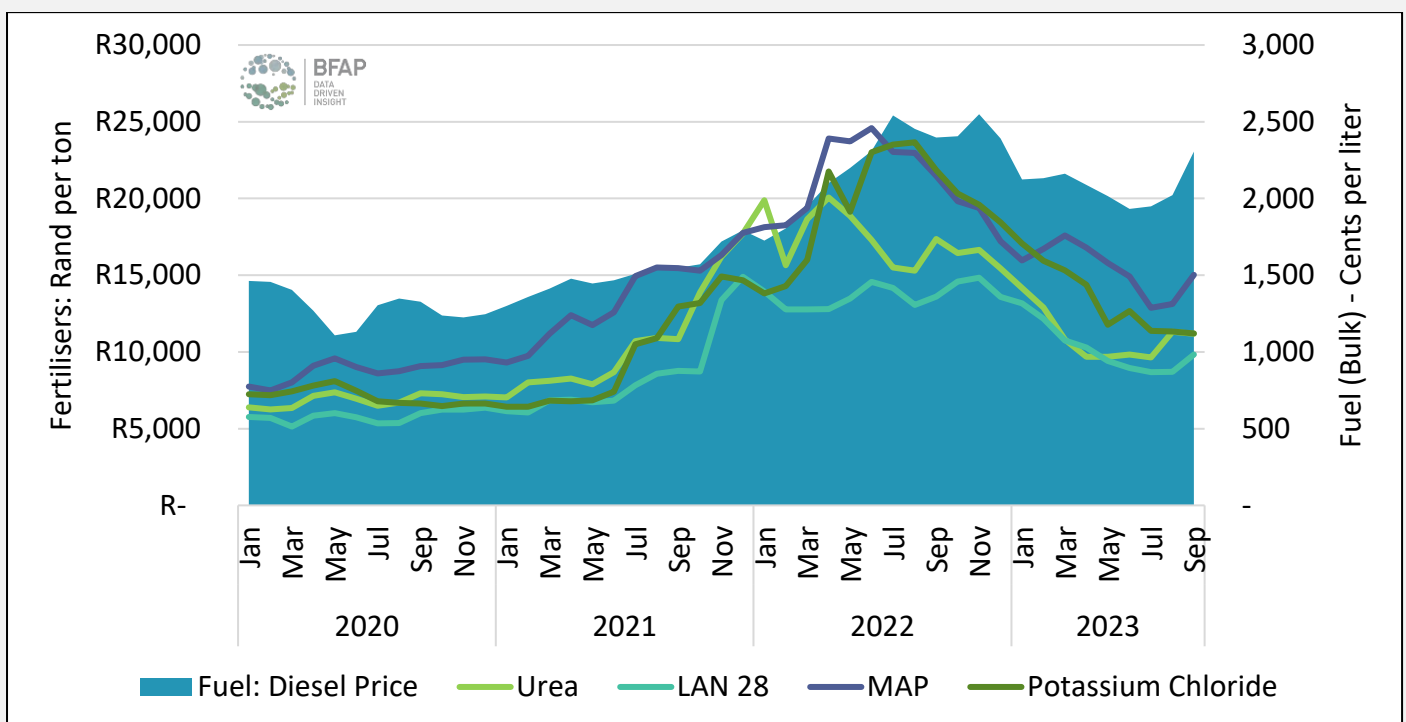


Figure 1.4: Fertiliser & fuel cost trends: January 2020 to September 2023
Source: Grain SA, October 2023

Figure 1.5 presents an overview of the average year-on-year (calendar) percentage changes for key agricultural inputs over the period from 2020 to 2024 (estimate). Fertiliser and chemical costs decreased in 2023, and are projected to continue decreasing in 2024. The cost of fuel has remained relatively constant following the rapid increase in 2021 and 2022 and is projected sideways for 2023 and 2024.

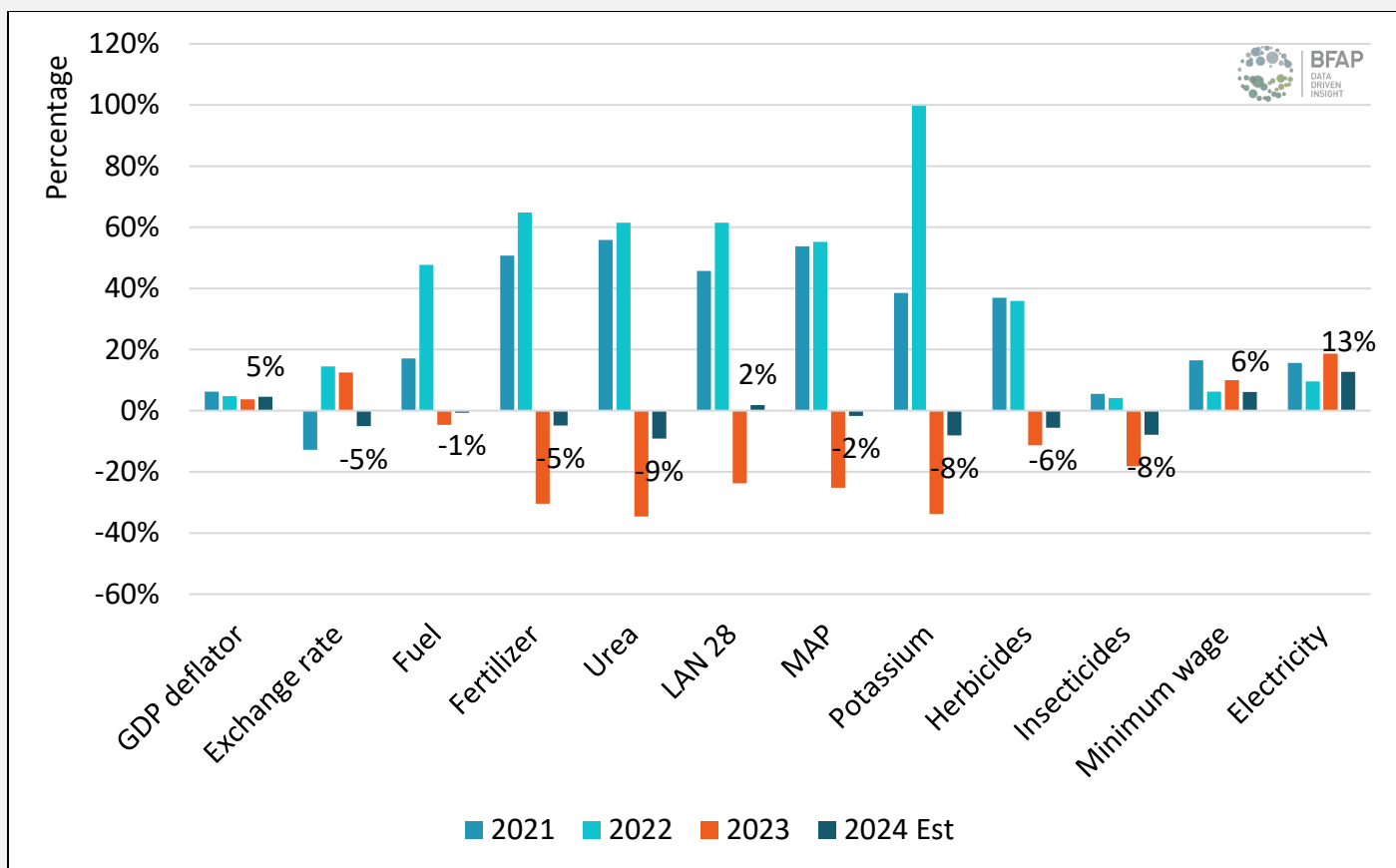


Figure 1.5: Agricultural input cost inflation: Year-on-year (calendar) percentage change from 2021 – 2024
Source: BFAP & GSA, October 2023

Methodology, Approach & Definitions

- ❖ A standard operating procedure was used across all crops and regions for generating the cost and income budgets for the 2023/24 production season.
- ❖ Deterministic or target yields were based on industry discussions which refers to a yield that should be obtained given a normal production season with normal weather in the respective agro-ecological production regions.
- ❖ The farm gate price for each crop was calculated by deducting transport differential, grade differential, handling fees, commission and levies (statutory for seed breeding and technology) from the simulated SAFEX price. For white- and yellow maize, industry averages for grade discounts were used to calculate grade differentials.
- ❖ The gross production value is then calculated by multiplying the yield with the farm gate price.
- ❖ The direct costs are calculated by multiplying the cost per unit by the estimated quantity of input use or application rate.
- ❖ For the majority of the crops, it was assumed that own machinery was used, except for speciality operations that is coupled with economies of scale. In such cases, a contracting cost item was allocated. For all crops, provision was made for hail insurance.
- ❖ Fertiliser and lime application will vary significantly in regions and across crops, however, an attempt was made to follow a standardised approach across the regions. Micro-elements and foliar feed for selective crops are included in the total fertiliser cost.
- ❖ The price for fertiliser nutrients (N, P & K) was calculated by using a weighted approach that accounts for 1. variation in discounts received from suppliers and 2. the time period when fertilisers were purchased.
- ❖ Fuel consumption is based on the prevalence production system in each region.
- ❖ For plant protection, herbicide, insecticide and fungicides are accounted for based on interaction with industry experts and producers. For instance, in certain regions provision was made for fungicide sprays, but for others where the practise is not common, fungicides were excluded from plant protection costs.
- ❖ Repairs and maintenance costs are calculated based on the production system operations.
- ❖ For seed, an assumption was made in terms of the majority of crop type area that is cultivated in each region. For instance, the cost of maize seed in Northern-Natal, Mpumalanga and Eastern Free State is based on the assumption that the majority of the area under maize cultivation is yellow maize whereas for the western producing regions, white maize was assumed. An average seed price across various seed companies was used for 1) conventional seeds and 2) GM-technology. The cost of seed per hectare is calculated by multiplying the cost per unit (either kilograms or plant population) by the application rate per hectare. For selective crops, seed treatment was included where relevant. For predominantly oilseeds production, the seed application rate was sub-divided according to own and purchased seed. For own seed use, a cost was also allocated which is based on a realistic crop price (hence, opportunity cost) and seed preparation costs such as sifting and treatment.
- ❖ For irrigated crops, the cost of water and electricity was calculated according to typical irrigation application rates at their respective regional costs per millimetre. For instance, variations will occur in the cost for water in areas where predominantly boreholes are used compared to irrigation/water scheme areas.
- ❖ The gross margin was calculated by subtracting the direct cost from the gross production value.

2023/24 INCOME & COST BUDGETS – DRYLAND PRODUCTION REGIONS

KwaZulu-Natal

Table 2.1: Income & cost budgets for maize & soybeans for KwaZulu-Natal (Bloedrivier Region) – Dryland

KwaZulu-Natal: Bloedrivier			
Crop		Maize	Soybeans
Production System		Dryland	Dryland
1) INCOME			
Yield: Deterministic	T/HA	7.00	2.65
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109
Total deductions	R/TON	R522	R447
- Transport differential	R/TON	R441	R328
- Grade differential	R/TON	R18	R-
- Handling & commission	R/TON	R63	R62
- Seed breeding & technology levy	R/TON	R-	R58
Price premiums	R/TON	R-	R-
Net Farm Gate Price	R/TON	R3,244	R7,662
GROSS INCOME	R/HA	R22,708	R20,304
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R-	R-
Crop insurance	R/HA	R863	R2,477
Fertilizer	R/HA	R5,538	R2,532
Lime	R/HA	R735	R-
Seed	R/HA	R3,709	R1,760
Fuel	R/HA	R1,479	R897
Herbicide	R/HA	R1,578	R1,476
Insecticide/Fungicide	R/HA	R931	R407
Marketing costs	R/HA	R-	R-
Repairs and maintenance	R/HA	R734	R466
Casual labour	R/HA	R339	R-
Aerial spray	R/HA	R-	R-
Other expenditure	R/HA	R-	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R15,906	R10,016
TOTAL VARIABLE EXPENDITURE	R/TON	R2,272	R3,780
3.1) GROSS MARGIN:	R/HA	R6,802	R10,287
3.2) GROSS MARGIN:	R/TON	R972	R3,882
BREAK-EVEN YIELD	T/HA	4.90	1.31
BREAK-EVEN PRICE	R/TON	R2,272	R3,780

Source: BFAP, GSA & Individual Farmers, 2023

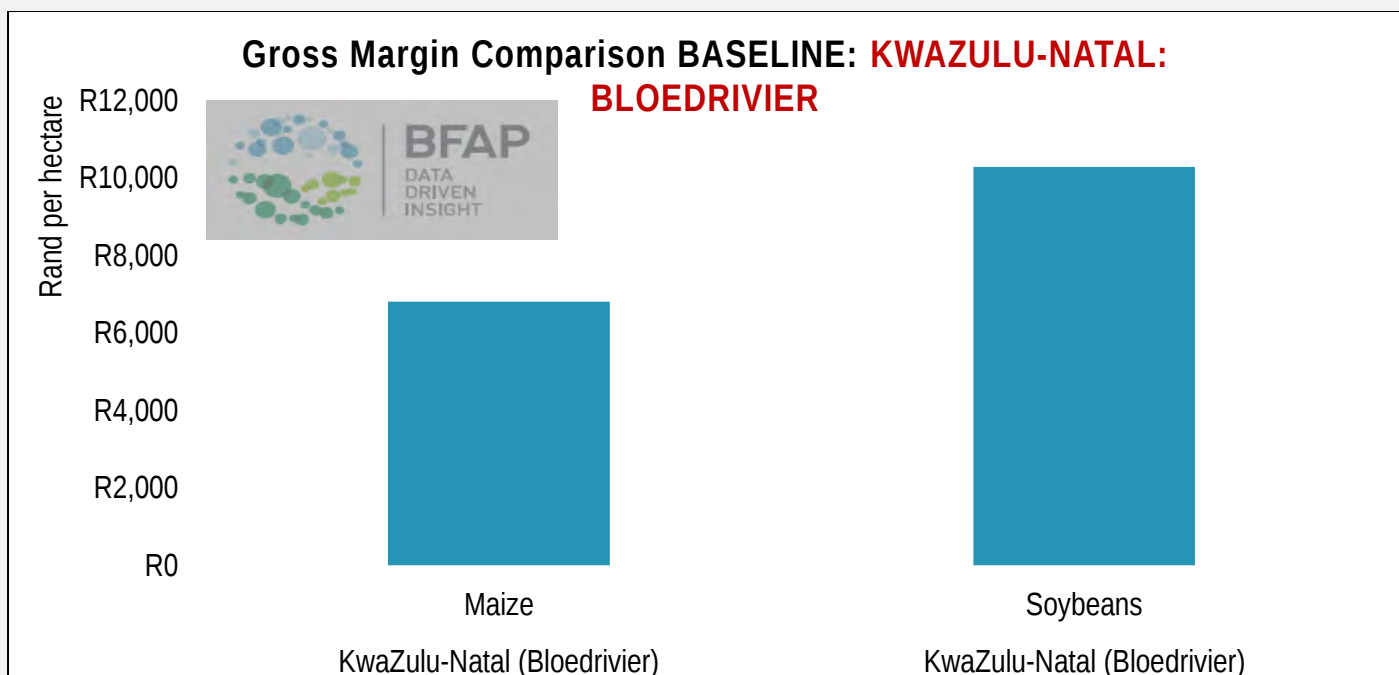


Figure 2.1: Gross margin comparison – Baseline: KwaZulu-Natal (Bloedrivier Region)

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): KWAZULU-NATAL: BLOEDRIVIER															
PRODUCERS YIELD (T/HA)															
PRICE		5.50		6.00		6.50		7.00		7.50		8.00		8.50	
R2,844	R	264	R	1,158	R	2,580	R	4,002	R	5,424	R	6,846	R	8,268	
R2,944	R	286	R	1,758	R	3,230	R	4,702	R	6,174	R	7,646	R	9,118	
R3,044	R	836	R	2,358	R	3,880	R	5,402	R	6,924	R	8,446	R	9,968	
R3,144	R	1,386	R	2,958	R	4,530	R	6,102	R	7,674	R	9,246	R	10,818	
R3,244	R	1,936	R	3,558	R	5,180	R	6,802	R	8,424	R	10,046	R	11,668	
R3,344	R	2,486	R	4,158	R	5,830	R	7,502	R	9,174	R	10,846	R	12,518	
R3,444	R	3,036	R	4,758	R	6,480	R	8,202	R	9,924	R	11,646	R	13,368	
R3,544	R	3,586	R	5,358	R	7,130	R	8,902	R	10,674	R	12,446	R	14,218	
R3,644	R	4,136	R	5,958	R	7,780	R	9,602	R	11,424	R	13,246	R	15,068	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): KWAZULU-NATAL: BLOEDRIVIER															
PRODUCERS YIELD (T/HA)															
PRICE		1.80		2.05		2.30		2.65		3.00		3.25		3.50	
R7,262	R	3,055	R	4,870	R	6,686	R	9,227	R	11,769	R	13,585	R	15,400	
R7,362	R	3,235	R	5,075	R	6,916	R	9,492	R	12,069	R	13,910	R	15,750	
R7,462	R	3,415	R	5,280	R	7,146	R	9,757	R	12,369	R	14,235	R	16,100	
R7,562	R	3,595	R	5,485	R	7,376	R	10,022	R	12,669	R	14,560	R	16,450	
R7,662	R	3,775	R	5,690	R	7,606	R	10,287	R	12,969	R	14,885	R	16,800	
R7,762	R	3,955	R	5,895	R	7,836	R	10,552	R	13,269	R	15,210	R	17,150	
R7,862	R	4,135	R	6,100	R	8,066	R	10,817	R	13,569	R	15,535	R	17,500	
R7,962	R	4,315	R	6,305	R	8,296	R	11,082	R	13,869	R	15,860	R	17,850	
R8,062	R	4,495	R	6,510	R	8,526	R	11,347	R	14,169	R	16,185	R	18,200	

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): KWAZULU-NATAL: BLOEDRIVIER

PRICE (R/TON)														
YIELD	R	7,362	R	7,462	R	7,562	R	7,662	R	7,762	R	7,862	R	7,962
1.65	-R	4,671	-R	4,506	-R	4,341	-R	4,176	-R	4,011	-R	3,846	-R	3,681
1.90	-R	2,831	-R	2,641	-R	2,451	-R	2,261	-R	2,071	-R	1,881	-R	1,691
2.15	-R	990	-R	775	-R	560	-R	345	-R	130	R	85	R	300
2.40	R	850	R	1,090	R	1,330	R	1,570	R	1,810	R	2,050	R	2,290
2.65	R	2,690	R	2,955	R	3,220	R	3,485	R	3,750	R	4,015	R	4,280
2.90	R	4,531	R	4,821	R	5,111	R	5,401	R	5,691	R	5,981	R	6,271
3.15	R	6,371	R	6,686	R	7,001	R	7,316	R	7,631	R	7,946	R	8,261
3.40	R	8,212	R	8,552	R	8,892	R	9,232	R	9,572	R	9,912	R	10,252
3.65	R	10,052	R	10,417	R	10,782	R	11,147	R	11,512	R	11,877	R	12,242

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

Mpumalanga

Table 2.2: Income & cost budgets for maize, soybeans & grain sorghum for Mpumalanga - Dryland

Middelburg / Trichardt					Ermelo	
Crop		Maize	Soybeans	Grain Sorghum	Maize	Soybeans
Production System		Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME						
Yield: Deterministic	T/HA	6.50	2.50	4.50	6.00	2.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109	R4,674	R3,766	R8,109
Total deductions	R/TON	R396	R353	R66	R458	R400
- Transport differential	R/TON	R315	R234	R-	R377	R281
- Grade differential	R/TON	R18	R-	R-	R18	R-
- Handling & commission	R/TON	R63	R62	R66	R63	R62
- Seed breeding & technology levy	R/TON	R-	R58	R-	R-	R58
Price premiums	R/TON	R-	R-	R-	R-	R-
Net Farm Gate Price	R/TON	R3,370	R7,756	R4,608	R3,308	R7,709
GROSS INCOME	R/HA	R21,905	R19,389	R20,735	R19,848	R15,417
2) VARIABLE EXPENDITURES						
Contracting	R/HA	R-	R-	R-	R-	R-
Crop insurance	R/HA	R832	R1,590	R622	R754	R1,264
Fertilizer	R/HA	R4,978	R1,603	R2,940	R4,744	R1,458
Lime	R/HA	R735	R-	R735	R735	R-
Seed	R/HA	R3,338	R1,539	R941	R2,967	R1,428
Fuel	R/HA	R1,457	R897	R1,385	R1,434	R869
Herbicide	R/HA	R1,479	R1,520	R1,250	R1,479	R1,474
Insecticide/Fungicide	R/HA	R931	R407	R623	R931	R388
Marketing costs	R/HA	R-	R-	R-	R-	R-
Repairs and maintenance	R/HA	R919	R708	R723	R820	R700
Casual labour	R/HA	R315	R-	R104	R290	R-
Aerial spray	R/HA	R-	R-	R-	R-	R-
Other expenditure	R/HA	R-	R-	R-	R-	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R14,983	R8,264	R9,323	R14,155	R7,581
TOTAL VARIABLE EXPENDITURE	R/TON	R2,305	R3,305	R2,072	R2,359	R3,791
3.1) GROSS MARGIN:	R/HA	R6,922	R11,126	R11,412	R5,693	R7,836
3.2) GROSS MARGIN:	R/TON	R1,065	R4,450	R2,536	R949	R3,918
BREAK-EVEN YIELD	T/HA	4.45	1.07	2.02	4.28	0.98
BREAK-EVEN PRICE	R/TON	R2,305	R3,305	R2,072	R2,359	R3,791

Source: BFAP, GSA & Individual Farmers, 2023

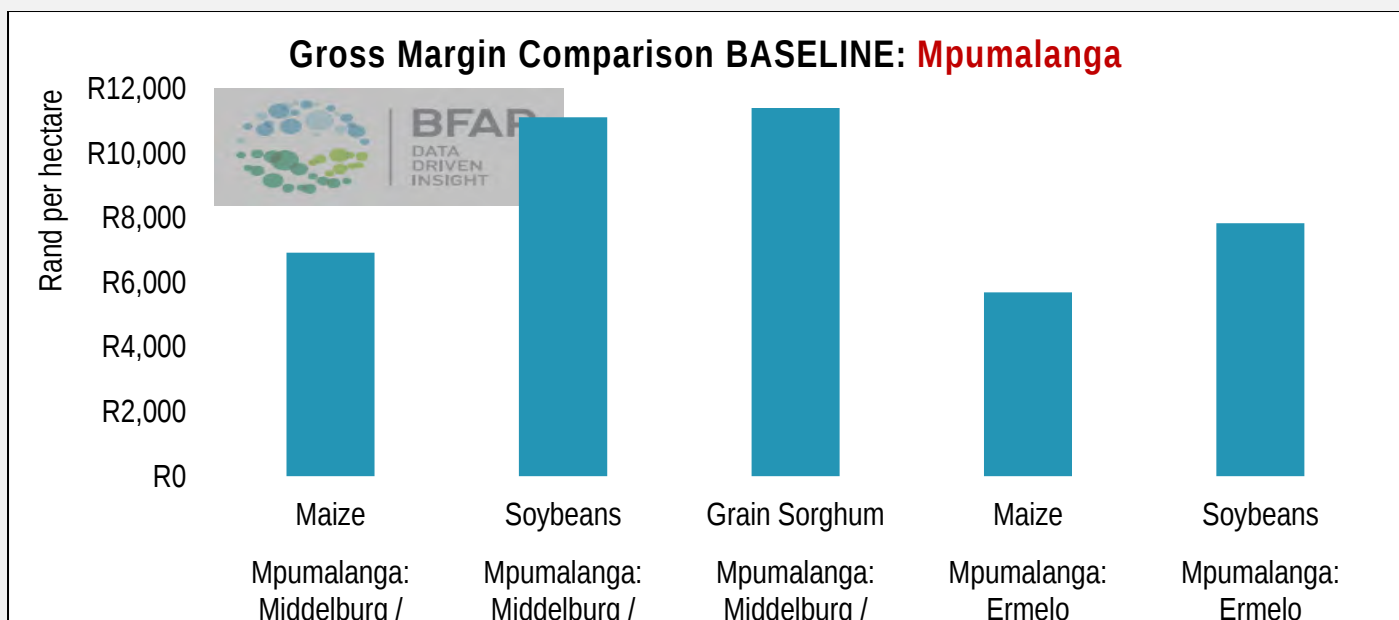


Figure 2.2: Gross margin comparison – Baseline: Mpumalanga

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): MPUMALANGA: MIDDELBURG / TRICHARD

PRODUCERS YIELD (T/HA)															
PRICE		5.00		5.50		6.00		6.50		7.00		7.50		8.00	
R2,970	-R	133	R	1,352	R	2,837	R	4,322	R	5,807	R	7,292	R	8,776	
R3,070	R	367	R	1,902	R	3,437	R	4,972	R	6,507	R	8,042	R	9,576	
R3,170	R	867	R	2,452	R	4,037	R	5,622	R	7,207	R	8,792	R	10,376	
R3,270	R	1,367	R	3,002	R	4,637	R	6,272	R	7,907	R	9,542	R	11,176	
R3,370	R	1,867	R	3,552	R	5,237	R	6,922	R	8,607	R	10,292	R	11,976	
R3,470	R	2,367	R	4,102	R	5,837	R	7,572	R	9,307	R	11,042	R	12,776	
R3,570	R	2,867	R	4,652	R	6,437	R	8,222	R	10,007	R	11,792	R	13,576	
R3,670	R	3,367	R	5,202	R	7,037	R	8,872	R	10,707	R	12,542	R	14,376	
R3,770	R	3,867	R	5,752	R	7,637	R	9,522	R	11,407	R	13,292	R	15,176	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): MPUMALANGA: MIDDELBURG / TRICHARD

PRODUCERS YIELD (T/HA)															
PRICE		1.75		2.00		2.25		2.50		2.75		3.00		3.25	
R7,356	R	4,609	R	6,448	R	8,287	R	10,126	R	11,965	R	13,803	R	15,642	
R7,456	R	4,784	R	6,648	R	8,512	R	10,376	R	12,240	R	14,103	R	15,967	
R7,556	R	4,959	R	6,848	R	8,737	R	10,626	R	12,515	R	14,403	R	16,292	
R7,656	R	5,134	R	7,048	R	8,962	R	10,876	R	12,790	R	14,703	R	16,617	
R7,756	R	5,309	R	7,248	R	9,187	R	11,126	R	13,065	R	15,003	R	16,942	
R7,856	R	5,484	R	7,448	R	9,412	R	11,376	R	13,340	R	15,303	R	17,267	
R7,956	R	5,659	R	7,648	R	9,637	R	11,626	R	13,615	R	15,603	R	17,592	
R8,056	R	5,834	R	7,848	R	9,862	R	11,876	R	13,890	R	15,903	R	17,917	
R8,156	R	6,009	R	8,048	R	10,087	R	12,126	R	14,165	R	16,203	R	18,242	

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): MPUMALANGA: ERMELO

PRODUCERS YIELD (T/HA)															
PRICE		4.50		5.00		5.50		6.00		6.50		7.00		7.50	
R2,908	-R	1,069	R	385	R	1,839	R	3,293	R	4,747	R	6,201	R	7,655	
R3,008	-R	619	R	885	R	2,389	R	3,893	R	5,397	R	6,901	R	8,405	
R3,108	-R	169	R	1,385	R	2,939	R	4,493	R	6,047	R	7,601	R	9,155	
R3,208	R	281	R	1,885	R	3,489	R	5,093	R	6,697	R	8,301	R	9,905	
R3,308	R	731	R	2,385	R	4,039	R	5,693	R	7,347	R	9,001	R	10,655	
R3,408	R	1,181	R	2,885	R	4,589	R	6,293	R	7,997	R	9,701	R	11,405	
R3,508	R	1,631	R	3,385	R	5,139	R	6,893	R	8,647	R	10,401	R	12,155	
R3,608	R	2,081	R	3,885	R	5,689	R	7,493	R	9,297	R	11,101	R	12,905	
R3,708	R	2,531	R	4,385	R	6,239	R	8,093	R	9,947	R	11,801	R	13,655	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): MPUMALANGA: ERMELO

PRODUCERS YIELD (T/HA)													
PRICE	1.25		1.50		1.75		2.00		2.25		2.50		2.75
R7,309	R	1,555	R	3,382	R	5,209	R	7,036	R	8,863	R	10,690	R 12,518
R7,409	R	1,680	R	3,532	R	5,384	R	7,236	R	9,088	R	10,940	R 12,793
R7,509	R	1,805	R	3,682	R	5,559	R	7,436	R	9,313	R	11,190	R 13,068
R7,609	R	1,930	R	3,832	R	5,734	R	7,636	R	9,538	R	11,440	R 13,343
R7,709	R	2,055	R	3,982	R	5,909	R	7,836	R	9,763	R	11,690	R 13,618
R7,809	R	2,180	R	4,132	R	6,084	R	8,036	R	9,988	R	11,940	R 13,893
R7,909	R	2,305	R	4,282	R	6,259	R	8,236	R	10,213	R	12,190	R 14,168
R8,009	R	2,430	R	4,432	R	6,434	R	8,436	R	10,438	R	12,440	R 14,443
R8,109	R	2,555	R	4,582	R	6,609	R	8,636	R	10,663	R	12,690	R 14,718

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): MPUMALANGA: MIDDELBURG / TRICHARD

PRICE (R/TON)													
YIELD	R	7,456	R	7,556	R	7,656	R	7,756	R	7,856	R	7,956	R 8,056
1.50	-R	4,002	-R	3,852	-R	3,702	-R	3,552	-R	3,402	-R	3,252	-R 3,102
1.75	-R	2,138	-R	1,963	-R	1,788	-R	1,613	-R	1,438	-R	1,263	-R 1,088
2.00	-R	274	-R	74	R	126	R	326	R	526	R	726	R 926
2.25	R	1,590	R	1,815	R	2,040	R	2,265	R	2,490	R	2,715	R 2,940
2.50	R	3,454	R	3,704	R	3,954	R	4,204	R	4,454	R	4,704	R 4,954
2.75	R	5,318	R	5,593	R	5,868	R	6,143	R	6,418	R	6,693	R 6,968
3.00	R	7,182	R	7,482	R	7,782	R	8,082	R	8,382	R	8,682	R 8,982
3.25	R	9,046	R	9,371	R	9,696	R	10,021	R	10,346	R	10,671	R 10,996
3.50	R	10,910	R	11,260	R	11,610	R	11,960	R	12,310	R	12,660	R 13,010

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): MPUMALANGA: ERMELO

PRICE (R/TON)													
YIELD	R	7,409	R	7,509	R	7,609	R	7,709	R	7,809	R	7,909	R 8,009
1.00	-R	5,866	-R	5,766	-R	5,666	-R	5,566	-R	5,466	-R	5,366	-R 5,266
1.25	-R	4,013	-R	3,888	-R	3,763	-R	3,638	-R	3,513	-R	3,388	-R 3,263
1.50	-R	2,161	-R	2,011	-R	1,861	-R	1,711	-R	1,561	-R	1,411	-R 1,261
1.75	-R	309	-R	134	R	41	R	216	R	391	R	566	R 741
2.00	R	1,543	R	1,743	R	1,943	R	2,143	R	2,343	R	2,543	R 2,743
2.25	R	3,395	R	3,620	R	3,845	R	4,070	R	4,295	R	4,520	R 4,745
2.50	R	5,247	R	5,497	R	5,747	R	5,997	R	6,247	R	6,497	R 6,747
2.75	R	7,100	R	7,375	R	7,650	R	7,925	R	8,200	R	8,475	R 8,750
3.00	R	8,952	R	9,252	R	9,552	R	9,852	R	10,152	R	10,452	R 10,752

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

Eastern Free State

Table 2.3: Income & cost budgets for maize, soybeans, sunflower & dry beans for Eastern Free State - Dryland

Eastern Free State					
Crop		Maize	Soybeans	Sunflower	Dry beans
Production System		Dryland	Dryland	Dryland	Dryland
1) INCOME					
Yield: Deterministic	T/HA	5.50	2.00	1.80	1.50
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109	R8,332	R20,493
Total deductions	R/TON	R463	R407	R380	R540
- Transport differential	R/TON	R382	R284	R283	R-
- Grade differential	R/TON	R18	R-	R-	R-
- Handling & commission	R/TON	R63	R66	R97	R540
- Seed breeding & technology levy	R/TON	R-	R58	R-	R-
Price premiums	R/TON	R-	R-	R-	R-
Net Farm Gate Price	R/TON	R3,303	R7,702	R7,952	R19,953
GROSS INCOME	R/HA	R18,166	R15,403	R14,314	R29,929
2) VARIABLE EXPENDITURES					
Contracting	R/HA	R-	R-	R-	R1,375
Crop insurance	R/HA	R654	R1,725	R615	R2,095
Fertilizer	R/HA	R3,902	R1,654	R1,617	R3,228
Lime	R/HA	R692	R-	R-	R589
Seed	R/HA	R2,077	R1,539	R909	R4,839
Fuel	R/HA	R1,521	R1,201	R1,150	R978
Herbicide	R/HA	R1,394	R1,137	R1,359	R1,068
Insecticide/Fungicide	R/HA	R718	R250	R287	R3,313
Marketing costs	R/HA	R-	R-	R-	R-
Repairs and maintenance	R/HA	R1,143	R883	R907	R736
Casual labour	R/HA	R266	R-	R-	R2,200
Aerial spray	R/HA	R-	R-	R-	R-
Other expenditure	R/HA	R-	R-	R-	R120
TOTAL VARIABLE EXPENDITURE	R/HA	R12,368	R8,388	R6,844	R20,542
TOTAL VARIABLE EXPENDITURE	R/TON	R2,249	R4,194	R3,802	R13,694
3.1) GROSS MARGIN:	R/HA	R5,798	R7,015	R7,470	R9,388
3.2) GROSS MARGIN:	R/TON	R1,054	R3,507	R4,150	R6,259
BREAK-EVEN YIELD	T/HA	3.74	1.09	0.86	1.03
BREAK-EVEN PRICE	R/TON	R2,249	R4,194	R3,802	R13,694

Source: BFAP, GSA, VKB & Individual Farmers, 2023

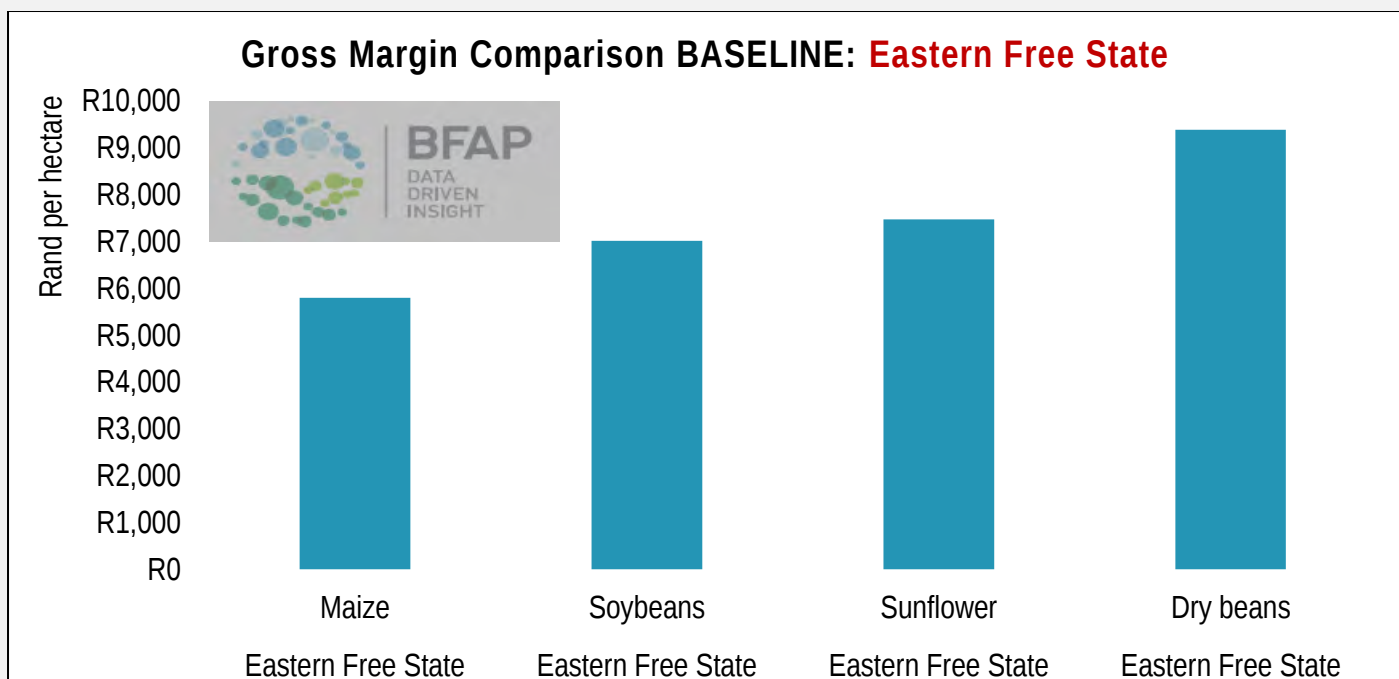


Figure 2.3: Gross margin comparison – Baseline: Eastern Free State

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN FREE STATE															
PRODUCERS YIELD (T/HA)															
PRICE		4.00		4.50		5.00		5.50		6.00		6.50		7.00	
R2,903	-R	756	R	695	R	2,147	R	3,598	R	5,050	R	6,501	R	7,953	
R3,003	-R	356	R	1,145	R	2,647	R	4,148	R	5,650	R	7,151	R	8,653	
R3,103	R	44	R	1,595	R	3,147	R	4,698	R	6,250	R	7,801	R	9,353	
R3,203	R	444	R	2,045	R	3,647	R	5,248	R	6,850	R	8,451	R	10,053	
R3,303	R	844	R	2,495	R	4,147	R	5,798	R	7,450	R	9,101	R	10,753	
R3,403	R	1,244	R	2,945	R	4,647	R	6,348	R	8,050	R	9,751	R	11,453	
R3,503	R	1,644	R	3,395	R	5,147	R	6,898	R	8,650	R	10,401	R	12,153	
R3,603	R	2,044	R	3,845	R	5,647	R	7,448	R	9,250	R	11,051	R	12,853	
R3,703	R	2,444	R	4,295	R	6,147	R	7,998	R	9,850	R	11,701	R	13,553	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN FREE STATE															
PRODUCERS YIELD (T/HA)															
PRICE		1.25		1.50		1.75		2.00		2.25		2.50		2.75	
R7,302	R	739	R	2,564	R	4,389	R	6,215	R	8,040	R	9,865	R	11,691	
R7,402	R	864	R	2,714	R	4,564	R	6,415	R	8,265	R	10,115	R	11,966	
R7,502	R	989	R	2,864	R	4,739	R	6,615	R	8,490	R	10,365	R	12,241	
R7,602	R	1,114	R	3,014	R	4,914	R	6,815	R	8,715	R	10,615	R	12,516	
R7,702	R	1,239	R	3,164	R	5,089	R	7,015	R	8,940	R	10,865	R	12,791	
R7,802	R	1,364	R	3,314	R	5,264	R	7,215	R	9,165	R	11,115	R	13,066	
R7,902	R	1,489	R	3,464	R	5,439	R	7,415	R	9,390	R	11,365	R	13,341	
R8,002	R	1,614	R	3,614	R	5,614	R	7,615	R	9,615	R	11,615	R	13,616	
R8,102	R	1,739	R	3,764	R	5,789	R	7,815	R	9,840	R	11,865	R	13,891	

SUNFLOWER SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): EASTERN FREE STATE

PRODUCERS YIELD (T/HA)													
PRICE		1.00		1.25		1.50		1.80		2.00		2.25	2.50
R7,552	R	708	R	2,596	R	4,484	R	6,750	R	8,260	R	10,148	12,036
R7,652	R	808	R	2,721	R	4,634	R	6,930	R	8,460	R	10,373	12,286
R7,752	R	908	R	2,846	R	4,784	R	7,110	R	8,660	R	10,598	12,536
R7,852	R	1,008	R	2,971	R	4,934	R	7,290	R	8,860	R	10,823	12,786
R7,952	R	1,108	R	3,096	R	5,084	R	7,470	R	9,060	R	11,048	13,036
R8,052	R	1,208	R	3,221	R	5,234	R	7,650	R	9,260	R	11,273	13,286
R8,152	R	1,308	R	3,346	R	5,384	R	7,830	R	9,460	R	11,498	13,536
R8,252	R	1,408	R	3,471	R	5,534	R	8,010	R	9,660	R	11,723	13,786
R8,352	R	1,508	R	3,596	R	5,684	R	8,190	R	9,860	R	11,948	14,036

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): EASTERN FREE STATE

PRICE (R/TON)													
YIELD	R	7,402	R	7,502	R	7,602	R	7,702	R	7,802	R	7,902	8,002
1.00	-R	6,785	-R	6,685	-R	6,585	-R	6,485	-R	6,385	-R	6,285	6,185
1.25	-R	4,935	-R	4,810	-R	4,685	-R	4,560	-R	4,435	-R	4,310	4,185
1.50	-R	3,085	-R	2,935	-R	2,785	-R	2,635	-R	2,485	-R	2,335	2,185
1.75	-R	1,234	-R	1,059	-R	884	-R	709	-R	534	-R	359	184
2.00	R	616	R	816	R	1,016	R	1,216	R	1,416	R	1,616	1,816
2.25	R	2,467	R	2,692	R	2,917	R	3,142	R	3,367	R	3,592	3,817
2.50	R	4,317	R	4,567	R	4,817	R	5,067	R	5,317	R	5,567	5,817
2.75	R	6,167	R	6,442	R	6,717	R	6,992	R	7,267	R	7,542	7,817
3.00	R	8,018	R	8,318	R	8,618	R	8,918	R	9,218	R	9,518	9,818

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

Northern Free State

Table 2.4: Income & cost budgets for maize, soybeans, sunflower, ground nuts & grain sorghum for Western / Northern Free State - Dryland

Area		Western / Northern Free State					
Crop		Maize: Higher potential	Maize: Normal potential	Soybean	Sun- flower	Ground Nuts	Grain Sorghum
Production System		Dryland	Dryland	Dryland	Dryland	Dryland	Dryland
1) INCOME							
Yield: Deterministic	T/HA	5.50	4.50	1.75	1.75	1.50	3.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R3,779	R8,109	R8,332	R16,300	R4,674
Total deductions	R/TON	R454	R382	R398	R462	R66	R66
- Transport differential	R/TON	R370	R290	R275	R295	R-	R-
- Grade differential	R/TON	R18	R26	R-	R-	R-	R-
- Handling & commission	R/TON	R66	R66	R66	R104	R66	R66
- Seed breeding & technology levy	R/TON	R-	R-	R58	R63	R-	R-
Price premiums	R/TON	R-	R-	R-	R-	R-	R-
Net Farm Gate Price	R/TON	R3,312	R3,397	R7,711	R7,870	R16,234	R4,608
GROSS INCOME	R/HA	R18,215	R15,285	R13,493	R13,773	R24,351	R13,823
2) VARIABLE EXPENDITURES							
Contracting	R/HA	R-	R-	R-	R-	R-	R-
Crop insurance	R/HA	R200	R168	R661	R386	R381	R442
Fertilizer	R/HA	R3,709	R2,900	R1,119	R1,811	R1,670	R2,691
Lime	R/HA	R336	R336	R-	R-	R185	R196
Seed	R/HA	R1,813	R1,359	R1,229	R634	R2,066	R470
Fuel	R/HA	R1,575	R1,561	R1,115	R1,216	R2,143	R1,449
Herbicide	R/HA	R1,623	R1,534	R1,740	R1,240	R1,515	R1,199
Insecticide/Fungicide	R/HA	R796	R796	R250	R287	R1,075	R789
Marketing costs	R/HA	R-	R-	R-	R-	R-	R-
Repairs and maintenance	R/HA	R1,000	R893	R822	R741	R951	R778
Casual labour	R/HA	R266	R218	R-	R-	R532	R70
Aerial spray	R/HA	R-	R-	R-	R-	R-	R-
Other expenditure	R/HA	R-	R-	R-	R-	R339	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R11,318	R9,765	R6,936	R6,315	R10,856	R8,084
TOTAL VARIABLE EXPENDITURE	R/TON	R2,058	R2,170	R3,963	R3,609	R7,237	R2,695
3.1) GROSS MARGIN:	R/HA	R6,897	R5,520	R6,558	R7,458	R13,496	R5,739
3.2) GROSS MARGIN:	R/TON	R1,254	R1,227	R3,747	R4,261	R8,997	R1,913
BREAK-EVEN YIELD	T/HA	3.42	2.87	0.90	0.80	0.67	1.75
BREAK-EVEN PRICE	R/TON	R2,058	R2,170	R3,963	R3,609	R7,237	R2,695

Source: BFAP, GSA & Senwes, 2023

Gross Margin Comparison BASELINE: **NORTHERN FREE STATE**

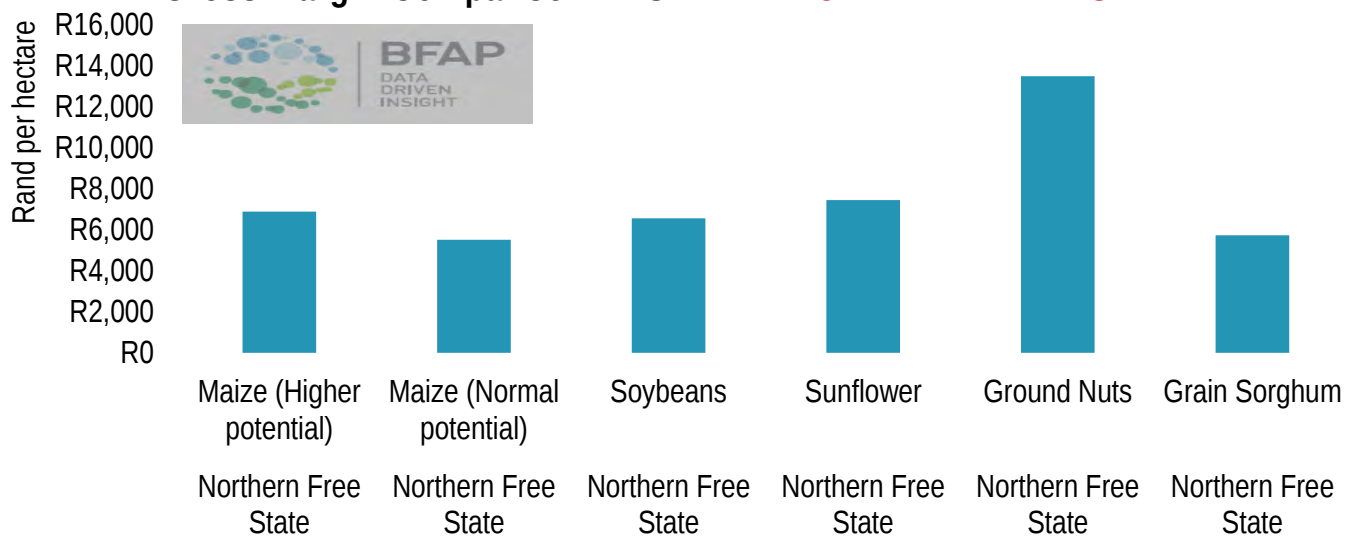


Figure 2.4: Gross margin comparison – Baseline: Western / Northern Free State

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): **NORTHERN FREE STATE HIGHER POTENTIAL SOILS**

PRODUCERS YIELD (T/HA)														
PRICE	4.00		4.50		5.00		5.50		6.00		6.50		7.00	
R2,912	R	329	R	1,785	R	3,241	R	4,697	R	6,153	R	7,609	R	9,065
R3,012	R	729	R	2,235	R	3,741	R	5,247	R	6,753	R	8,259	R	9,765
R3,112	R	1,129	R	2,685	R	4,241	R	5,797	R	7,353	R	8,909	R	10,465
R3,212	R	1,529	R	3,135	R	4,741	R	6,347	R	7,953	R	9,559	R	11,165
R3,312	R	1,929	R	3,585	R	5,241	R	6,897	R	8,553	R	10,209	R	11,865
R3,412	R	2,329	R	4,035	R	5,741	R	7,447	R	9,153	R	10,859	R	12,565
R3,512	R	2,729	R	4,485	R	6,241	R	7,997	R	9,753	R	11,509	R	13,265
R3,612	R	3,129	R	4,935	R	6,741	R	8,547	R	10,353	R	12,159	R	13,965
R3,712	R	3,529	R	5,385	R	7,241	R	9,097	R	10,953	R	12,809	R	14,665

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): **NORTHERN FREE STATE NORMAL POTENTIAL SOILS**

PRODUCERS YIELD (T/HA)															
PRICE		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
R7,311	R	375	R	2,202	R	4,030	R	5,858	R	7,685	R	9,513	R	11,341	
R7,411	R	475	R	2,327	R	4,180	R	6,033	R	7,885	R	9,738	R	11,591	
R7,511	R	575	R	2,452	R	4,330	R	6,208	R	8,085	R	9,963	R	11,841	
R7,611	R	675	R	2,577	R	4,480	R	6,383	R	8,285	R	10,188	R	12,091	
R7,711	R	775	R	2,702	R	4,630	R	6,558	R	8,485	R	10,413	R	12,341	
R7,811	R	875	R	2,827	R	4,780	R	6,733	R	8,685	R	10,638	R	12,591	
R7,911	R	975	R	2,952	R	4,930	R	6,908	R	8,885	R	10,863	R	12,841	
R8,011	R	1,075	R	3,077	R	5,080	R	7,083	R	9,085	R	11,088	R	13,091	
R8,111	R	1,175	R	3,202	R	5,230	R	7,258	R	9,285	R	11,313	R	13,341	

SUNFLOWER SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): **NORTHERN FREE STATE**

PRODUCERS YIELD (T/HA)															
PRICE		1.00		1.25		1.50		1.75		2.00		2.25		2.50	
R7,470	R	1,155	R	3,022	R	4,890	R	6,758	R	8,625	R	10,493	R	12,360	
R7,570	R	1,255	R	3,147	R	5,040	R	6,933	R	8,825	R	10,718	R	12,610	
R7,670	R	1,355	R	3,272	R	5,190	R	7,108	R	9,025	R	10,943	R	12,860	
R7,770	R	1,455	R	3,397	R	5,340	R	7,283	R	9,225	R	11,168	R	13,110	
R7,870	R	1,555	R	3,522	R	5,490	R	7,458	R	9,425	R	11,393	R	13,360	
R7,970	R	1,655	R	3,647	R	5,640	R	7,633	R	9,625	R	11,618	R	13,610	
R8,070	R	1,755	R	3,772	R	5,790	R	7,808	R	9,825	R	11,843	R	13,860	
R8,170	R	1,855	R	3,897	R	5,940	R	7,983	R	10,025	R	12,068	R	14,110	
R8,270	R	1,955	R	4,022	R	6,090	R	8,158	R	10,225	R	12,293	R	14,360	

GROUND NUTS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTHERN FREE STATE

PRODUCERS YIELD (T/HA)															
PRICE		0.75		1.00		1.25		1.50		1.75		2.00		2.25	
R15,834	R	1,695	R	5,879	R	10,062	R	14,246	R	18,429	R	22,613	R	26,796	
R15,934	R	1,770	R	5,979	R	10,187	R	14,396	R	18,604	R	22,813	R	27,021	
R16,034	R	1,845	R	6,079	R	10,312	R	14,546	R	18,779	R	23,013	R	27,246	
R16,134	R	1,920	R	6,179	R	10,437	R	14,696	R	18,954	R	23,213	R	27,471	
R16,234	R	1,995	R	6,279	R	10,562	R	14,846	R	19,129	R	23,413	R	27,696	
R16,334	R	2,070	R	6,379	R	10,687	R	14,996	R	19,304	R	23,613	R	27,921	
R16,434	R	2,145	R	6,479	R	10,812	R	15,146	R	19,479	R	23,813	R	28,146	
R16,534	R	2,220	R	6,579	R	10,937	R	15,296	R	19,654	R	24,013	R	28,371	
R16,634	R	2,295	R	6,679	R	11,062	R	15,446	R	19,829	R	24,213	R	28,596	

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): NORTHERN FREE STATE

PRICE (R/TON)														
YIELD	R	7,411	R	7,511	R	7,611	R	7,711	R	7,811	R	7,911	R	8,011
0.75	-R	8,275	-R	8,200	-R	8,125	-R	8,050	-R	7,975	-R	7,900	-R	7,825
1.00	-R	6,422	-R	6,322	-R	6,222	-R	6,122	-R	6,022	-R	5,922	-R	5,822
1.25	-R	4,570	-R	4,445	-R	4,320	-R	4,195	-R	4,070	-R	3,945	-R	3,820
1.50	-R	2,717	-R	2,567	-R	2,417	-R	2,267	-R	2,117	-R	1,967	-R	1,817
1.75	-R	864	-R	689	-R	514	-R	339	-R	164	R	11	R	186
2.00	R	988	R	1,188	R	1,388	R	1,588	R	1,788	R	1,988	R	2,188
2.25	R	2,841	R	3,066	R	3,291	R	3,516	R	3,741	R	3,966	R	4,191
2.50	R	4,694	R	4,944	R	5,194	R	5,444	R	5,694	R	5,944	R	6,194
2.75	R	6,546	R	6,821	R	7,096	R	7,371	R	7,646	R	7,921	R	8,196

Notes:

- The Northern Free State high potential maize budget represents the cultivation of yellow maize under high potential conditions such as water table soils.
- Farm gate price for ground nuts is calculated according to assumptions based on the share of the crop that is graded according to selection grade (40/50-60/70 & 70/80), diverse and crush (human & oil).
- 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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

North West: Koster

Table 2.5: Income & cost budgets for maize, soybeans & sunflower for North West: Koster region - Dryland

Area		North West: Koster		
Crop		Maize	Soybeans	Sunflower
Production System		Dryland	Dryland	Dryland
1) INCOME				
Yield: Deterministic	T/HA	4.75	2.00	2.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,779	R8,109	R8,332
Total deductions	R/TON	R297	R275	R320
- Transport differential	R/TON	R205	R152	R223
- Grade differential	R/TON	R26	R-	R-
- Handling & commission	R/TON	R66	R66	R97
- Seed breeding & technology levy	R/TON	R-	R58	R-
Price premiums	R/TON	R-	R-	R-
Net Farm Gate Price	R/TON	R3,482	R7,834	R8,012
GROSS INCOME	R/HA	R16,537	R15,667	R16,024
2) VARIABLE EXPENDITURES				
Contracting	R/HA	R-	R-	R-
Crop insurance	R/HA	R348	R1,754	R465
Fertilizer	R/HA	R3,354	R1,349	R1,918
Lime	R/HA	R381	R-	R-
Seed	R/HA	R1,297	R1,007	R796
Fuel	R/HA	R1,438	R1,179	R1,172
Herbicide	R/HA	R1,094	R1,518	R1,066
Insecticide/Fungicide	R/HA	R796	R285	R417
Marketing costs	R/HA	R-	R-	R-
Repairs and maintenance	R/HA	R919	R690	R789
Casual labour	R/HA	R230	R-	R-
Aerial spray	R/HA	R-	R-	R-
Other expenditure	R/HA	R-	R-	R-
TOTAL VARIABLE EXPENDITURE	R/HA	R9,855	R7,782	R6,622
TOTAL VARIABLE EXPENDITURE	R/TON	R2,075	R3,891	R3,311
3.1) GROSS MARGIN:				
	R/HA	R6,682	R7,885	R9,402
3.2) GROSS MARGIN:				
	R/TON	R1,407	R3,943	R4,701
BREAK-EVEN YIELD				
	T/HA	2.83	0.99	0.83
BREAK-EVEN PRICE				
	R/TON	R2,075	R3,891	R3,311

Source: BFAP, GSA, NWK & Individual Farmers, 2023

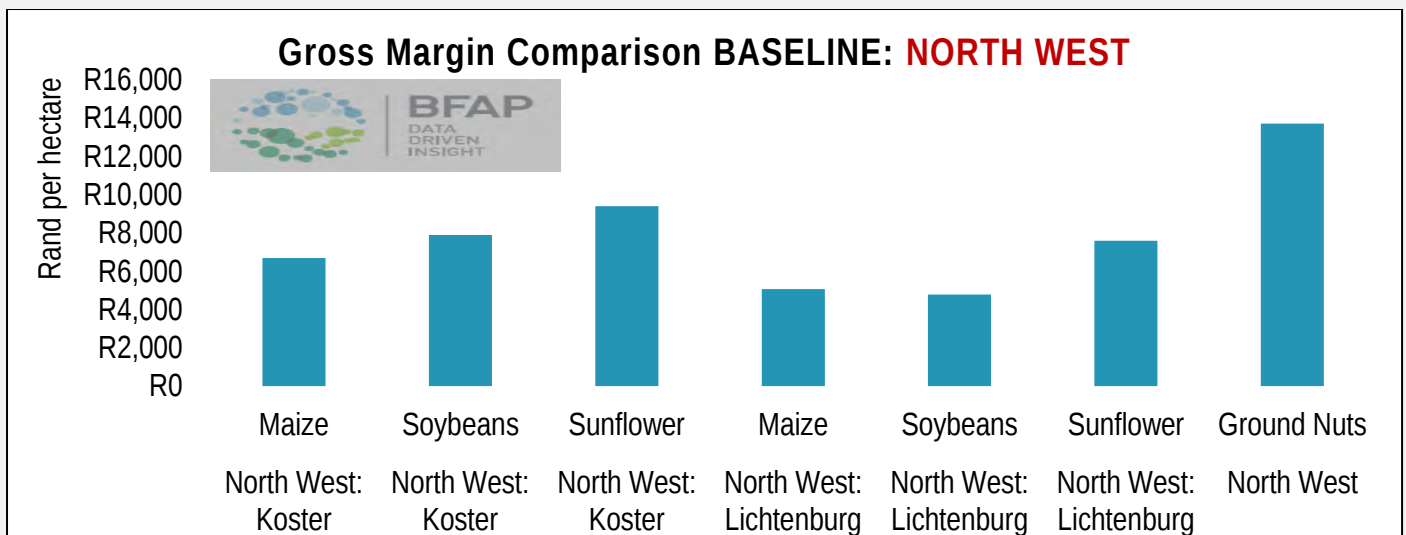


Figure 2.5: Gross margin comparison – Baseline: North West: Koster & Lichtenburg

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST KOSTER

PRODUCERS YIELD (T/HA)															
PRICE		3.25		3.75		4.25		4.75		5.25		5.75		6.25	
R3,082	R	160	R	1,701	R	3,241	R	4,782	R	6,323	R	7,864	R	9,404	
R3,182	R	485	R	2,076	R	3,666	R	5,257	R	6,848	R	8,439	R	10,029	
R3,282	R	810	R	2,451	R	4,091	R	5,732	R	7,373	R	9,014	R	10,654	
R3,382	R	1,135	R	2,826	R	4,516	R	6,207	R	7,898	R	9,589	R	11,279	
R3,482	R	1,460	R	3,201	R	4,941	R	6,682	R	8,423	R	10,164	R	11,904	
R3,582	R	1,785	R	3,576	R	5,366	R	7,157	R	8,948	R	10,739	R	12,529	
R3,682	R	2,110	R	3,951	R	5,791	R	7,632	R	9,473	R	11,314	R	13,154	
R3,782	R	2,435	R	4,326	R	6,216	R	8,107	R	9,998	R	11,889	R	13,779	
R3,882	R	2,760	R	4,701	R	6,641	R	8,582	R	10,523	R	12,464	R	14,404	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST KOSTER

PRODUCERS YIELD (T/HA)															
PRICE		1.25		1.50		1.75		2.00		2.25		2.50		2.75	
R7,434	R	1,510	R	3,368	R	5,227	R	7,085	R	8,943	R	10,802	R	12,660	
R7,534	R	1,635	R	3,518	R	5,402	R	7,285	R	9,168	R	11,052	R	12,935	
R7,634	R	1,760	R	3,668	R	5,577	R	7,485	R	9,393	R	11,302	R	13,210	
R7,734	R	1,885	R	3,818	R	5,752	R	7,685	R	9,618	R	11,552	R	13,485	
R7,834	R	2,010	R	3,968	R	5,927	R	7,885	R	9,843	R	11,802	R	13,760	
R7,934	R	2,135	R	4,118	R	6,102	R	8,085	R	10,068	R	12,052	R	14,035	
R8,034	R	2,260	R	4,268	R	6,277	R	8,285	R	10,293	R	12,302	R	14,310	
R8,134	R	2,385	R	4,418	R	6,452	R	8,485	R	10,518	R	12,552	R	14,585	
R8,234	R	2,510	R	4,568	R	6,627	R	8,685	R	10,743	R	12,802	R	14,860	

SUNFLOWER SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST KOSTER

PRODUCERS YIELD (T/HA)															
PRICE		1.25		1.50		1.75		2.00		2.25		2.50		2.75	
R7,612	R	2,893	R	4,796	R	6,699	R	8,602	R	10,505	R	12,408	R	14,311	
R7,712	R	3,018	R	4,946	R	6,874	R	8,802	R	10,730	R	12,658	R	14,586	
R7,812	R	3,143	R	5,096	R	7,049	R	9,002	R	10,955	R	12,908	R	14,861	
R7,912	R	3,268	R	5,246	R	7,224	R	9,202	R	11,180	R	13,158	R	15,136	
R8,012	R	3,393	R	5,396	R	7,399	R	9,402	R	11,405	R	13,408	R	15,411	
R8,112	R	3,518	R	5,546	R	7,574	R	9,602	R	11,630	R	13,658	R	15,686	
R8,212	R	3,643	R	5,696	R	7,749	R	9,802	R	11,855	R	13,908	R	15,961	
R8,312	R	3,768	R	5,846	R	7,924	R	10,002	R	12,080	R	14,158	R	16,236	
R8,412	R	3,893	R	5,996	R	8,099	R	10,202	R	12,305	R	14,408	R	16,511	

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): NORTH WEST KOSTER

PRICE (R/TON)														
YIELD	R	7,534	R	7,634	R	7,734	R	7,834	R	7,934	R	8,034	R	8,134
1.00	-R	6,931	-R	6,831	-R	6,731	-R	6,631	-R	6,531	-R	6,431	-R	6,331
1.25	-R	5,047	-R	4,922	-R	4,797	-R	4,672	-R	4,547	-R	4,422	-R	4,297
1.50	-R	3,164	-R	3,014	-R	2,864	-R	2,714	-R	2,564	-R	2,414	-R	2,264
1.75	-R	1,280	-R	1,105	-R	930	-R	755	-R	580	-R	405	-R	230
2.00	R	603	R	803	R	1,003	R	1,203	R	1,403	R	1,603	R	1,803
2.25	R	2,486	R	2,711	R	2,936	R	3,161	R	3,386	R	3,611	R	3,836
2.50	R	4,370	R	4,620	R	4,870	R	5,120	R	5,370	R	5,620	R	5,870
2.75	R	6,253	R	6,528	R	6,803	R	7,078	R	7,353	R	7,628	R	7,903
3.00	R	8,136	R	8,436	R	8,736	R	9,036	R	9,336	R	9,636	R	9,936

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

North West: Lichtenburg

Table 2.6: Income & cost budgets for maize, soybeans & sunflower for North West: Lichtenburg region - Dryland

Area		North West: Lichtenburg			
Crop		Maize	Soybeans	Sunflower	Ground Nuts
Production System		Dryland	Dryland	Dryland	Dryland
1) INCOME					
Yield: Deterministic	T/HA	4.25	1.50	1.70	1.50
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,779	R8,109	R8,332	R16,300
Total deductions	R/TON	R364	R325	R374	R66
- Transport differential	R/TON	R272	R202	R277	R-
- Grade differential	R/TON	R26	R-	R-	R-
- Handling & commission	R/TON	R66	R66	R97	R66
- Seed breeding & technology levy	R/TON	R-	R58	R-	R-
Price premiums	R/TON	R-	R-	R-	R-
Net Farm Gate Price	R/TON	R3,415	R7,784	R7,958	R16,234
GROSS INCOME	R/HA	R14,512	R11,675	R13,529	R24,351
2) VARIABLE EXPENDITURES					
Contracting	R/HA	R-	R-	R-	R-
Crop insurance	R/HA	R218	R1,307	R380	R390
Fertilizer	R/HA	R3,025	R1,195	R1,567	R1,663
Lime	R/HA	R381	R-	R-	R209
Seed	R/HA	R1,173	R797	R796	R2,013
Fuel	R/HA	R1,418	R1,133	R1,153	R2,180
Herbicide	R/HA	R1,094	R1,518	R871	R1,351
Insecticide/Fungicide	R/HA	R796	R285	R393	R1,024
Marketing costs	R/HA	R-	R-	R-	R-
Repairs and maintenance	R/HA	R1,141	R658	R781	R936
Casual labour	R/HA	R206	R-	R-	R532
Aerial spray	R/HA	R-	R-	R-	R-
Other expenditure	R/HA	R-	R-	R-	R339
TOTAL VARIABLE EXPENDITURE	R/HA	R9,451	R6,892	R5,939	R10,637
TOTAL VARIABLE EXPENDITURE	R/TON	R2,224	R4,595	R3,494	R7,091
3.1) GROSS MARGIN:	R/HA	R5,061	R4,783	R7,589	R13,714
3.2) GROSS MARGIN:	R/TON	R1,191	R3,189	R4,464	R9,143
BREAK-EVEN YIELD	T/HA	2.77	0.89	0.75	0.66
BREAK-EVEN PRICE	R/TON	R2,224	R4,595	R3,494	R7,091

Source: BFAP, GSA, NWK & Individual Farmers, 2023

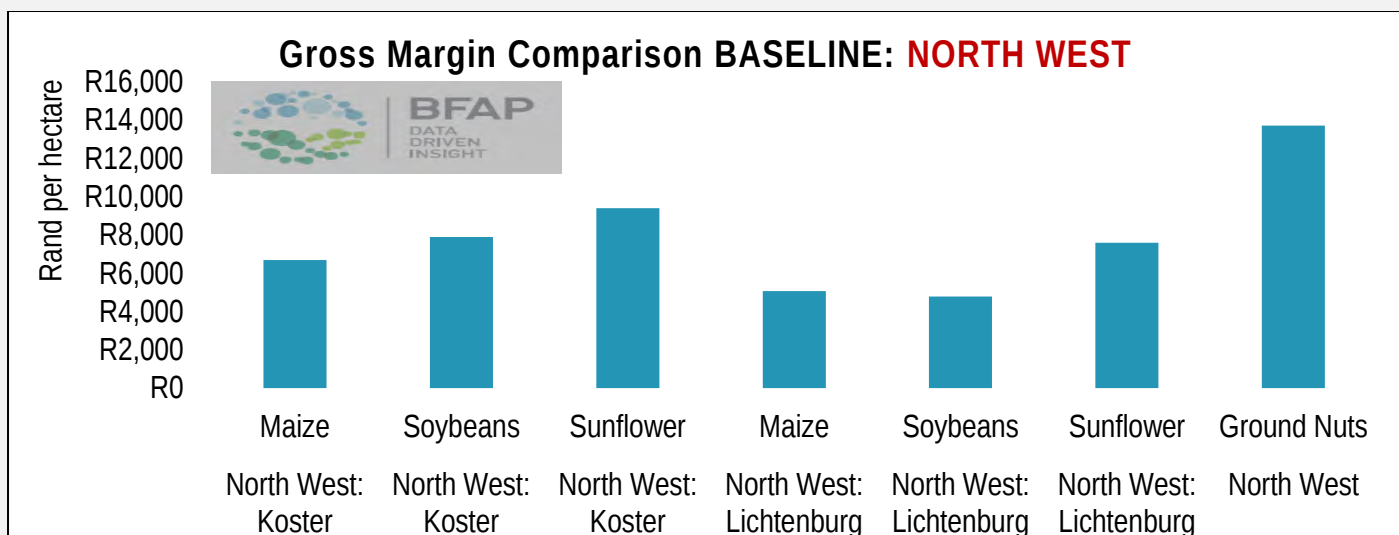


Figure 2.6: Gross margin comparison – Baseline: North West: Koster & Lichtenburg

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST LICHTENBURG

PRODUCERS YIELD (T/HA)															
PRICE		2.75		3.25		3.75		4.25		4.75		5.25		5.75	
R3,015	-R	1,161	R	347	R	1,854	R	3,361	R	4,868	R	6,376	R	7,883	
R3,115	-R	886	R	672	R	2,229	R	3,786	R	5,343	R	6,901	R	8,458	
R3,215	-R	611	R	997	R	2,604	R	4,211	R	5,818	R	7,426	R	9,033	
R3,315	-R	336	R	1,322	R	2,979	R	4,636	R	6,293	R	7,951	R	9,608	
R3,415	-R	61	R	1,647	R	3,354	R	5,061	R	6,768	R	8,476	R	10,183	
R3,515	R	214	R	1,972	R	3,729	R	5,486	R	7,243	R	9,001	R	10,758	
R3,615	R	489	R	2,297	R	4,104	R	5,911	R	7,718	R	9,526	R	11,333	
R3,715	R	764	R	2,622	R	4,479	R	6,336	R	8,193	R	10,051	R	11,908	
R3,815	R	1,039	R	2,947	R	4,854	R	6,761	R	8,668	R	10,576	R	12,483	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST LICHTENBURG

PRODUCERS YIELD (T/HA)															
PRICE		0.75		1.00		1.25		1.50		1.75		2.00		2.25	
R7,384	-R	1,355	R	491	R	2,337	R	4,183	R	6,029	R	7,875	R	9,720	
R7,484	-R	1,280	R	591	R	2,462	R	4,333	R	6,204	R	8,075	R	9,945	
R7,584	-R	1,205	R	691	R	2,587	R	4,483	R	6,379	R	8,275	R	10,170	
R7,684	-R	1,130	R	791	R	2,712	R	4,633	R	6,554	R	8,475	R	10,395	
R7,784	-R	1,055	R	891	R	2,837	R	4,783	R	6,729	R	8,675	R	10,620	
R7,884	-R	980	R	991	R	2,962	R	4,933	R	6,904	R	8,875	R	10,845	
R7,984	-R	905	R	1,091	R	3,087	R	5,083	R	7,079	R	9,075	R	11,070	
R8,084	-R	830	R	1,191	R	3,212	R	5,233	R	7,254	R	9,275	R	11,295	
R8,184	-R	755	R	1,291	R	3,337	R	5,383	R	7,429	R	9,475	R	11,520	

SUNFLOWER SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST LICHTENBURG

PRODUCERS YIELD (T/HA)															
PRICE		1.00		1.25		1.50		1.70		2.00		2.25		2.50	
R7,558	R	1,619	R	3,508	R	5,398	R	6,909	R	9,177	R	11,066	R	12,956	
R7,658	R	1,719	R	3,633	R	5,548	R	7,079	R	9,377	R	11,291	R	13,206	
R7,758	R	1,819	R	3,758	R	5,698	R	7,249	R	9,577	R	11,516	R	13,456	
R7,858	R	1,919	R	3,883	R	5,848	R	7,419	R	9,777	R	11,741	R	13,706	
R7,958	R	2,019	R	4,008	R	5,998	R	7,589	R	9,977	R	11,966	R	13,956	
R8,058	R	2,119	R	4,133	R	6,148	R	7,759	R	10,177	R	12,191	R	14,206	
R8,158	R	2,219	R	4,258	R	6,298	R	7,929	R	10,377	R	12,416	R	14,456	
R8,258	R	2,319	R	4,383	R	6,448	R	8,099	R	10,577	R	12,641	R	14,706	
R8,358	R	2,419	R	4,508	R	6,598	R	8,269	R	10,777	R	12,866	R	14,956	

GROUND NUTS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST

PRODUCERS YIELD (T/HA)													
PRICE	0.75		1.00		1.25		1.50		1.75		2.00		2.25
R15,834	R	1,914	R	6,097	R	10,281	R	14,464	R	18,648	R	22,831	R 27,015
R15,934	R	1,989	R	6,197	R	10,406	R	14,614	R	18,823	R	23,031	R 27,240
R16,034	R	2,064	R	6,297	R	10,531	R	14,764	R	18,998	R	23,231	R 27,465
R16,134	R	2,139	R	6,397	R	10,656	R	14,914	R	19,173	R	23,431	R 27,690
R16,234	R	2,214	R	6,497	R	10,781	R	15,064	R	19,348	R	23,631	R 27,915
R16,334	R	2,289	R	6,597	R	10,906	R	15,214	R	19,523	R	23,831	R 28,140
R16,434	R	2,364	R	6,697	R	11,031	R	15,364	R	19,698	R	24,031	R 28,365
R16,534	R	2,439	R	6,797	R	11,156	R	15,514	R	19,873	R	24,231	R 28,590
R16,634	R	2,514	R	6,897	R	11,281	R	15,664	R	20,048	R	24,431	R 28,815

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): NORTH WEST LICHTENBURG

PRICE (R/TON)													
YIELD	R	7,484	R	7,584	R	7,684	R	7,784	R	7,884	R	7,984	R 8,084
0.50	-R	8,212	-R	8,162	-R	8,112	-R	8,062	-R	8,012	-R	7,962	-R 7,912
0.75	-R	6,341	-R	6,266	-R	6,191	-R	6,116	-R	6,041	-R	5,966	-R 5,891
1.00	-R	4,470	-R	4,370	-R	4,270	-R	4,170	-R	4,070	-R	3,970	-R 3,870
1.25	-R	2,599	-R	2,474	-R	2,349	-R	2,224	-R	2,099	-R	1,974	-R 1,849
1.50	-R	728	-R	578	-R	428	-R	278	-R	128	R	22	R 172
1.75	R	1,143	R	1,318	R	1,493	R	1,668	R	1,843	R	2,018	R 2,193
2.00	R	3,014	R	3,214	R	3,414	R	3,614	R	3,814	R	4,014	R 4,214
2.25	R	4,884	R	5,109	R	5,334	R	5,559	R	5,784	R	6,009	R 6,234
2.50	R	6,755	R	7,005	R	7,255	R	7,505	R	7,755	R	8,005	R 8,255

Notes:

- Farm gate price for ground nuts is calculated according to assumptions based on the share of the crop that is graded according to selection grade (40/50-60/70 & 70/80), diverse and crush (human & oil).
- 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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

2023/24 INCOME & COST BUDGETS – IRRIGATION

Northern Cape

Table 3.1: Income & cost budgets for maize, soybeans, ground nuts & sunflower (oil) for Northern Cape - Irrigation

Area		Northern Cape: Irrigation			
Crop		Maize	Soybeans	Ground Nuts	Sunflower
Production System		Irrigation	Irrigation	Irrigation	Irrigation
1) INCOME					
Yield: Deterministic	T/HA	14.00	4.00	3.50	3.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109	R17,520	R8,332
Total deductions	R/TON	R564	R459	R66	R649
- Transport differential	R/TON	R485	R336	R-	R545
- Grade differential	R/TON	R13	R-	R-	R-
- Handling & commission	R/TON	R66	R66	R66	R104
- Seed breeding & technology levy	R/TON	R-	R58	R-	R-
Price premiums	R/TON	R-	R-	R-	R-
Net Farm Gate Price	R/TON	R3,202	R7,650	R18,954	R7,683
GROSS INCOME	R/HA	R44,829	R30,598	R67,839	R23,050
2) VARIABLE EXPENDITURES					
Contracting	R/HA	R1,150	R1,307	R3,681	R1,307
Crop insurance	R/HA	R448	R1,836	R678	R691
Fertilizer	R/HA	R12,602	R7,782	R10,089	R7,263
Lime	R/HA	R852	R-	R518	R-
Seed	R/HA	R6,677	R2,292	R4,065	R987
Fuel	R/HA	R1,489	R1,041	R1,624	R1,583
Herbicide	R/HA	R999	R899	R1,279	R921
Insecticide/Fungicide	R/HA	R3,744	R1,664	R4,539	R319
Marketing costs	R/HA	R-	R-	R-	R-
Repairs and maintenance	R/HA	R673	R197	R971	R1,064
Casual labour	R/HA	R678	R-	R229	R-
Aerial spray	R/HA	R510	R-	R-	R-
Irrigation Electricity	R/HA	R5,582	R5,582	R5,744	R3,964
Water	R/HA	R1,242	R1,242	R1,278	R882
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R1,247	R1,247	R3,380	R919
TOTAL VARIABLE EXPENDITURE	R/HA	R37,894	R25,089	R38,075	R19,900
TOTAL VARIABLE EXPENDITURE	R/TON	R2,707	R6,272	R10,878	R6,633
3.1) GROSS MARGIN:	R/HA	R6,935	R5,509	R29,765	R3,149
3.2) GROSS MARGIN:	R/TON	R495	R1,377	R8,504	R1,050
BREAK-EVEN YIELD	T/HA	11.83	3.28	2.01	2.59
BREAK-EVEN PRICE	R/TON	R2,707	R6,272	R10,878	R6,633

Source: BFAP, GSA & GWK, 2023

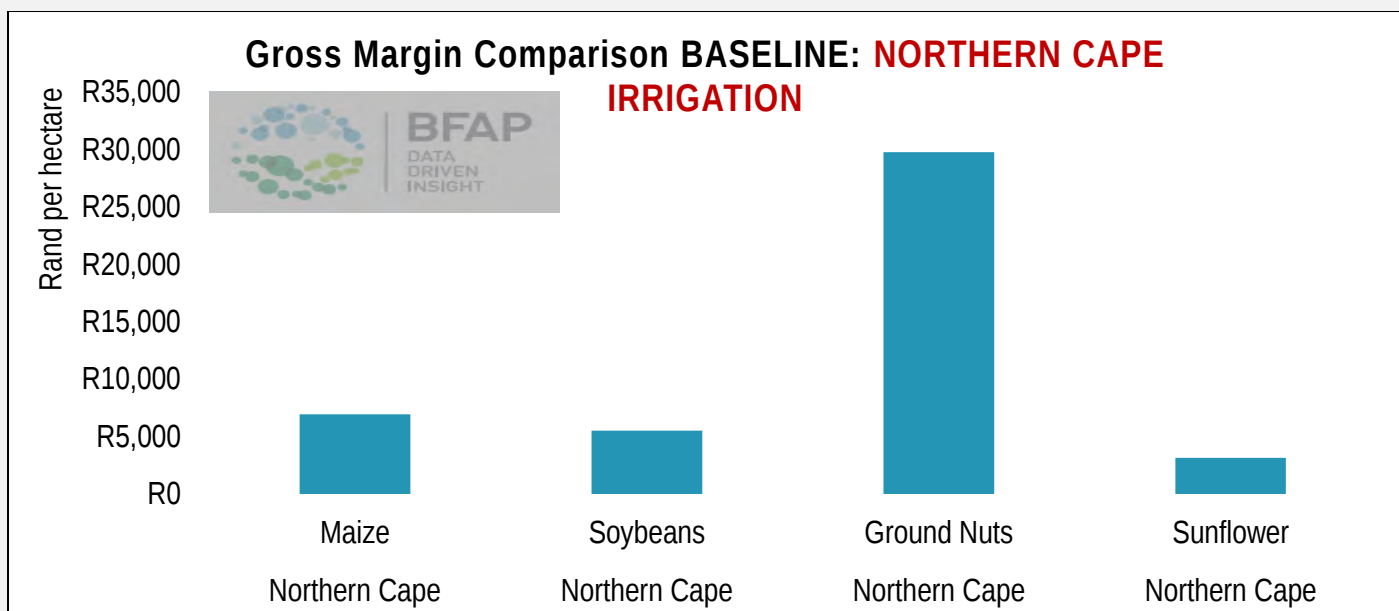


Figure 3.1: Gross margin comparison – Baseline: Northern Cape Irrigation

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

PRODUCERS YIELD (T/HA)												
PRICE	12.50		13.00		13.50		14.00		14.50		15.00	
R2,802	-R	2,868	-R	1,467	-R	66	R	1,335	R	2,736	R	4,137
R2,902	-R	1,618	-R	167	R	1,284	R	2,735	R	4,186	R	5,637
R3,002	-R	368	R	1,133	R	2,634	R	4,135	R	5,636	R	7,137
R3,102	R	882	R	2,433	R	3,984	R	5,535	R	7,086	R	8,637
R3,202	R	2,132	R	3,733	R	5,334	R	6,935	R	8,536	R	10,137
R3,302	R	3,382	R	5,033	R	6,684	R	8,335	R	9,986	R	11,637
R3,402	R	4,632	R	6,333	R	8,034	R	9,735	R	11,436	R	13,137
R3,502	R	5,882	R	7,633	R	9,384	R	11,135	R	12,886	R	14,637
R3,602	R	7,132	R	8,933	R	10,734	R	12,535	R	14,336	R	16,137

SOYBEANS 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	
R7,250	-R	1,528	R	284	R	2,097	R	3,909	R	5,721	R	7,534
R7,350	-R	1,203	R	634	R	2,472	R	4,309	R	6,146	R	7,984
R7,450	-R	878	R	984	R	2,847	R	4,709	R	6,571	R	8,434
R7,550	-R	553	R	1,334	R	3,222	R	5,109	R	6,996	R	8,884
R7,650	-R	228	R	1,684	R	3,597	R	5,509	R	7,421	R	9,334
R7,750	R	97	R	2,034	R	3,972	R	5,909	R	7,846	R	9,784
R7,850	R	422	R	2,384	R	4,347	R	6,309	R	8,271	R	10,234
R7,950	R	747	R	2,734	R	4,722	R	6,709	R	8,696	R	10,684
R8,050	R	1,072	R	3,084	R	5,097	R	7,109	R	9,121	R	11,134

GROUND NUTS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTHERN CAPE IRRIGATION

PRODUCERS YIELD (T/HA)												
PRICE	2.75		3.00		3.25		3.50		4.00		4.50	
R18,554	R	15,012	R	19,838	R	24,664	R	29,490	R	39,142	R	48,794
R18,654	R	15,287	R	20,138	R	24,989	R	29,840	R	39,542	R	49,244
R18,754	R	15,562	R	20,438	R	25,314	R	30,190	R	39,942	R	49,694
R18,854	R	15,837	R	20,738	R	25,639	R	30,540	R	40,342	R	50,144
R18,954	R	16,112	R	21,038	R	25,964	R	30,890	R	40,742	R	50,594
R19,054	R	16,387	R	21,338	R	26,289	R	31,240	R	41,142	R	51,044
R19,154	R	16,662	R	21,638	R	26,614	R	31,590	R	41,542	R	51,494
R19,254	R	16,937	R	21,938	R	26,939	R	31,940	R	41,942	R	51,944
R19,354	R	17,212	R	22,238	R	27,264	R	32,290	R	42,342	R	52,394

SUNFLOWER OIL SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTHERN CAPE IRRIGATION

PRODUCERS YIELD (T/HA)													
PRICE		2.25		2.50		2.75		3.00		3.50		4.00	4.50
R7,283	-R	3,513	-R	1,692	R	128	R	1,949	R	5,591	R	9,232	12,874
R7,383	-R	3,288	-R	1,442	R	403	R	2,249	R	5,941	R	9,632	13,324
R7,483	-R	3,063	-R	1,192	R	678	R	2,549	R	6,291	R	10,032	13,774
R7,583	-R	2,838	-R	942	R	953	R	2,849	R	6,641	R	10,432	14,224
R7,683	-R	2,613	-R	692	R	1,228	R	3,149	R	6,991	R	10,832	14,674
R7,783	-R	2,388	-R	442	R	1,503	R	3,449	R	7,341	R	11,232	15,124
R7,883	-R	2,163	-R	192	R	1,778	R	3,749	R	7,691	R	11,632	15,574
R7,983	-R	1,938	R	58	R	2,053	R	4,049	R	8,041	R	12,032	16,024
R8,083	-R	1,713	R	308	R	2,328	R	4,349	R	8,391	R	12,432	16,474

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): NORTHERN CAPE IRRIGATION

PRICE (R/TON)													
YIELD	R	7,350	R	7,450	R	7,550	R	7,650	R	7,750	R	7,850	7,950
3.00	-R	9,975	-R	9,675	-R	9,375	-R	9,075	-R	8,775	-R	8,475	8,175
3.25	-R	8,138	-R	7,813	-R	7,488	-R	7,163	-R	6,838	-R	6,513	6,188
3.50	-R	6,301	-R	5,951	-R	5,601	-R	5,251	-R	4,901	-R	4,551	4,201
3.75	-R	4,463	-R	4,088	-R	3,713	-R	3,338	-R	2,963	-R	2,588	2,213
4.00	-R	2,626	-R	2,226	-R	1,826	-R	1,426	-R	1,026	-R	626	226
4.25	-R	788	-R	363	R	62	R	487	R	912	R	1,337	1,762
4.50	R	1,049	R	1,499	R	1,949	R	2,399	R	2,849	R	3,299	3,749
4.75	R	2,886	R	3,361	R	3,836	R	4,311	R	4,786	R	5,261	5,736
5.00	R	4,724	R	5,224	R	5,724	R	6,224	R	6,724	R	7,224	7,724

Notes:

- Farm gate price for ground nuts is calculated according to assumptions based on the share of the crop that is graded according to selection grade (40/50-60/70 & 70/80), diverse and crush (human & oil).
- 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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

KwaZulu-Natal: Bergville

Table 3.2: Income & cost budgets for maize & soybeans for KwaZulu-Natal: Berggrivier - Irrigation

Area		KwaZulu-Natal: Berggrivier	
Crop		Maize	Soybeans
Production System		Irrigation	Irrigation
1) INCOME			
Yield: Deterministic	T/HA	12.00	4.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109
Total deductions	R/TON	R516	R446
- Transport differential	R/TON	R440	R327
- Grade differential	R/TON	R13	R-
- Handling & commission	R/TON	R63	R62
- Seed breeding & technology levy	R/TON	R-	R58
Price premiums	R/TON	R-	R-
Net Farm Gate Price	R/TON	R3,250	R7,663
GROSS INCOME	R/HA	R39,002	R30,651
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R-	R-
Crop insurance	R/HA	R1,482	R3,739
Fertilizer	R/HA	R9,474	R3,269
Lime	R/HA	R735	R-
Seed	R/HA	R5,341	R2,197
Fuel	R/HA	R1,962	R1,974
Herbicide	R/HA	R1,824	R1,799
Insecticide/Fungicide	R/HA	R1,082	R441
Marketing costs	R/HA	R-	R-
Repairs and maintenance	R/HA	R858	R579
Casual labour	R/HA	R581	R-
Aerial spray	R/HA	R-	R-
Irrigation Electricity	R/HA	R3,262	R2,776
Water	R/HA	R1,677	R1,428
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R886	R771
TOTAL VARIABLE EXPENDITURE	R/HA	R29,164	R18,973
TOTAL VARIABLE EXPENDITURE	R/TON	R2,430	R4,743
3.1) GROSS MARGIN:	R/HA	R9,838	R11,678
3.2) GROSS MARGIN:	R/TON	R820	R2,919
BREAK-EVEN YIELD	T/HA	8.97	2.48
BREAK-EVEN PRICE	R/TON	R2,430	R4,743

Source: BFAP, GSA & Individual Farmers, 2023

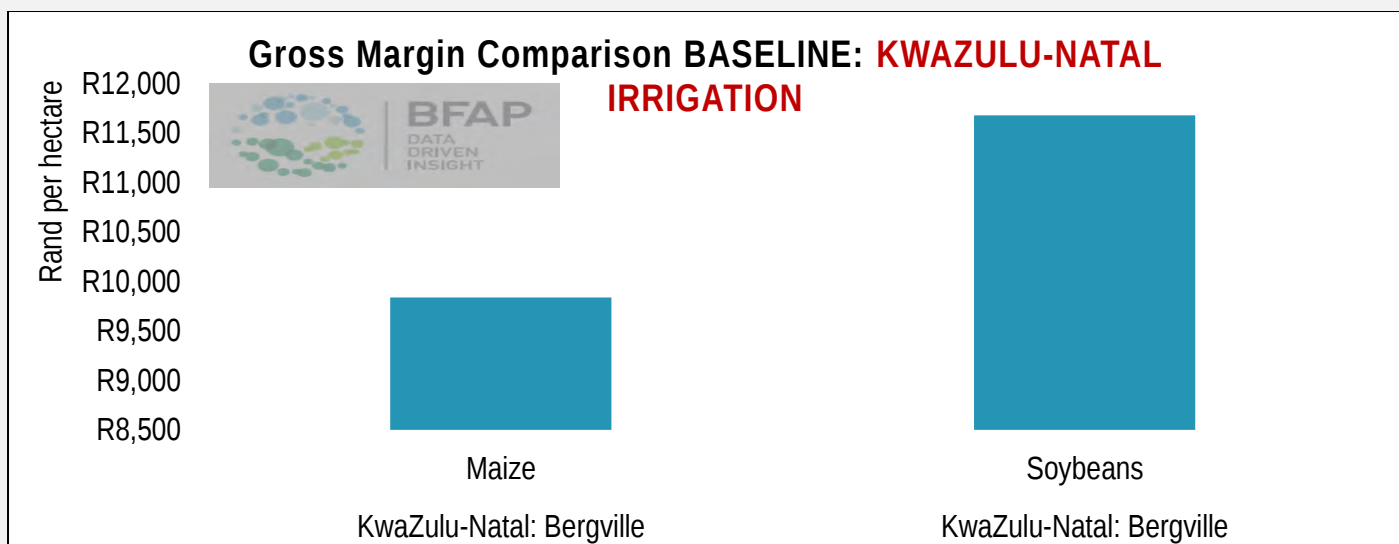


Figure 3.2: Gross margin comparison – Baseline: KwaZulu-Natal: Berggrivier

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): KWAZULU-NATAL:BERGVILLE

PRODUCERS YIELD (T/HA)															
PRICE		10.50		11.00		11.50		12.00		12.50		13.00		13.50	
R2,850	R	763	R	2,188	R	3,613	R	5,038	R	6,463	R	7,888	R	9,313	
R2,950	R	1,813	R	3,288	R	4,763	R	6,238	R	7,713	R	9,188	R	10,663	
R3,050	R	2,863	R	4,388	R	5,913	R	7,438	R	8,963	R	10,488	R	12,013	
R3,150	R	3,913	R	5,488	R	7,063	R	8,638	R	10,213	R	11,788	R	13,363	
R3,250	R	4,963	R	6,588	R	8,213	R	9,838	R	11,463	R	13,088	R	14,713	
R3,350	R	6,013	R	7,688	R	9,363	R	11,038	R	12,713.04	R	14,388	R	16,063	
R3,450	R	7,063	R	8,788	R	10,513	R	12,238	R	13,963	R	15,688	R	17,413	
R3,550	R	8,113	R	9,888	R	11,663	R	13,438	R	15,213	R	16,988	R	18,763	
R3,650	R	9,163	R	10,988	R	12,813	R	14,638	R	16,463	R	18,288	R	20,113	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): KWAZULU-NATAL:BERGVILLE

PRODUCERS YIELD (T/HA)															
PRICE		3.25		3.50		3.75		4.00		4.25		4.50		4.75	
R7,263	R	4,630	R	6,446	R	8,262	R	10,078	R	11,893	R	13,709	R	15,525	
R7,363	R	4,955	R	6,796	R	8,637	R	10,478	R	12,318	R	14,159	R	16,000	
R7,463	R	5,280	R	7,146	R	9,012	R	10,878	R	12,743	R	14,609	R	16,475	
R7,563	R	5,605	R	7,496	R	9,387	R	11,278	R	13,168	R	15,059	R	16,950	
R7,663	R	5,930	R	7,846	R	9,762	R	11,678	R	13,593	R	15,509	R	17,425	
R7,763	R	6,255	R	8,196	R	10,137	R	12,078	R	14,018	R	15,959	R	17,900	
R7,863	R	6,580	R	8,546	R	10,512	R	12,478	R	14,443	R	16,409	R	18,375	
R7,963	R	6,905	R	8,896	R	10,887	R	12,878	R	14,868	R	16,859	R	18,850	
R8,063	R	7,230	R	9,246	R	11,262	R	13,278	R	15,293	R	17,309	R	19,325	

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): KWAZULU-NATAL:BERGVILLE

PRICE (R/TON)															
YIELD		7,363		7,463		7,563		7,663		7,763		7,863		7,963	
3.00	-R	6,723	-R	6,423	-R	6,123	-R	5,823	-R	5,523	-R	5,223	-R	4,923	
3.25	-R	4,882	-R	4,557	-R	4,232	-R	3,907	-R	3,582	-R	3,257	-R	2,932	
3.50	-R	3,042	-R	2,692	-R	2,342	-R	1,992	-R	1,642	-R	1,292	-R	942	
3.75	-R	1,201	-R	826	-R	451	-R	76	R	299	R	674	R	1,049	
4.00	R	640	R	1,040	R	1,440	R	1,840	R	2,240	R	2,640	R	3,040	
4.25	R	2,480	R	2,905	R	3,330	R	3,755	R	4,180	R	4,605	R	5,030	
4.50	R	4,321	R	4,771	R	5,221	R	5,671	R	6,121	R	6,571	R	7,021	
4.75	R	6,162	R	6,637	R	7,112	R	7,587	R	8,062	R	8,537	R	9,012	
5.00	R	8,002	R	8,502	R	9,002	R	9,502	R	10,002	R	10,502	R	11,002	

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

North-West

Table 3.3: Income & cost budgets for maize, soybeans, sunflower & sorghum for North West: Brits region - Irrigation

Area		North West: Brits / Northam / Koedoeskop			
Crop		Maize	Soybeans	Sunflower	Sorghum
Production System		Irrigation	Irrigation	Irrigation	Irrigation
1) INCOME					
Yield: Deterministic	T/HA	12.00	3.80	3.00	7.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109	R8,332	R4,674
Total deductions	R/TON	R268	R263	R311	R66
- Transport differential	R/TON	R189	R140	R214	R-
- Grade differential	R/TON	R13	R-	R-	R-
- Handling & commission	R/TON	R66	R66	R97	R66
- Seed breeding & technology levy	R/TON	R-	R58	R-	R-
Price premiums	R/TON	R-	R-	R-	R-
Net Farm Gate Price	R/TON	R3,498	R7,846	R8,021	R4,608
GROSS INCOME	R/HA	R41,976	R29,813	R24,063	R32,254
2) VARIABLE EXPENDITURES					
Contracting	R/HA	R922	R965	R-	R-
Crop insurance	R/HA	R1,427	R1,640	R578	R821
Fertilizer	R/HA	R9,644	R3,069	R2,852	R5,905
Lime	R/HA	R634	R-	R-	R412
Seed	R/HA	R5,193	R2,281	R1,087	R1,075
Fuel	R/HA	R1,796	R1,537	R1,523	R1,611
Herbicide	R/HA	R1,576	R650	R921	R1,265
Insecticide/Fungicide	R/HA	R900	R441	R417	R822
Marketing costs	R/HA	R-	R-	R-	R-
Repairs and maintenance	R/HA	R929	R776	R1,064	R776
Casual labour	R/HA	R581	R-	R-	R162
Aerial spray	R/HA	R-	R-	R-	R250
Irrigation Electricity	R/HA	R4,400	R3,600	R2,000	R2,800
Water	R/HA	R1,283	R1,049	R583	R816
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R1,017	R853	R525	R689
TOTAL VARIABLE EXPENDITURE	R/HA	R30,301	R16,862	R11,548	R17,404
TOTAL VARIABLE EXPENDITURE	R/TON	R2,525	R4,437	R3,849	R2,486
3.1) GROSS MARGIN:	R/HA	R11,676	R12,951	R12,515	R14,850
3.2) GROSS MARGIN:	R/TON	R973	R3,408	R4,172	R2,121
BREAK-EVEN YIELD	T/HA	8.66	2.15	1.44	3.78
BREAK-EVEN PRICE	R/TON	R2,525	R4,437	R3,849	R2,486

Source: BFAP, GSA, NWK & Individual Farmers, 2023

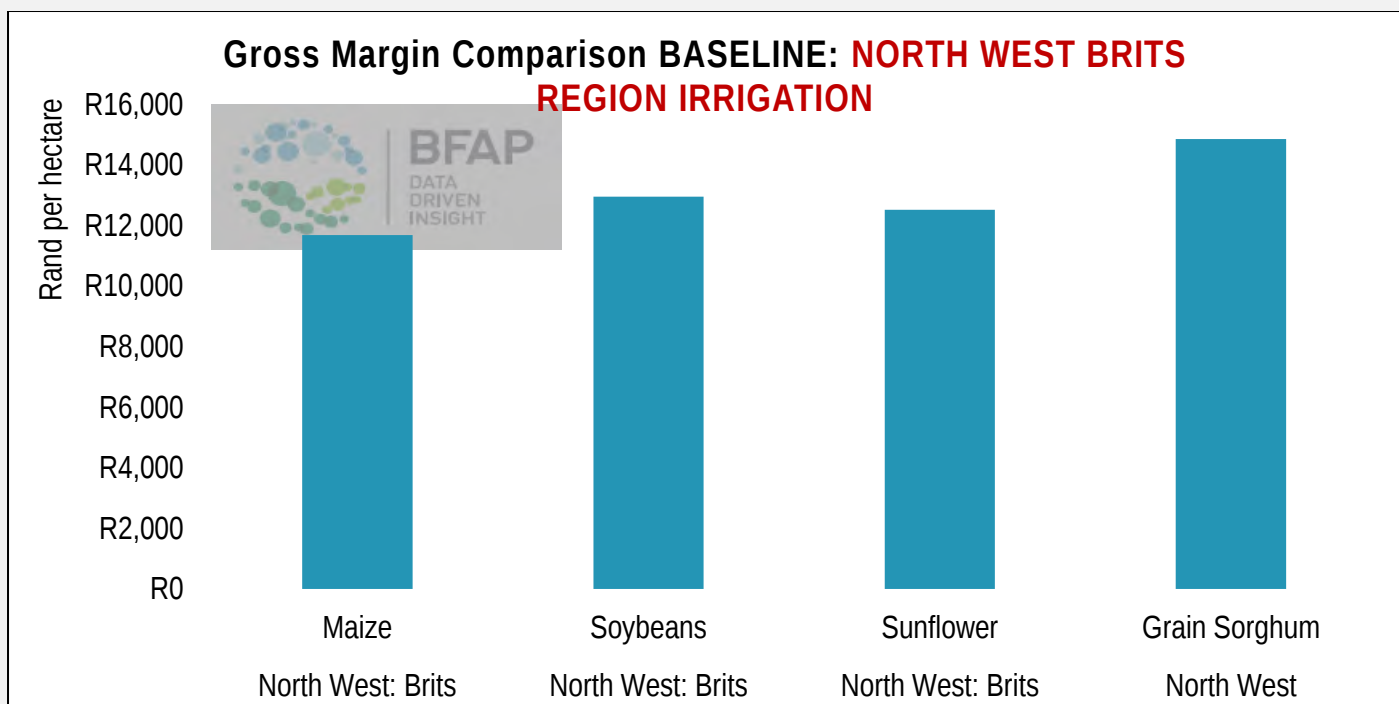


Figure 3.3: Gross margin comparison – Baseline: North West: Brits Region

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST BRITS															
PRODUCERS YIELD (T/HA)															
PRICE		10.50		11.00		11.50		12.00		12.50		13.00		13.50	
R3,098	R	2,229	R	3,778	R	5,327	R	6,876	R	8,425	R	9,974	R	11,523	
R3,198	R	3,279	R	4,878	R	6,477	R	8,076	R	9,675	R	11,274	R	12,873	
R3,298	R	4,329	R	5,978	R	7,627	R	9,276	R	10,925	R	12,574	R	14,223	
R3,398	R	5,379	R	7,078	R	8,777	R	10,476	R	12,175	R	13,874	R	15,573	
R3,498	R	6,429	R	8,178	R	9,927	R	11,676	R	13,425	R	15,174	R	16,923	
R3,598	R	7,479	R	9,278	R	11,077	R	12,876	R	14,674.72	R	16,474	R	18,273	
R3,698	R	8,529	R	10,378	R	12,227	R	14,076	R	15,925	R	17,774	R	19,623	
R3,798	R	9,579	R	11,478	R	13,377	R	15,276	R	17,175	R	19,074	R	20,973	
R3,898	R	10,629	R	12,578	R	14,527	R	16,476	R	18,425	R	20,374	R	22,323	

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST BRITS															
PRODUCERS YIELD (T/HA)															
PRICE		3.00		3.25		3.50		3.80		4.00		4.25		4.50	
R7,446	R	5,474	R	7,336	R	9,197	R	11,431	R	12,920	R	14,781	R	16,643	
R7,546	R	5,774	R	7,661	R	9,547	R	11,811	R	13,320	R	15,206	R	17,093	
R7,646	R	6,074	R	7,986	R	9,897	R	12,191	R	13,720	R	15,631	R	17,543	
R7,746	R	6,374	R	8,311	R	10,247	R	12,571	R	14,120	R	16,056	R	17,993	
R7,846	R	6,674	R	8,636	R	10,597	R	12,951	R	14,520	R	16,481	R	18,443	
R7,946	R	6,974	R	8,961	R	10,947	R	13,331	R	14,920	R	16,906	R	18,893	
R8,046	R	7,274	R	9,286	R	11,297	R	13,711	R	15,320	R	17,331	R	19,343	
R8,146	R	7,574	R	9,611	R	11,647	R	14,091	R	15,720	R	17,756	R	19,793	
R8,246	R	7,874	R	9,936	R	11,997	R	14,471	R	16,120	R	18,181	R	20,243	

SUNFLOWER SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): NORTH WEST BRITS

PRODUCERS YIELD (T/HA)													
PRICE		2.30		2.55		2.80		3.00		3.30		3.55	
R7,621	R	5,981	R	7,886	R	9,791	R	11,315	R	13,602	R	15,507	R
R7,721	R	6,211	R	8,141	R	10,071	R	11,615	R	13,932	R	15,862	R
R7,821	R	6,441	R	8,396	R	10,351	R	11,915	R	14,262	R	16,217	R
R7,921	R	6,671	R	8,651	R	10,631	R	12,215	R	14,592	R	16,572	R
R8,021	R	6,901	R	8,906	R	10,911	R	12,515	R	14,922	R	16,927	R
R8,121	R	7,131	R	9,161	R	11,191	R	12,815	R	15,252	R	17,282	R
R8,221	R	7,361	R	9,416	R	11,471	R	13,115	R	15,582	R	17,637	R
R8,321	R	7,591	R	9,671	R	11,751	R	13,415	R	15,912	R	17,992	R
R8,421	R	7,821	R	9,926	R	12,031	R	13,715	R	16,242	R	18,347	R

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): NORTH WEST BRITS

PRICE (R/TON)													
YIELD		7,546		7,646		7,746		7,846		7,946		8,046	
2.75	-R	7,788	-R	7,513	-R	7,238	-R	6,963	-R	6,688	-R	6,413	-R
3.00	-R	5,901	-R	5,601	-R	5,301	-R	5,001	-R	4,701	-R	4,401	-R
3.25	-R	4,015	-R	3,690	-R	3,365	-R	3,040	-R	2,715	-R	2,390	-R
3.50	-R	2,128	-R	1,778	-R	1,428	-R	1,078	-R	728	-R	378	-R
3.80	R	135	R	515	R	895	R	1,275	R	1,655	R	2,035	R
4.00	R	1,644	R	2,044	R	2,444	R	2,844	R	3,244	R	3,644	R
4.25	R	3,531	R	3,956	R	4,381	R	4,806	R	5,231	R	5,656	R
4.50	R	5,417	R	5,867	R	6,317	R	6,767	R	7,217	R	7,667	R
4.75	R	7,303	R	7,778	R	8,253	R	8,728	R	9,203	R	9,678	R

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

Table 3.4: Income & cost budgets for maize & soybeans for Limpopo: Loskop region - Irrigation

Area		Limpopo: Loskop	
Crop		Maize	Soybeans
Production System		Irrigation	Irrigation
1) INCOME			
Yield: Deterministic	T/HA	12.00	4.00
SAFEX SIMULATED PRICE / PRODUCER PRICE: 2024	R/TON	R3,766	R8,109
Total deductions	R/TON	R417	R374
- Transport differential	R/TON	R338	R251
- Grade differential	R/TON	R13	R-
- Handling & commission	R/TON	R66	R66
- Seed breeding & technology levy	R/TON	R-	R58
Price premiums	R/TON	R-	R-
Net Farm Gate Price	R/TON	R3,349	R7,735
GROSS INCOME	R/HA	R40,188	R30,938
2) VARIABLE EXPENDITURES			
Contracting	R/HA	R922	R965
Crop insurance	R/HA	R1,366	R1,702
Fertilizer	R/HA	R9,644	R3,330
Lime	R/HA	R806	R-
Seed	R/HA	R5,193	R2,281
Fuel	R/HA	R1,796	R1,537
Herbicide	R/HA	R1,576	R650
Insecticide/Fungicide	R/HA	R804	R441
Marketing costs	R/HA	R-	R-
Repairs and maintenance	R/HA	R789	R840
Casual labour	R/HA	R581	R-
Aerial spray	R/HA	R-	R-
Irrigation Electricity	R/HA	R5,280	R3,800
Water	R/HA	R1,539	R1,108
Other expenditure: Scheduling / Irrigation Equipment R&M	R/HA	R1,198	R894
TOTAL VARIABLE EXPENDITURE	R/HA	R31,493	R17,548
TOTAL VARIABLE EXPENDITURE	R/TON	R2,624	R4,387
3.1) GROSS MARGIN:	R/HA	R8,695	R13,390
3.2) GROSS MARGIN:	R/TON	R725	R3,347
BREAK-EVEN YIELD	T/HA	9.40	2.27
BREAK-EVEN PRICE	R/TON	R2,624	R4,387

Source: BFAP, GSA & Individual Farmers, 2023

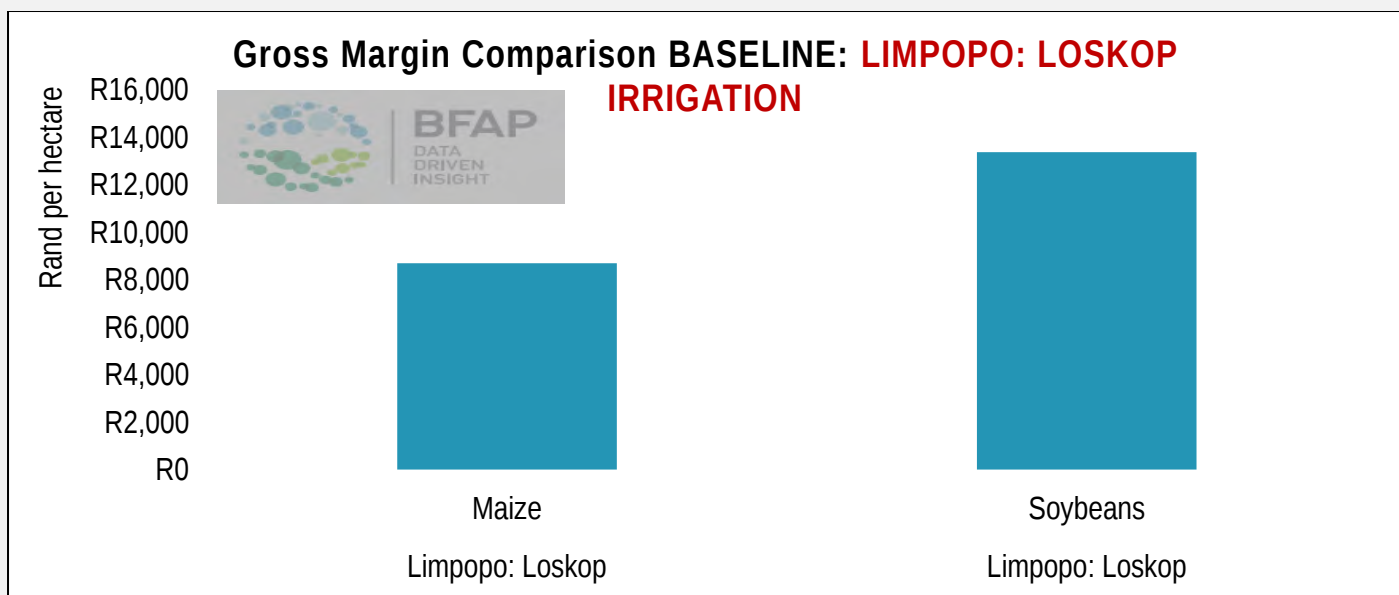


Figure 3.4: Gross margin comparison – Baseline: Limpopo: Loskop Region

MAIZE SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): LOSKOP AREA												
PRODUCERS YIELD (T/HA)												
PRICE	10.50		11.00		11.50		12.00		12.50		13.00	13.50
R2,949 -R	528	R	946	R	2,421	R	3,895	R	5,370	R	6,844	R 8,319
R3,049 R	522	R	2,046	R	3,571	R	5,095	R	6,620	R	8,144	R 9,669
R3,149 R	1,572	R	3,146	R	4,721	R	6,295	R	7,870	R	9,444	R 11,019
R3,249 R	2,622	R	4,246	R	5,871	R	7,495	R	9,120	R	10,744	R 12,369
R3,349 R	3,672	R	5,346	R	7,021	R	8,695	R	10,370	R	12,044	R 13,719
R3,449 R	4,722	R	6,446	R	8,171	R	9,895	R	11,620	R	13,344	R 15,069
R3,549 R	5,772	R	7,546	R	9,321	R	11,095	R	12,870	R	14,644	R 16,419
R3,649 R	6,822	R	8,646	R	10,471	R	12,295	R	14,120	R	15,944	R 17,769
R3,749 R	7,872	R	9,746	R	11,621	R	13,495	R	15,370	R	17,244	R 19,119

SOYBEANS SENSITIVITY ANALYSIS (GROSS MARGIN PER HECTARE): LIMPOPO: LOSKOP AREA												
PRODUCERS YIELD (T/HA)												
PRICE	3.25		3.50		3.75		4.00		4.25		4.50	4.75
R7,335 R	6,289	R	8,122	R	9,956	R	11,790	R	13,623	R	15,457	R 17,290
R7,435 R	6,614	R	8,472	R	10,331	R	12,190	R	14,048	R	15,907	R 17,765
R7,535 R	6,939	R	8,822	R	10,706	R	12,590	R	14,473	R	16,357	R 18,240
R7,635 R	7,264	R	9,172	R	11,081	R	12,990	R	14,898	R	16,807	R 18,715
R7,735 R	7,589	R	9,522	R	11,456	R	13,390	R	15,323	R	17,257	R 19,190
R7,835 R	7,914	R	9,872	R	11,831	R	13,790	R	15,748	R	17,707	R 19,665
R7,935 R	8,239	R	10,222	R	12,206	R	14,190	R	16,173	R	18,157	R 20,140
R8,035 R	8,564	R	10,572	R	12,581	R	14,590	R	16,598	R	18,607	R 20,615
R8,135 R	8,889	R	10,922	R	12,956	R	14,990	R	17,023	R	19,057	R 21,090

SOYBEANS MARGIN ABOVE / BELOW MAIZE (GROSS MARGIN PER HECTARE): LIMPOPO: LOSKOP AREA														
PRICE (R/TON)														
YIELD	R	7,435	R	7,535	R	7,635	R	7,735	R	7,835	R	7,935	R	8,035
3.00	-R	3,940	-R	3,640	-R	3,340	-R	3,040	-R	2,740	-R	2,440	-R	2,140
3.25	-R	2,081	-R	1,756	-R	1,431	-R	1,106	-R	781	-R	456	-R	131
3.50	-R	223	R	127	R	477	R	827	R	1,177	R	1,527	R	1,877
3.75	R	1,636	R	2,011	R	2,386	R	2,761	R	3,136	R	3,511	R	3,886
4.00	R	3,494	R	3,894	R	4,294	R	4,694	R	5,094	R	5,494	R	5,894
4.25	R	5,353	R	5,778	R	6,203	R	6,628	R	7,053	R	7,478	R	7,903
4.50	R	7,212	R	7,662	R	8,112	R	8,562	R	9,012	R	9,462	R	9,912
4.75	R	9,070	R	9,545	R	10,020	R	10,495	R	10,970	R	11,445	R	11,920
5.00	R	10,929	R	11,429	R	11,929	R	12,429	R	12,929	R	13,429	R	13,929

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.
- Other macro- & microelements such as calcium, magnesium and zinc are included in the fertiliser costs.
- The cost of fuel includes pre-harvest and harvesting costs with the assumption that own machinery is used.
- The cost for soybean seed reflects a combination of own- and purchased seed.
- There will be large fluctuations for insurance cost (hail) based on the associated risk in respective areas. It is advised that producers adjust this cost based on their individual premiums.
- It is important to note that overhead costs are not included and should be accounted for.

Summary: 2023/24 Income & Cost Budgets

Figures 4.1 - 4.4 provide a summary of the gross margin performance of dryland and irrigated crops over the period from 2018 (adjusted to account for actual yields and crop prices) to 2025 (2024 and 2025 are projected). It is important to note that the gross margins only consider direct costs and exclude overhead costs, and that the presented gross margins will differ based on the timing when producers have purchased agricultural inputs (fertilisers, fuel & chemicals) and when marketing takes place. Furthermore, uncertainty remains regarding the forecasted El Nino and its effect on yields. For the gross margins presented in this report, target yields were assumed.

Relative to 2022/23, average dryland gross margins across 6 crops in 7 agro-ecological regions are projected to decline marginally for the 2023/24 production season, while the average irrigation gross margins across 4 crops are expected to increase slightly (assuming trend yields, lower crop prices and lower input costs).

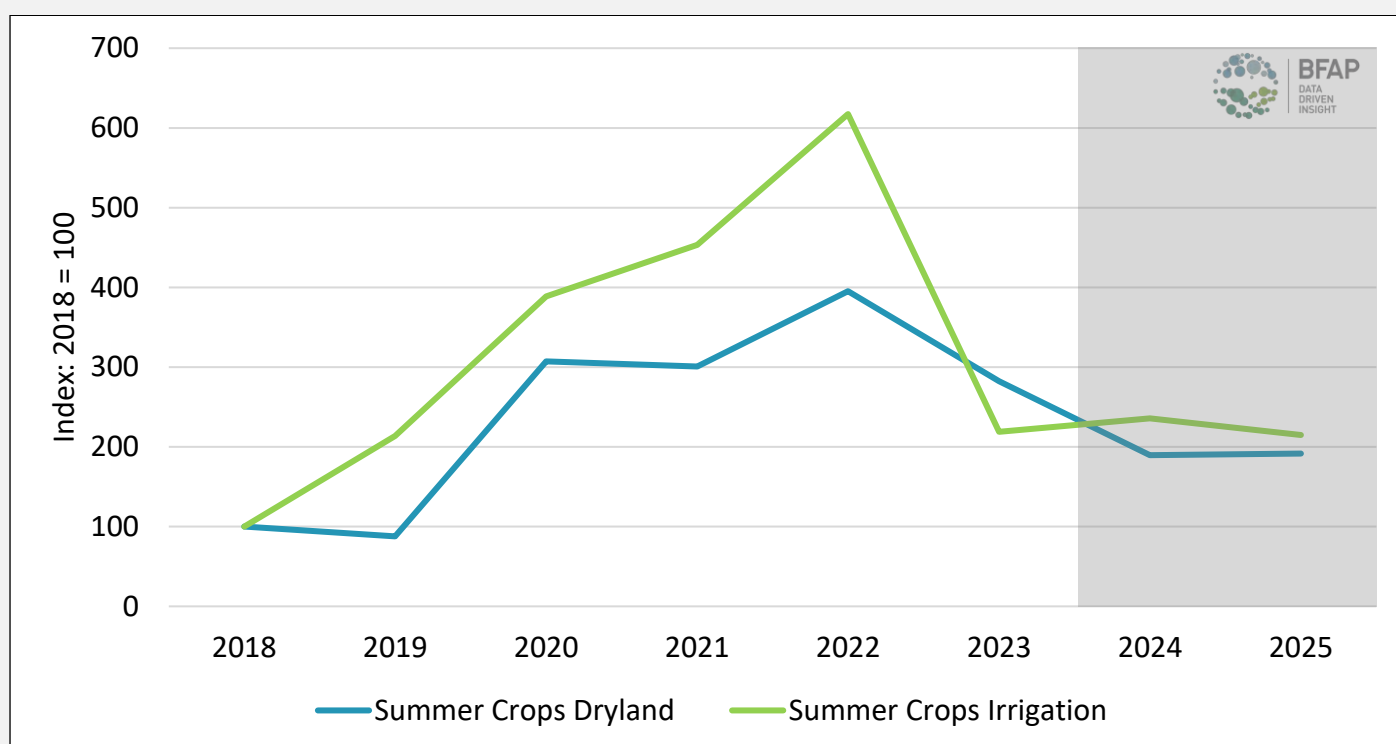


Figure 4.1: Gross margin index between dryland & irrigated summer crops: 2018-2025

Oilseed crops are projected to outperform maize in 2024 and 2025. The average gross margin across 7 agro-ecological regions for maize and soybean are expected to decline by 27% and 28% respectively from the 2022/23 to the 2023/24 production season. While sunflower gross margins are projected to increase by 9%, assuming a shift back to trend yields. 2023/24 margins are expected to be lower than the gross margins in 2020 to 2023, but higher than 2018 and 2019 (these years were associated with drought and low commodity prices).

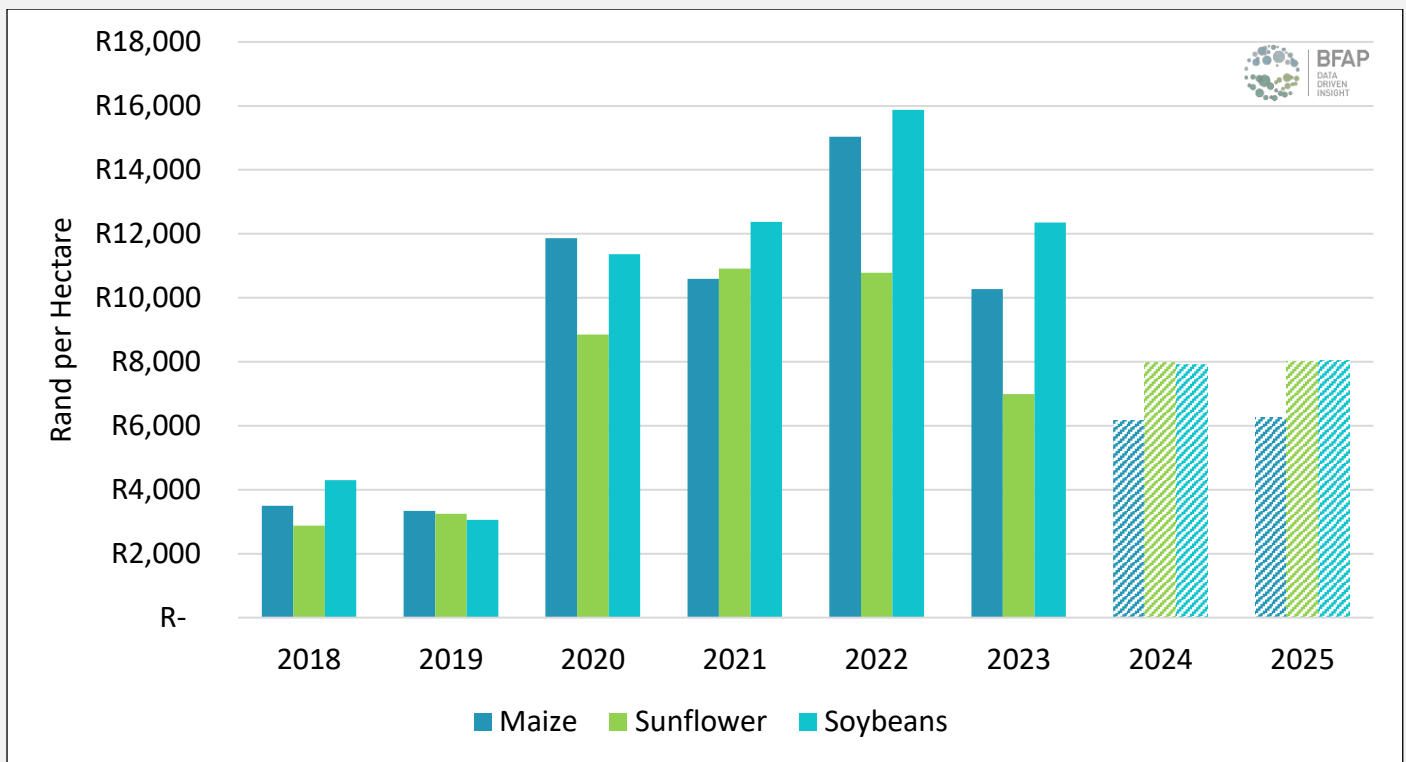


Figure 4.2: Dryland - **Deterministic** weighted gross margin average by crop type: 2018-2025

All dryland gross margins (except for sunflower) are expected to decrease in the upcoming seasons, mainly driven by a consolidation in commodity prices and lower yields compared to the previous La-Nina seasons. For the 2023/24 production season, dryland gross margins are expected to decrease by 34% for maize in the eastern production region, 45% for maize in the western production region, 23% for soybeans in the eastern production region, 51% for soybeans in the western production region, while sunflower gross margins are expected to increase by 14% (compared to the 2022/23 production season).

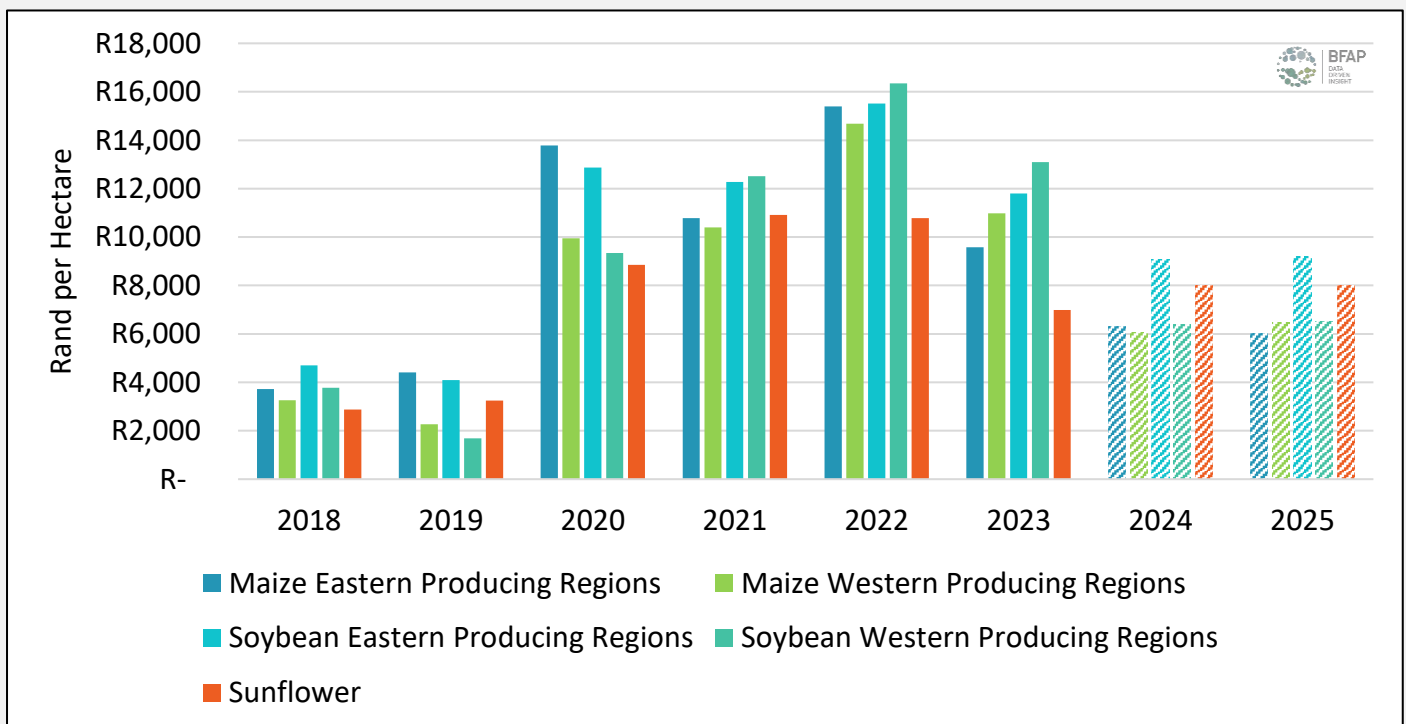


Figure 4.3: Dryland - **Deterministic** gross margin average by key producing region: 2018-2025

The average gross margins for crops under irrigation followed an upward trend from 2018 to 2022, and decreased in 2023 following high cost of inputs. Irrigated gross margins are expected to remain at a similar level as in the 2022/23 production season.

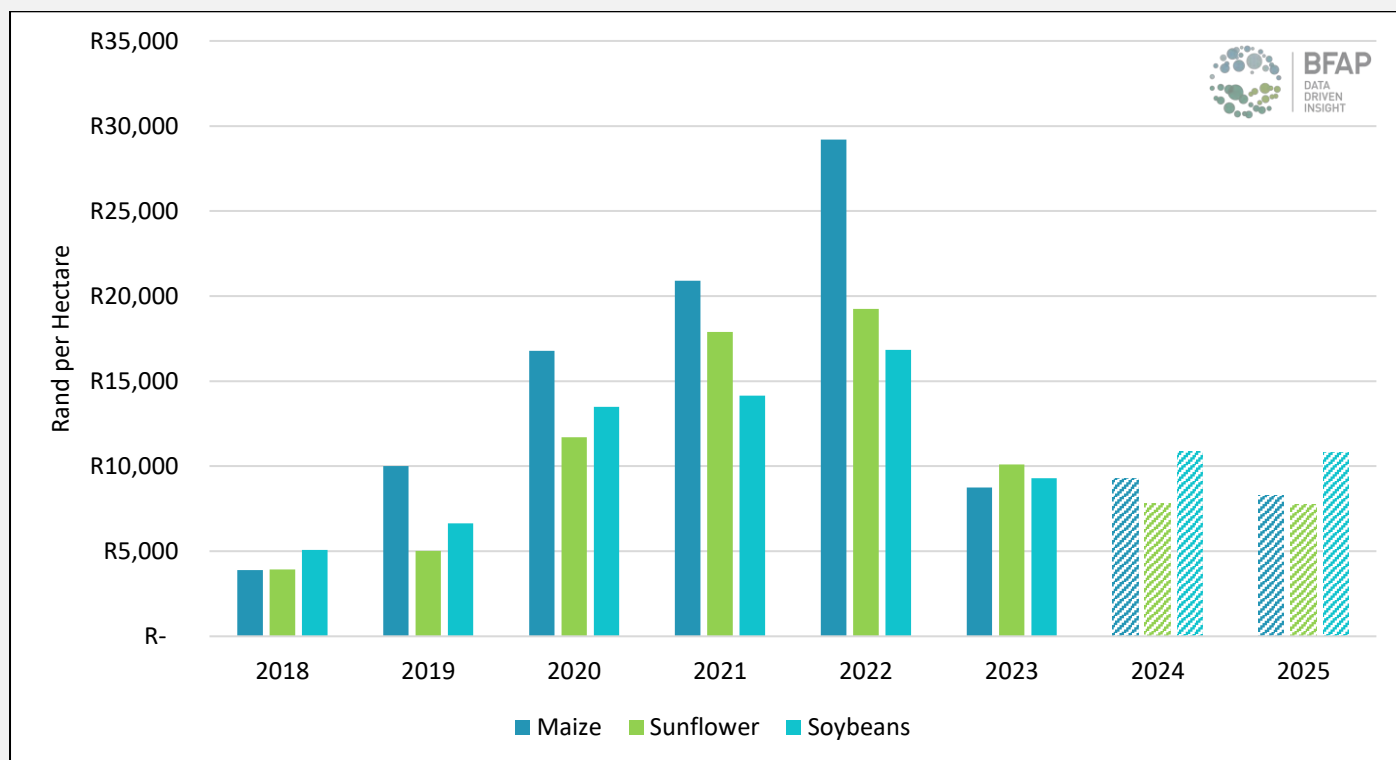


Figure 4.4: Irrigation - **Deterministic** gross margin average by crop type: 2018-2025