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# Grain South Africa

## Winter Crop Scenario Planning

### 2021 Production Season

Updated: May 2021



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# Macro economic environment

# Global Growth: A prolonged recovery following COVID-19 & lockdown related recession

	2019		2020				2021			
y-o-y % change	IMF	IMF January 2020	IMF April 2020	IMF June 2020	IMF Oct 2020	IMF Apr 2021	IMF April 2020	IMF June 2020	IMF Oct 2020	IMF Apr 2021
<b>World</b>	<b>2.9</b>	<b>3.3</b>	<b>-3.0</b>	<b>-4.5</b>	<b>-4.4</b>	<b>-3.3</b>	<b>5.8</b>	<b>5.4</b>	<b>5.2</b>	<b>6.0</b>
Advanced countries	1.7	1.6	-6.1	-8.0	-5.8	<b>-4.7</b>	4.5	4.8	3.9	<b>5.1</b>
US	2.3	2.0	-5.9	-8.0	-4.3	-3.5	4.7	4.5	3.1	6.4
Euro area	1.2	1.3	-7.5	-10.2	-8.3	-6.6	4.7	6.0	5.2	4.4
Italy	0.2	0.5	-9.1	-12.8	-10.6	-8.9	4.8	6.3	5.2	4.2
Japan	1.0	0.7	-5.2	-5.8	-5.3	-4.8	3.0	2.4	2.3	3.3
UK	1.4	1.4	-6.5	-10.2	-9.8	-9.9	4.0	6.3	5.9	5.3
<b>Emerging markets</b>	<b>3.7</b>	<b>4.5</b>	<b>-1.0</b>	<b>-3.0</b>	<b>-3.3</b>	<b>-2.2</b>	<b>6.6</b>	<b>5.9</b>	<b>6.0</b>	<b>6.7</b>
China	6.1	6.0	1.2	1.0	1.9	2.3	9.2	8.2	8.2	8.4
India	4.8	5.8	1.9	-4.5	-10.3	-8.0	7.4	6.0	8.8	12.5
<b>South Africa</b>	<b>0.2</b>	<b>0.8</b>	<b>-5.8</b>	<b>-8.0</b>	<b>-8.0</b>	<b>-6.9</b>	<b>4.0</b>	<b>3.5</b>	<b>3.0</b>	<b>3.1</b>
Nigeria	2.2	2.5	-3.4	-5.4	-4.3	-1.8	2.4	2.6	1.7	2.5
Sub Saharan Africa	3.1	3.5	-1.6	-3.2	-3.0	-1.9	4.1	3.4	3.1	3.4

- COVID-19 & the measures imposed to contain it fundamentally changed the world we live in in 2020 & many countries are in the grip of a second wave
- Economically, medium term prospects are subdued due to substantial increase in sovereign debt
- Significant spill-over effects from soft demand, weaker tourism and lower remittances remains uncertain
- Some countries simply cannot afford the same extent of emergency support when further lockdowns are required
- At same time, progress with vaccines and treatments, as well as changes in the workplace and by consumers may allow activity to return more quickly than currently projected



# SA Macro economic assumptions

	2017	2018	2019	2020	2021	2022
Real GDP Growth (%)	1.3	0.8	0.2	-7.0	3.7	1.4
CPI (%)	5.3	4.6	4.1	3.3	4.4	4.4
Prime Interest Rate (%)	10.39	10.09	10.14	7.86	7.00	7.43
Exchange Rate (ZAR / USD)	13.30	13.21	14.45	16.46	14.96	15.72
Brent Crude Oil (USD / Barrel)	54.8	71.1	67.1	42.8	64.1	63.0

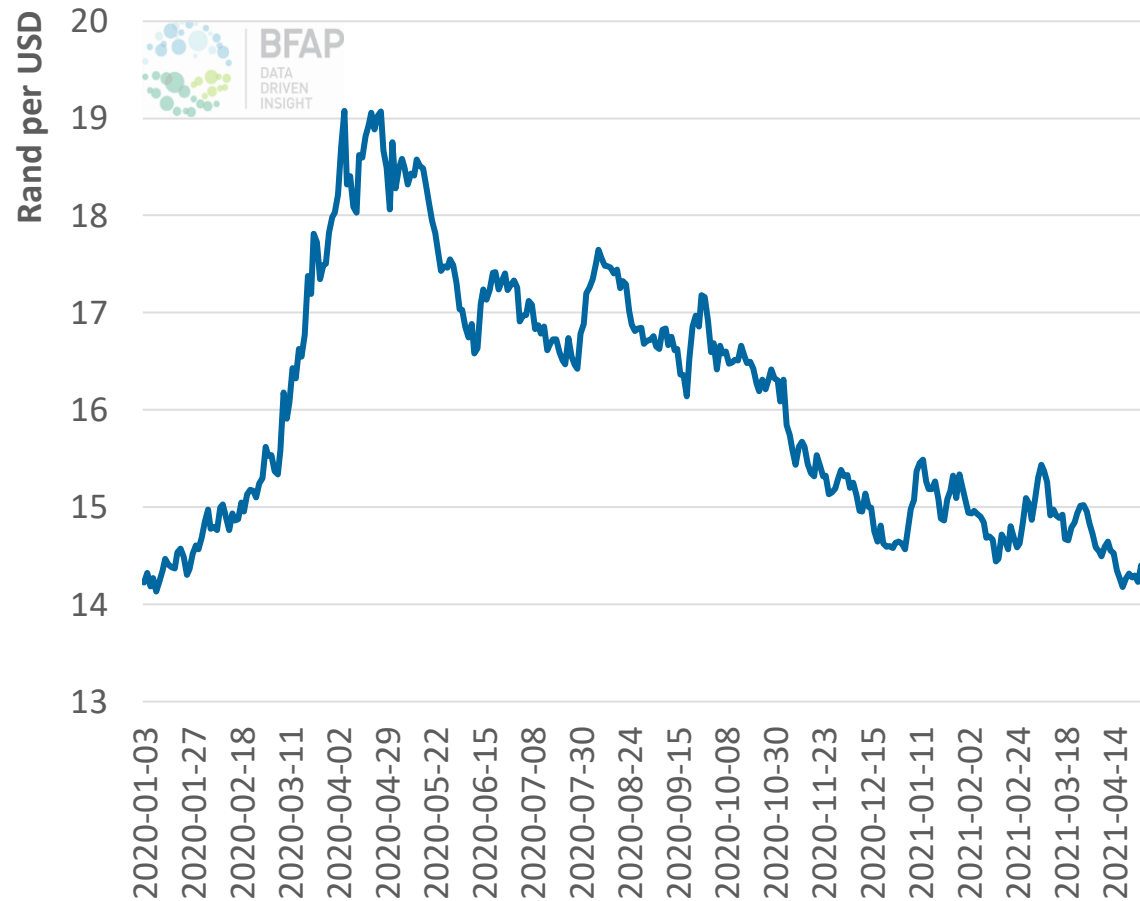
- The South African economy already faced a number of systemic structural challenges prior to the impact of COVID-19 and the related lockdown action – most of these were exacerbated by the restrictions on economic activity in 2020
- Some recovery projected for 2021, from the lower base, but absolute level remain well reduced and the possibility of further waves & rate of vaccine roll-out will affect prospects
- Exchange Rate Remains highly volatile & uncertain:
  - Sensitive to global sentiments – e.g. COVID-19 vaccine progress, US Politics
  - Many domestic risks have been priced in – for instance downgrades had limited impact amidst COVID-19 uncertainty – many still remain
  - Strong commodity exports are supportive to current account deficit, underpinning Rand performance
  - Fundamentally, weak fiscal position suggests depreciation trend in longer term
- Significant uncertainty exists around the oil price given global economic environment & risks associated with recovery

# Oil and Rand exchange rate charts - update

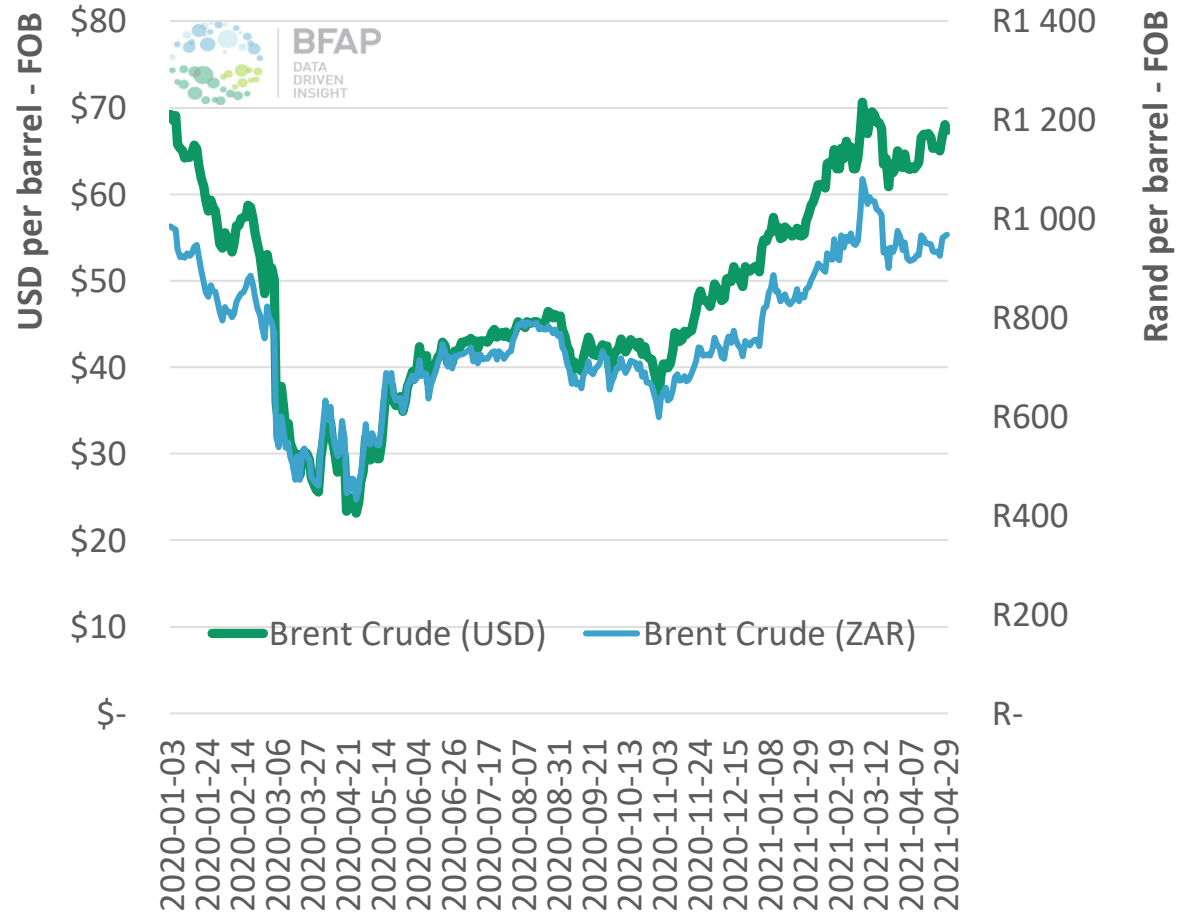


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## Rand exchange Rate



## Daily Spot Brent Crude Oil Prices





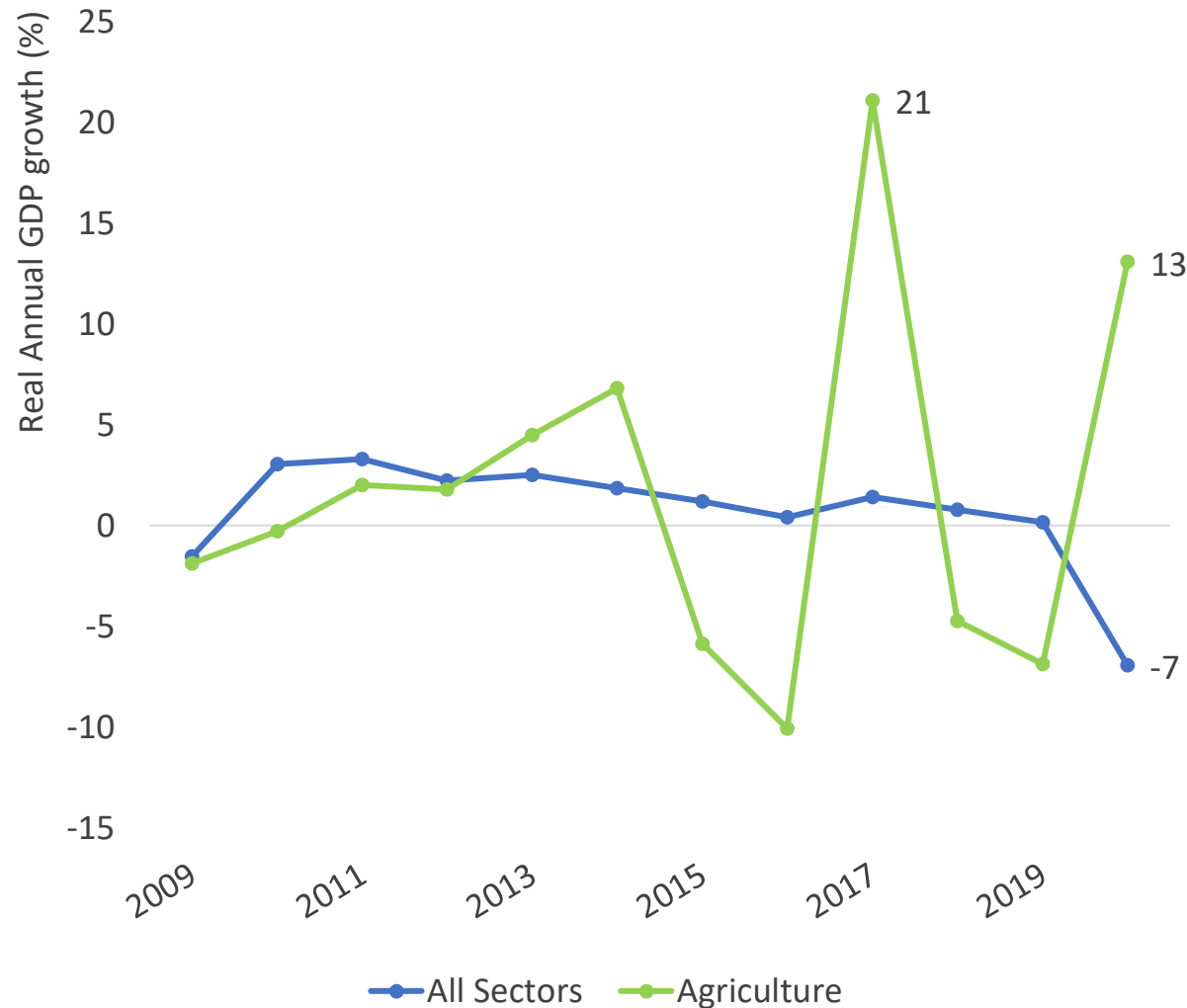
# Perspectives on agricultural performance in 2020

# Agriculture a shining light in the economy

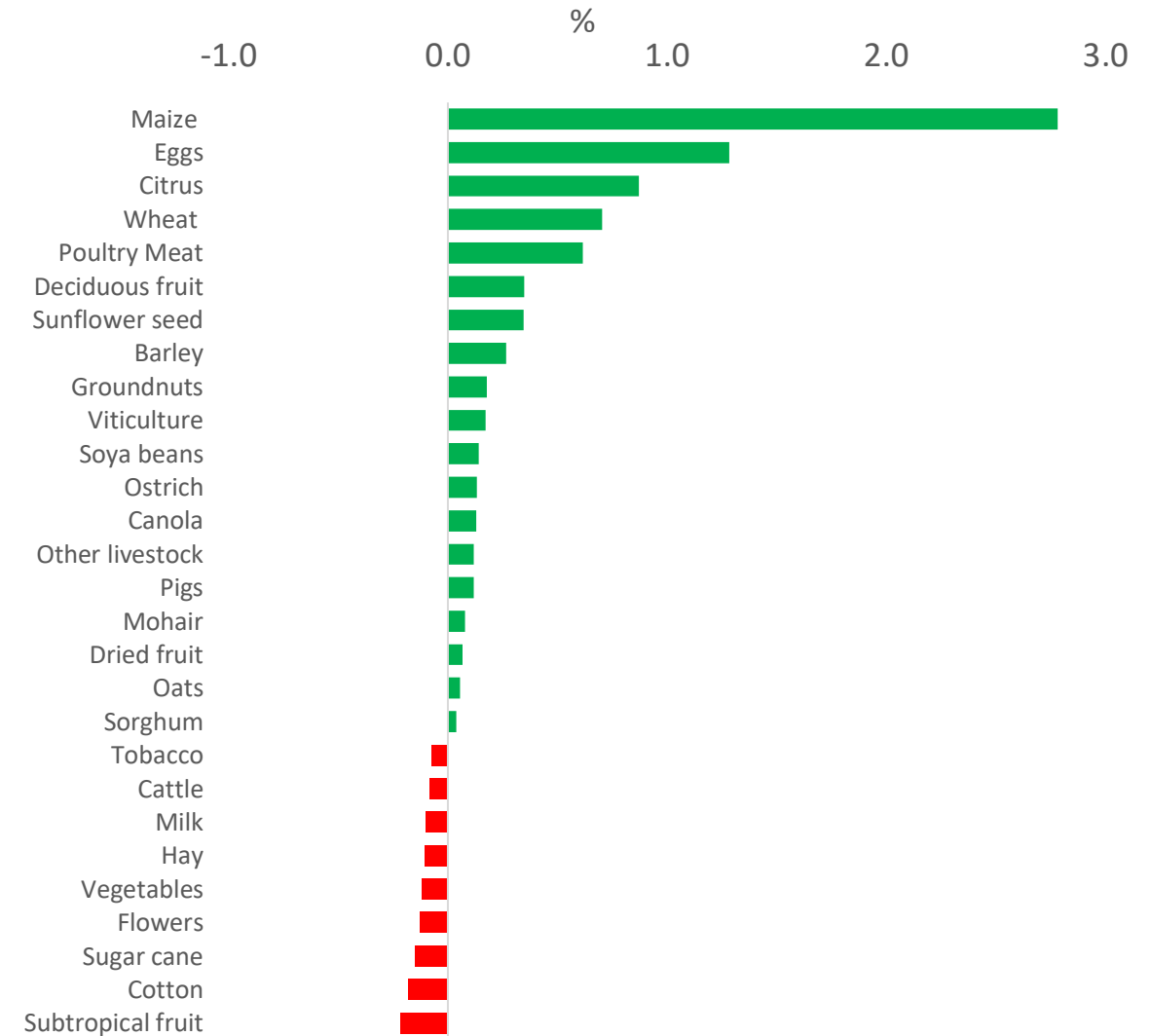


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## Real annual GDP



## Contribution to AGR-GDP growth



# Field crops greatest contributor to turnaround

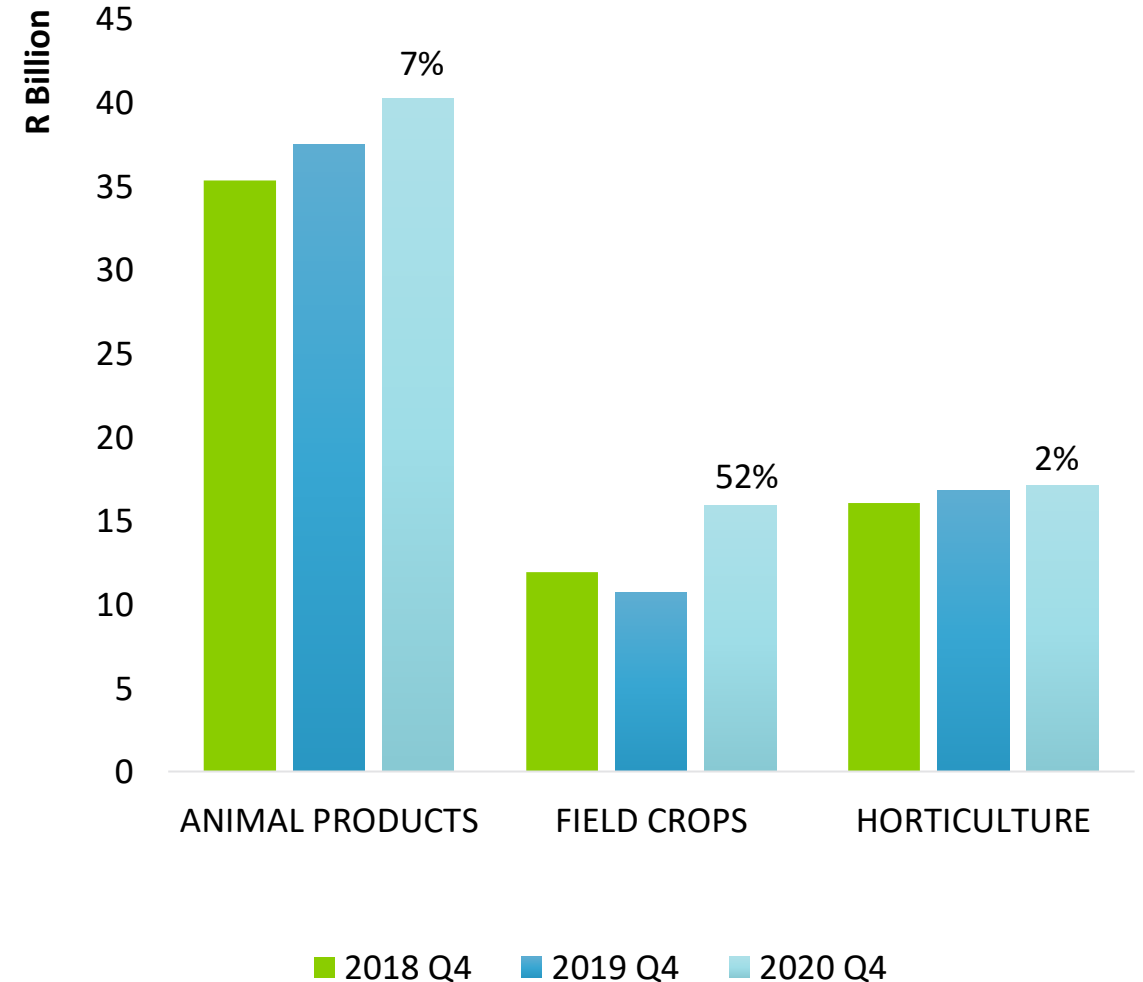
## Quarterly Ag GDP



■ Quarter-on-quarter % change - seasonally adjusted & annualised

■ Year-on-Year % change (Constant 2010 Prices)

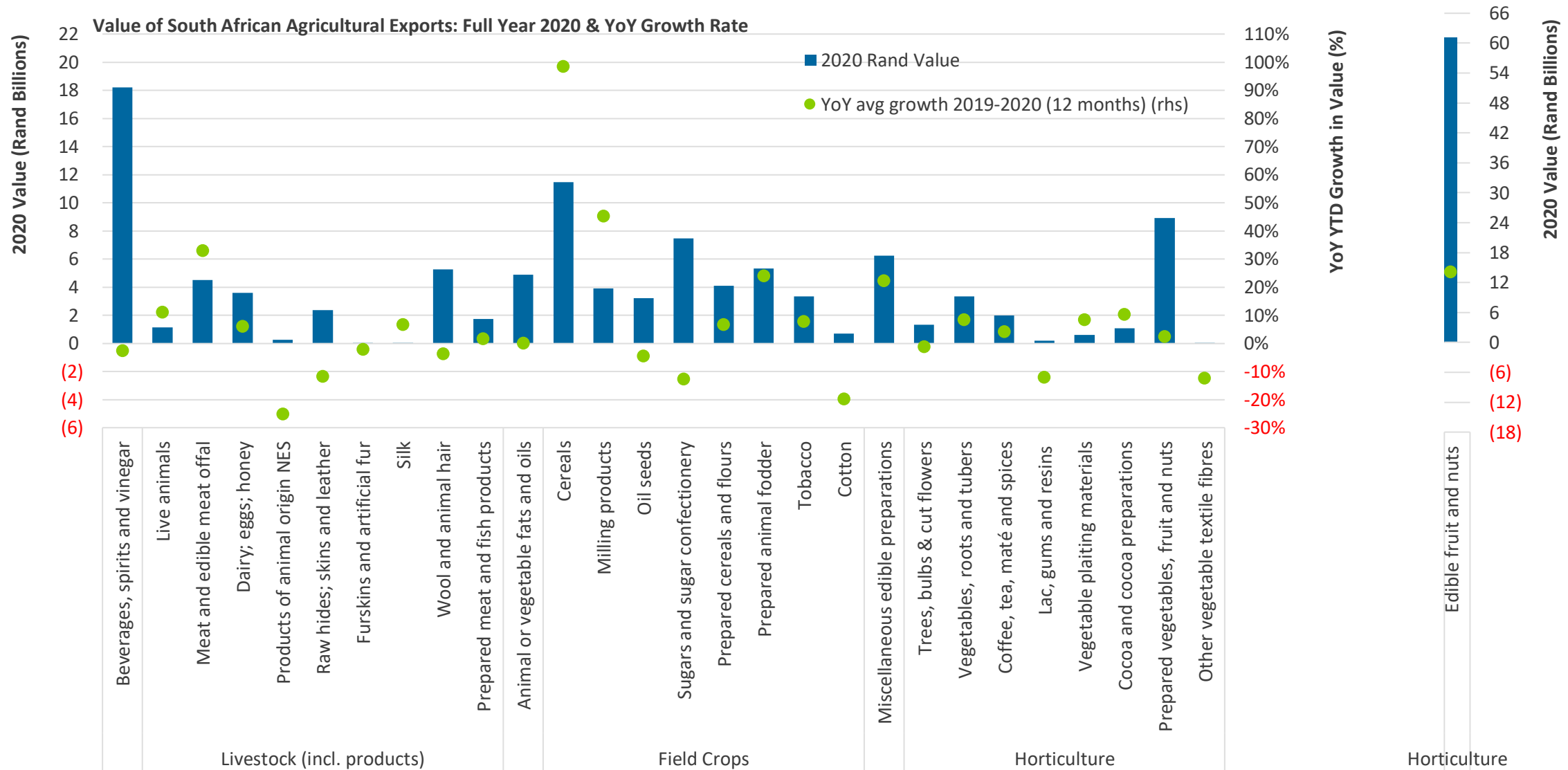
## Gross farm income – Quarter 4



■ 2018 Q4 ■ 2019 Q4 ■ 2020 Q4



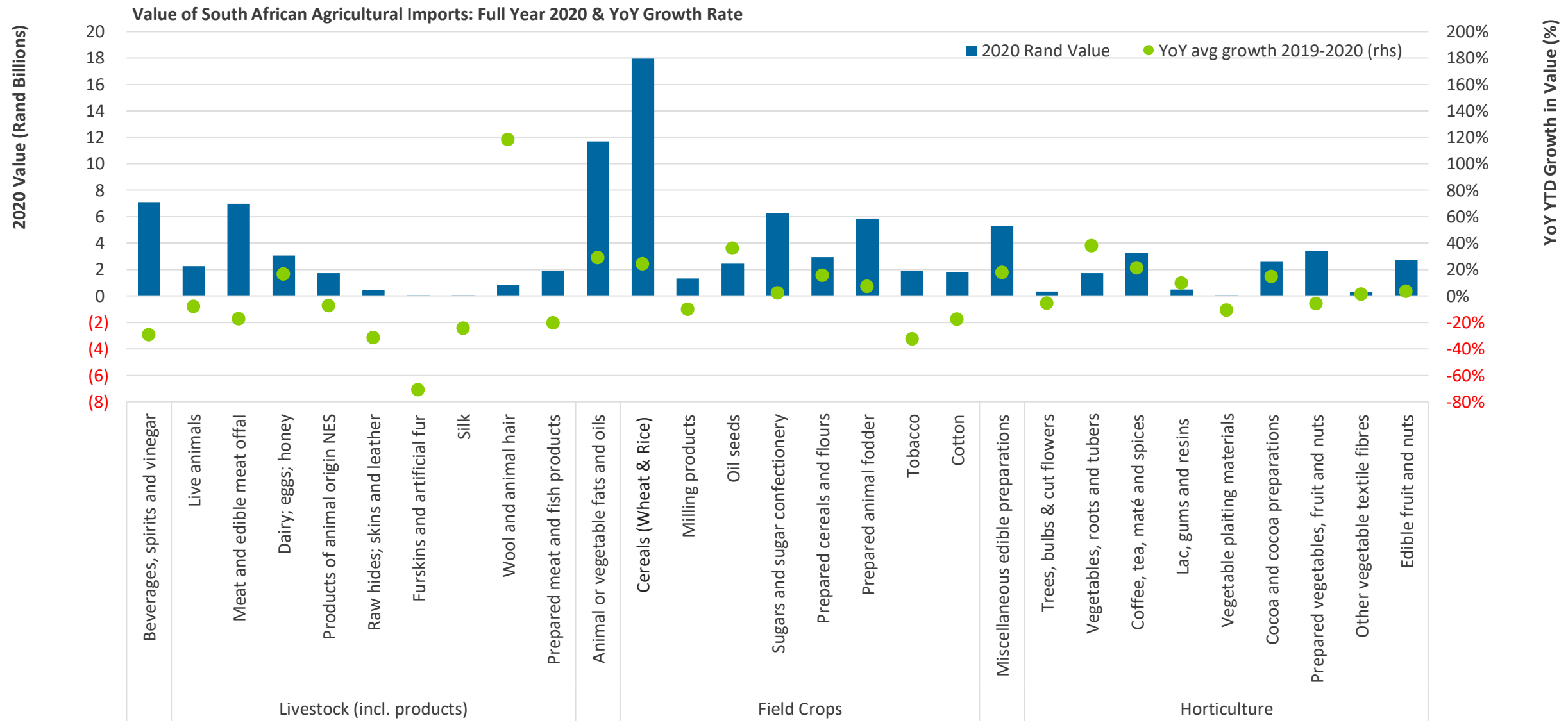
# Horticulture driving agricultural export performance



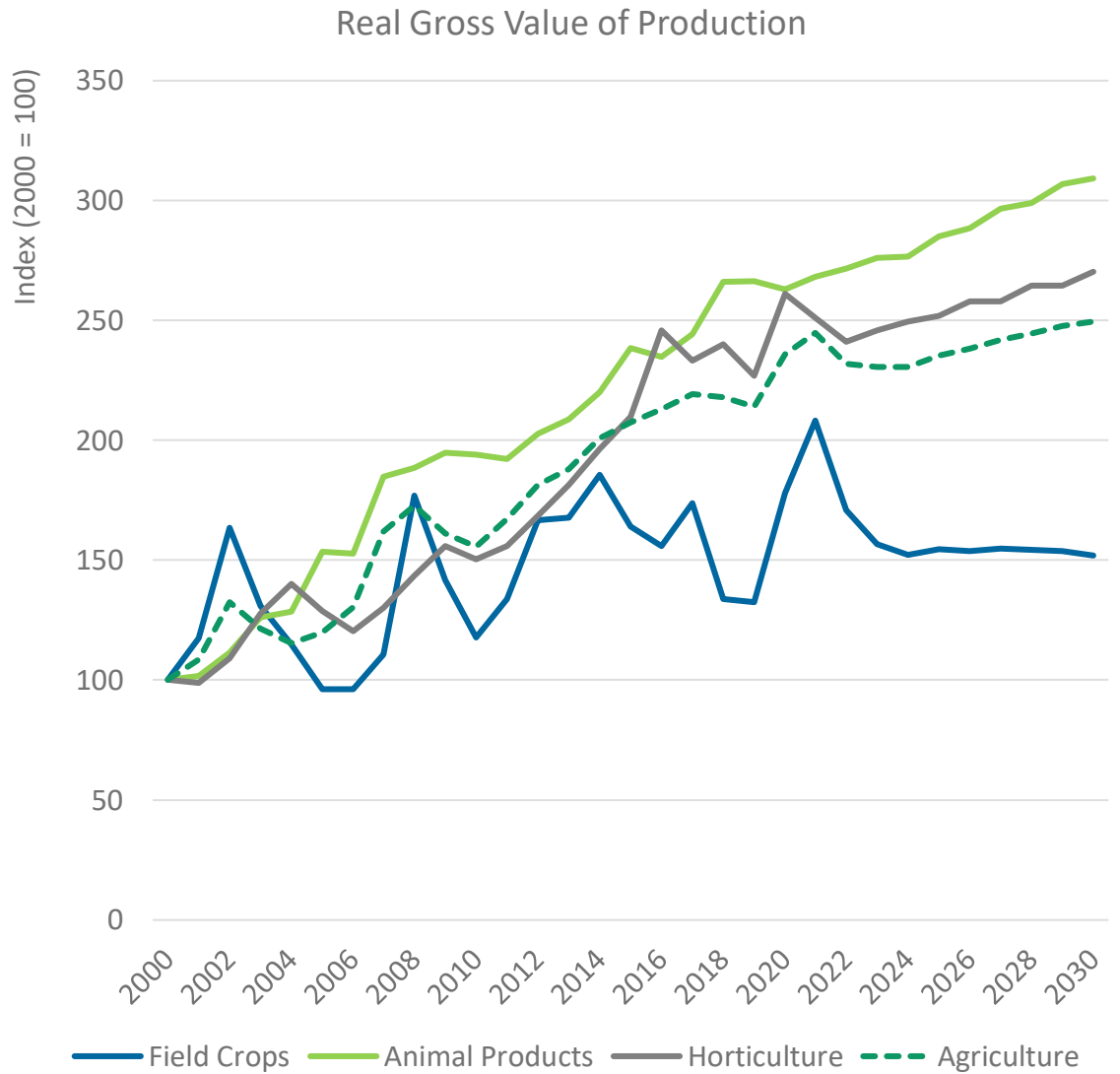
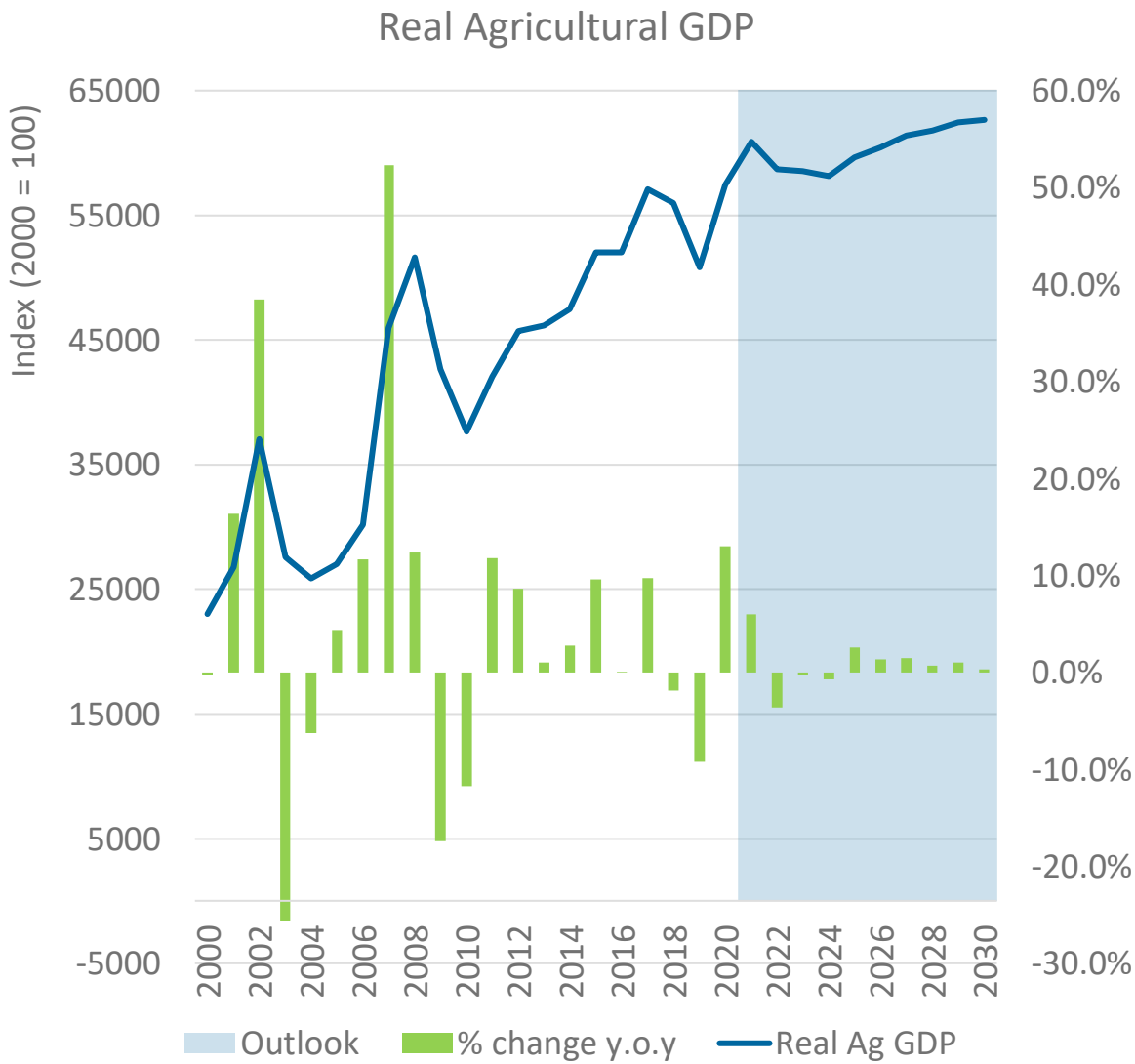
\*Fruits and nuts are on a different value scale, but uses the same % growth scale



# Cereals (wheat & rice) and vegetable oils still bulk of imports



# Agricultural GDP to remain firm in 2021





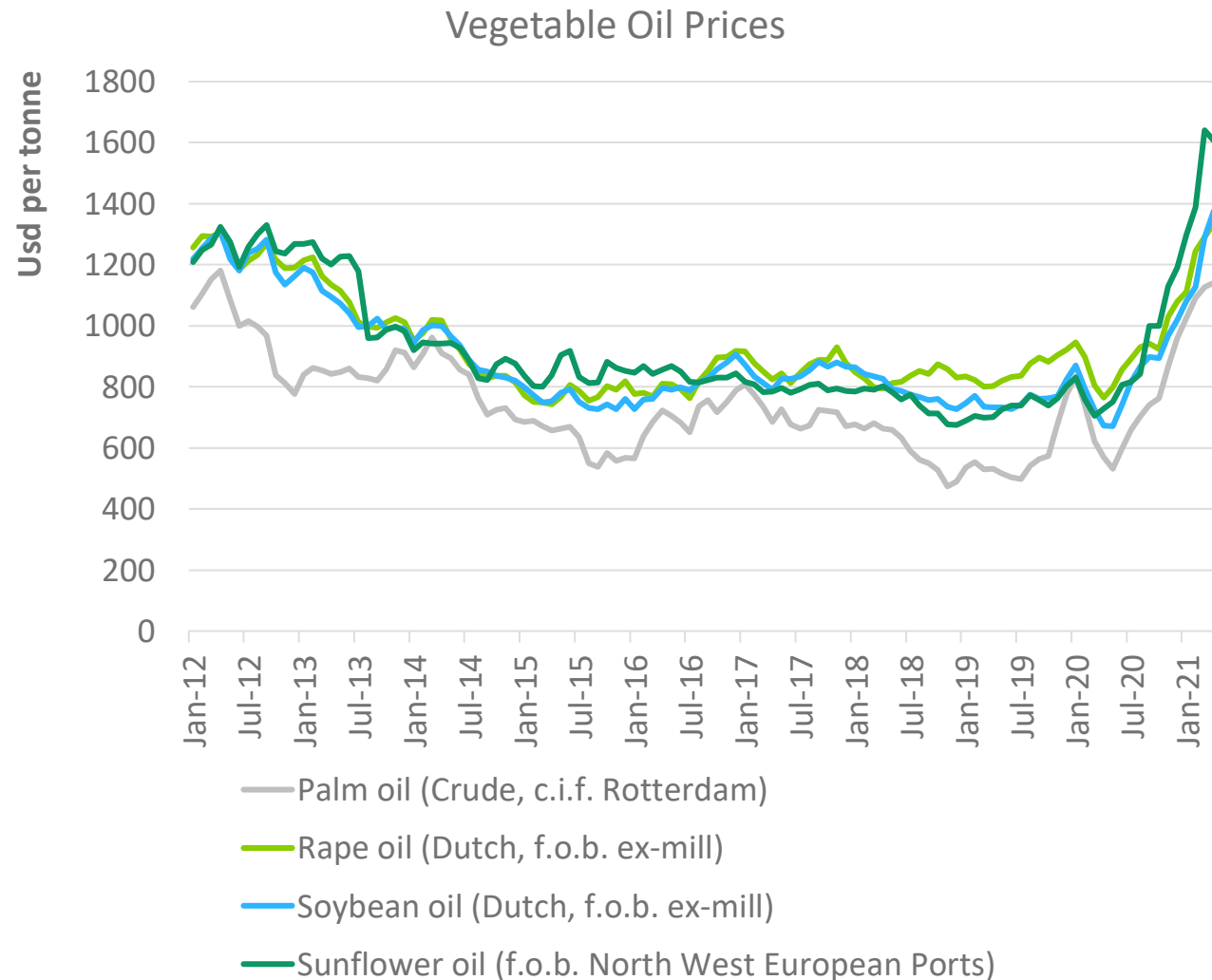
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# International market dynamics

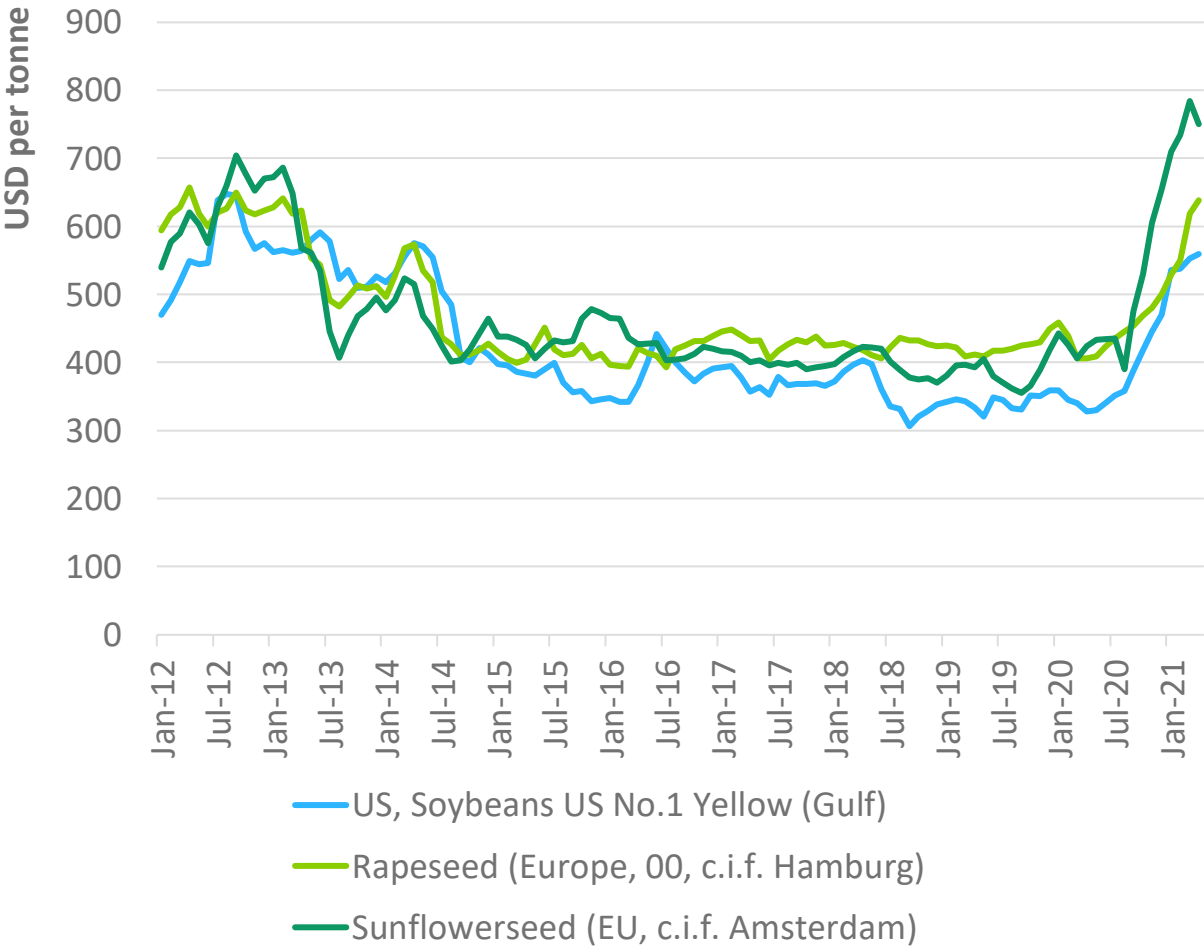
# Global prices rising sharply



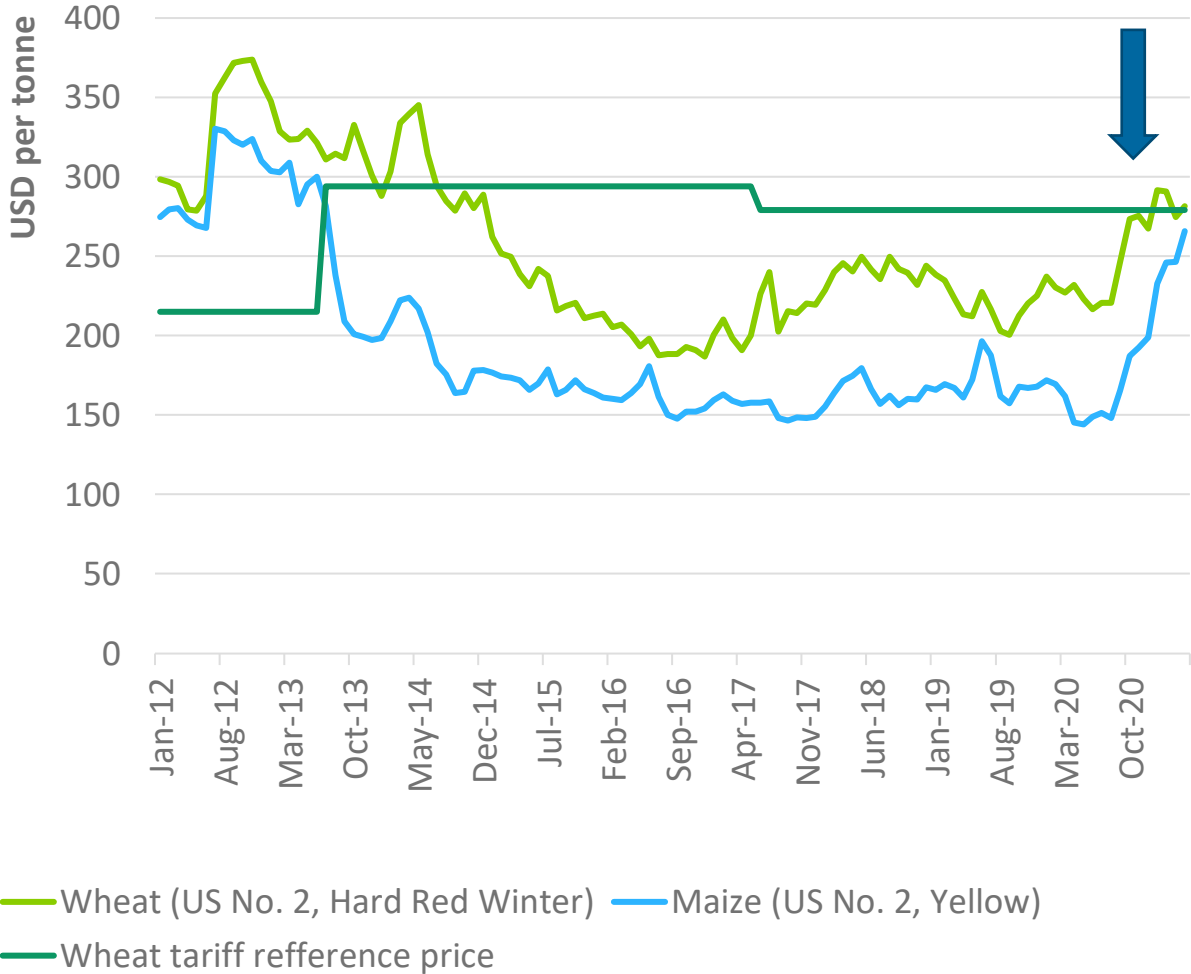
- Agricultural commodity prices globally have increased rapidly since the final quarter of 2020, led by vegetable oils, which have reached levels last seen in 2012
- Rapid increases in price levels are driven by a number of factors:
  - Exceptional rate of pig herd rebuilding in China as it recovers from the 2018 African Swine Fever outbreak, which is driving high import demand for soybeans
  - Production of palm and soybean oil fell well short of expectations in 2020, with palm oil production in particular influenced by a lack of foreign labour as emergency measures to contain the spread of COVID-19 continue
  - Further reductions to the US production and ending stock estimates, coupled with weather related concerns regarding the ultimate size of South American crops – global stocks of the 7 major oilseeds are now expected to reach a 5-year low at the end of this season
  - In 2021, the price of US HRW wheat exceeded the level of the reference price that triggers the variable import tariff for the first time since 2013

# Global prices rising sharply

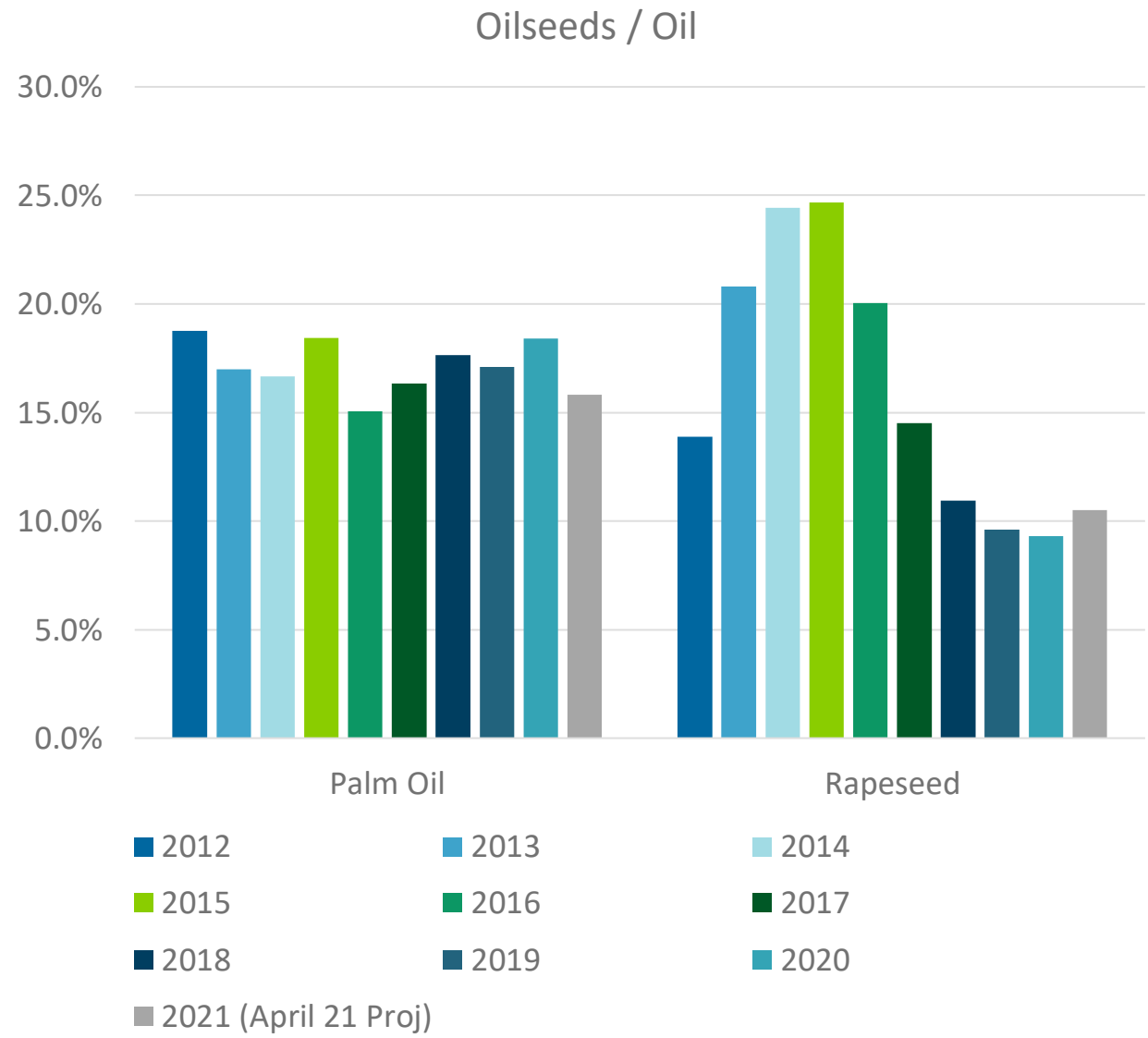
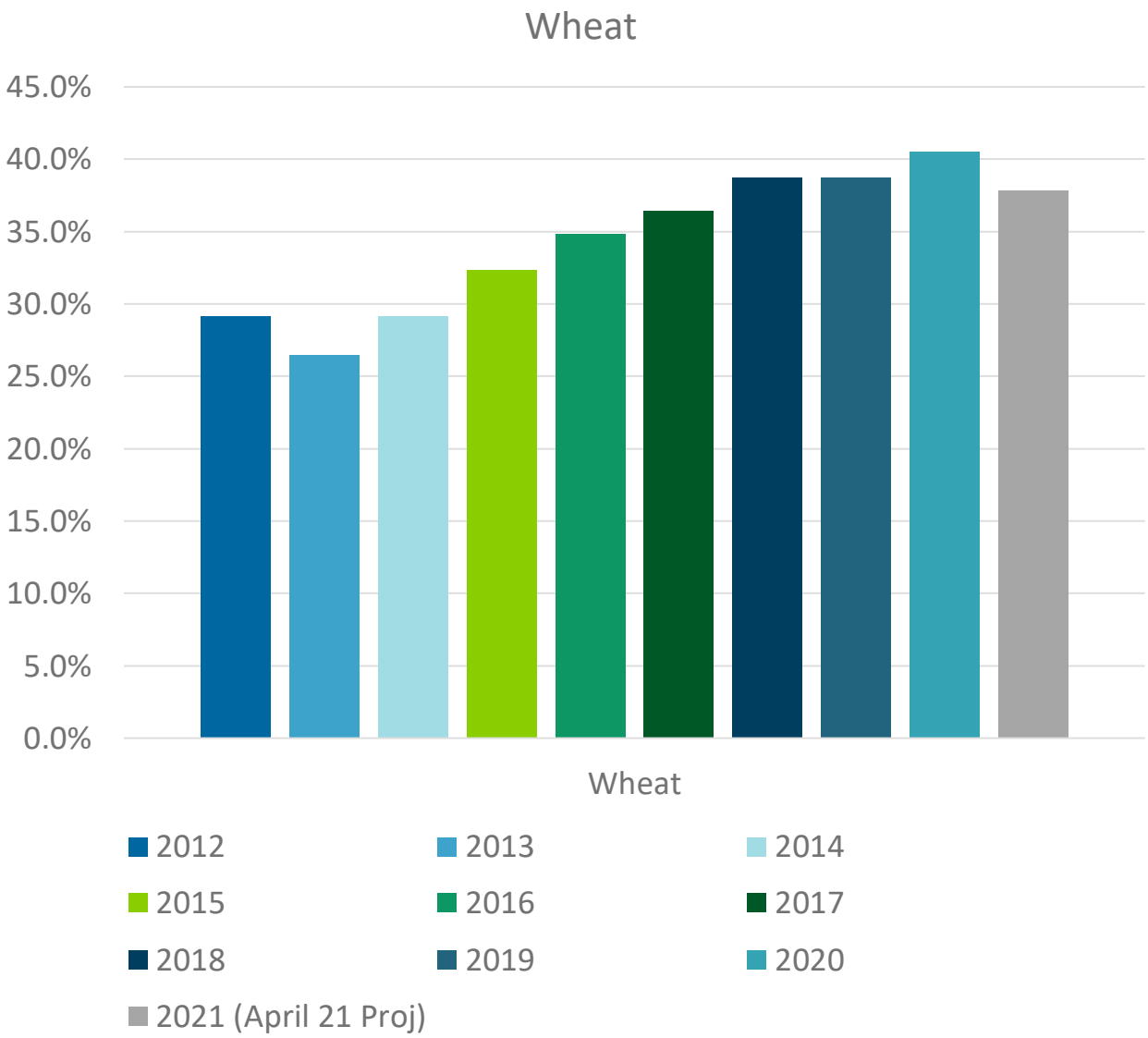
Oilseed Prices



Grain Prices



# Stock to use ratios have declined for oilseeds & oil





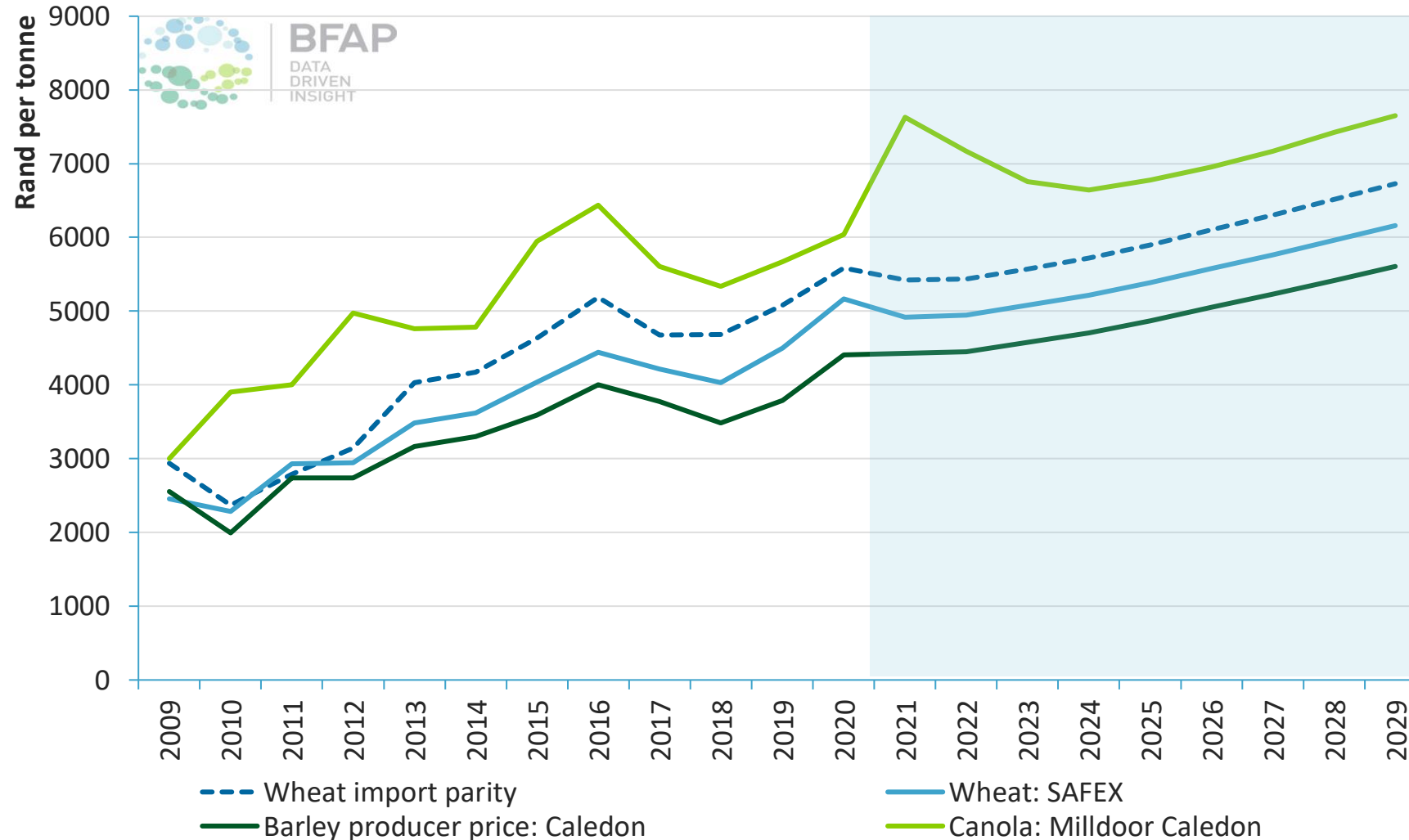
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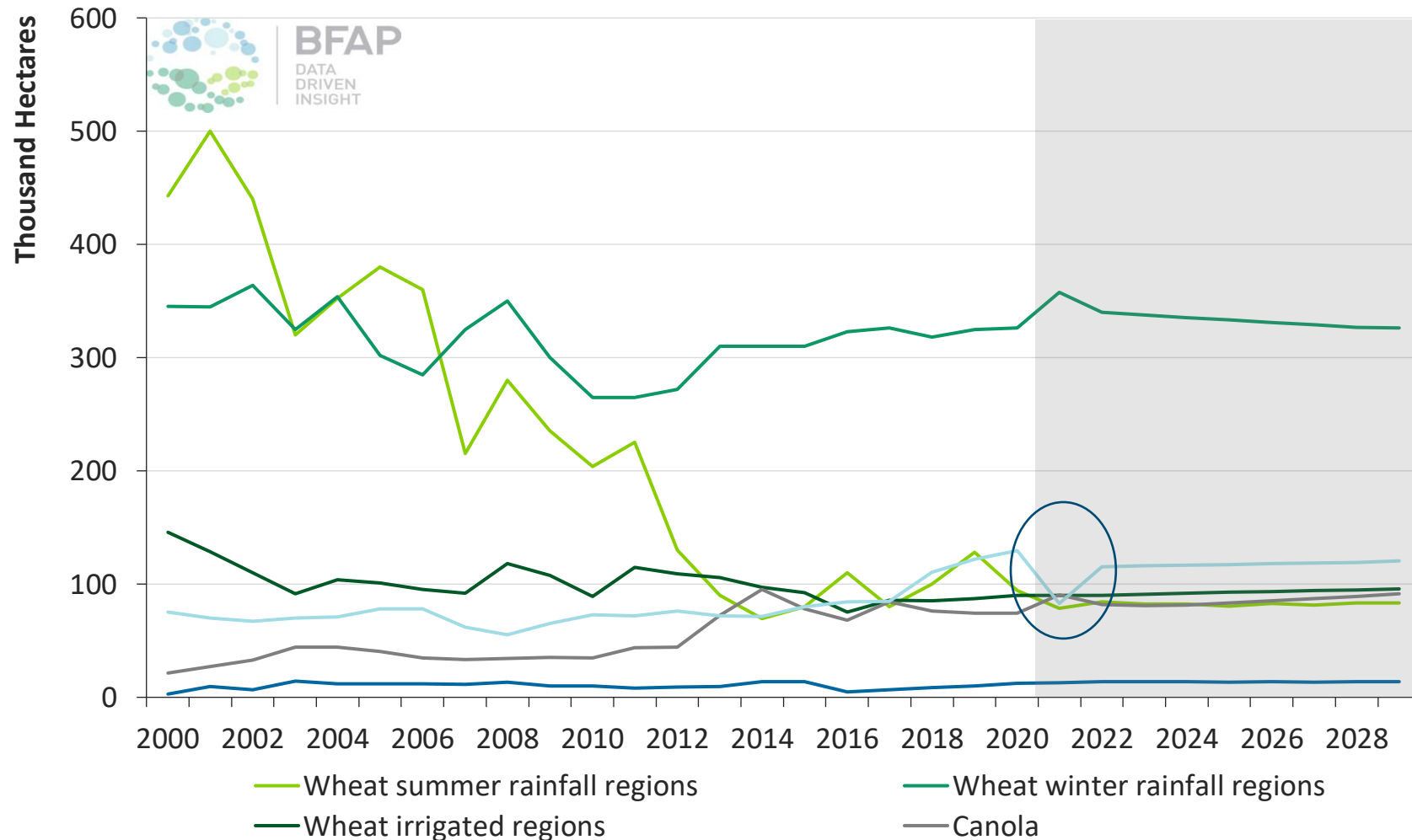
# Baseline: Winter Crops

# Winter crop prices



- ❖ Strong influence from world prices, as well as exchange rate dynamics
- ❖ Canola price supported by very high global prices for vegetable oils – which also supports underlying oilseed prices
- ❖ Current world price dynamics less influential on wheat prices, due to variable import tariff, which supported domestic prices prior to international price run

# Winter crop area projections

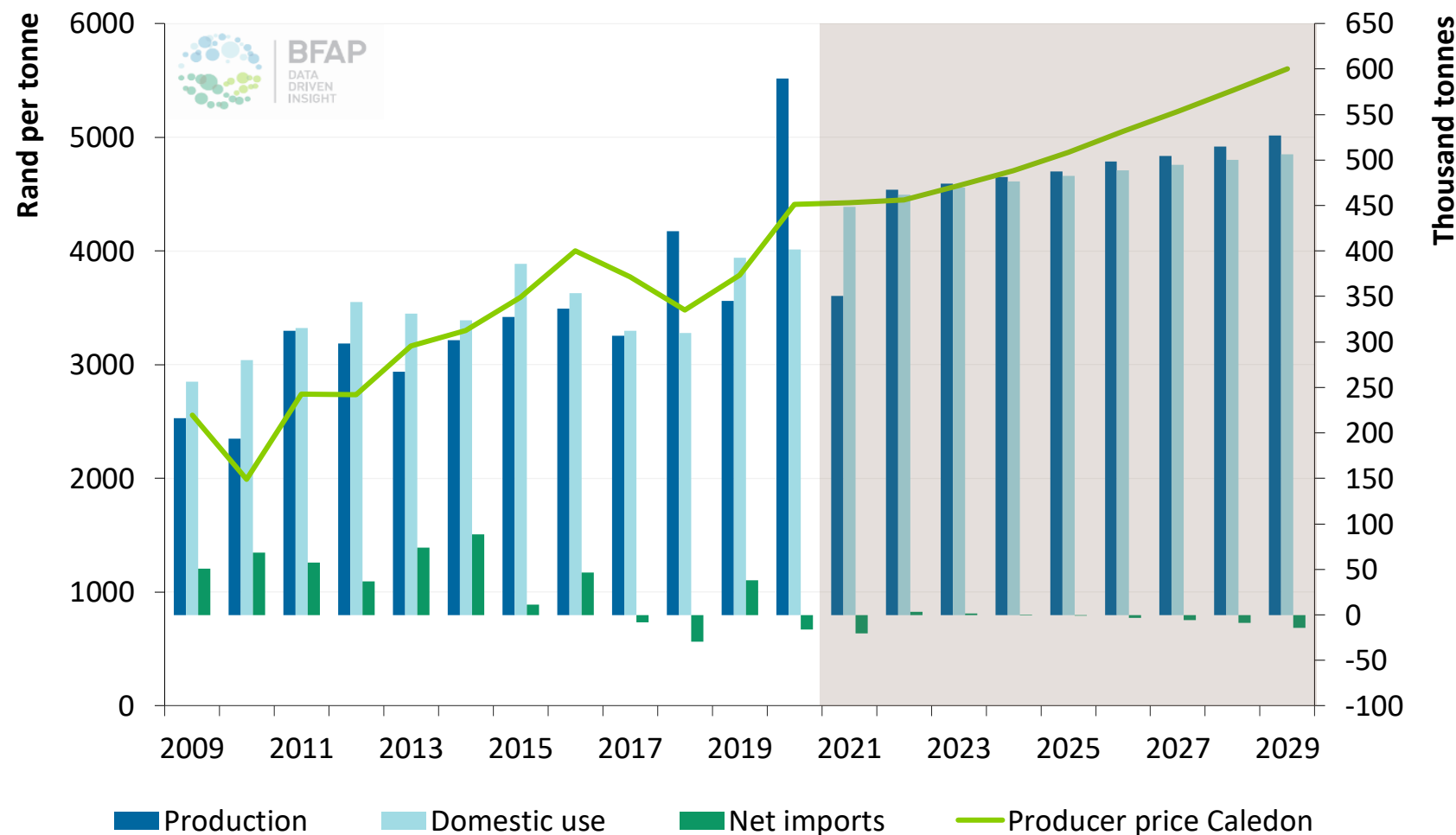


Barley area is projected to decline by 50 thousand hectares (38%) in 2021, due to stock build up following reduced maltings through COVID-19 lockdown and weak demand

High vegetable oil and oilseed prices, combined with good yields in 2020 supports a strong projected expansion in canola area

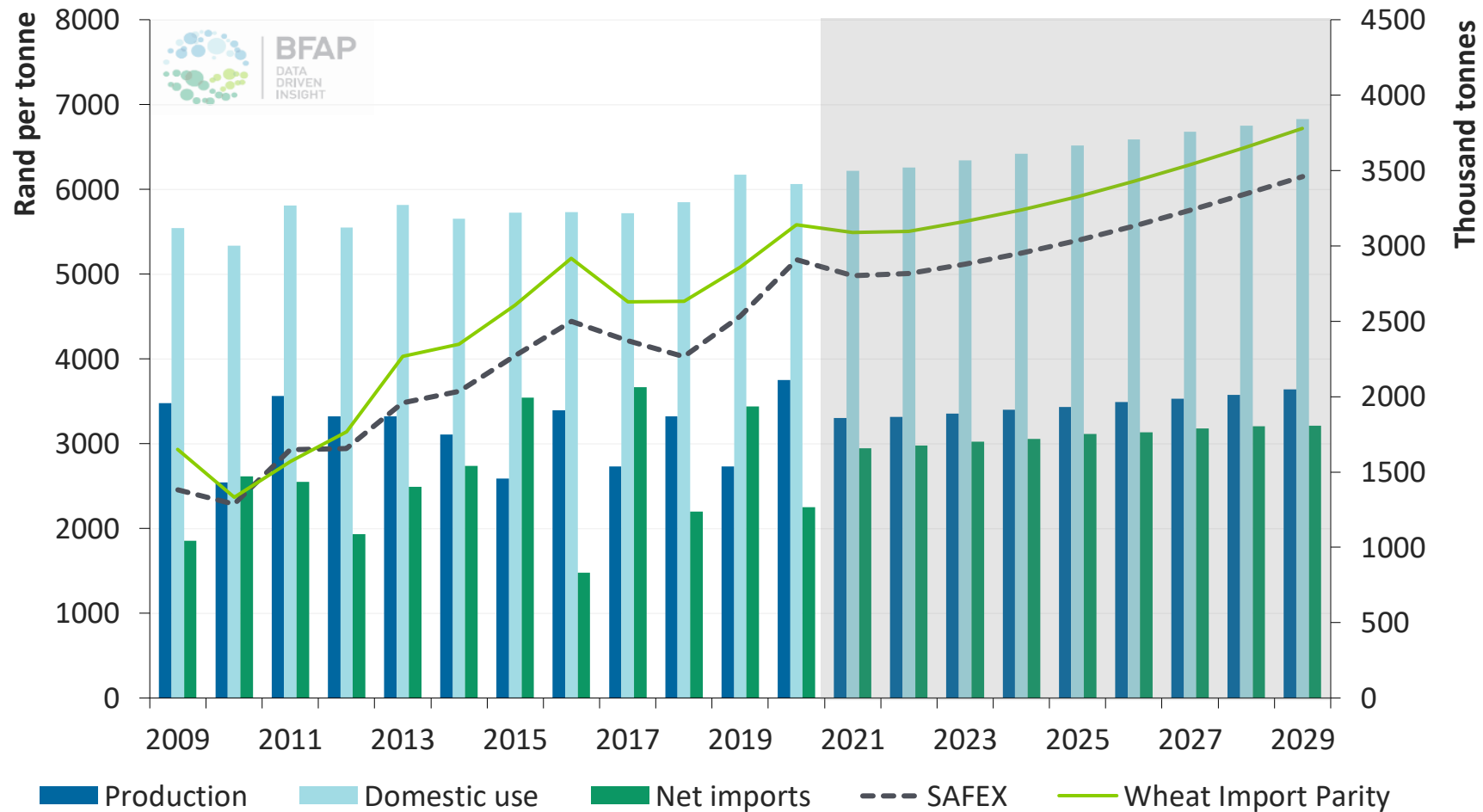
Substantial share of area previously under barley will also move into wheat, as well as other crops such as oats and lupins

# Barley balance sheet



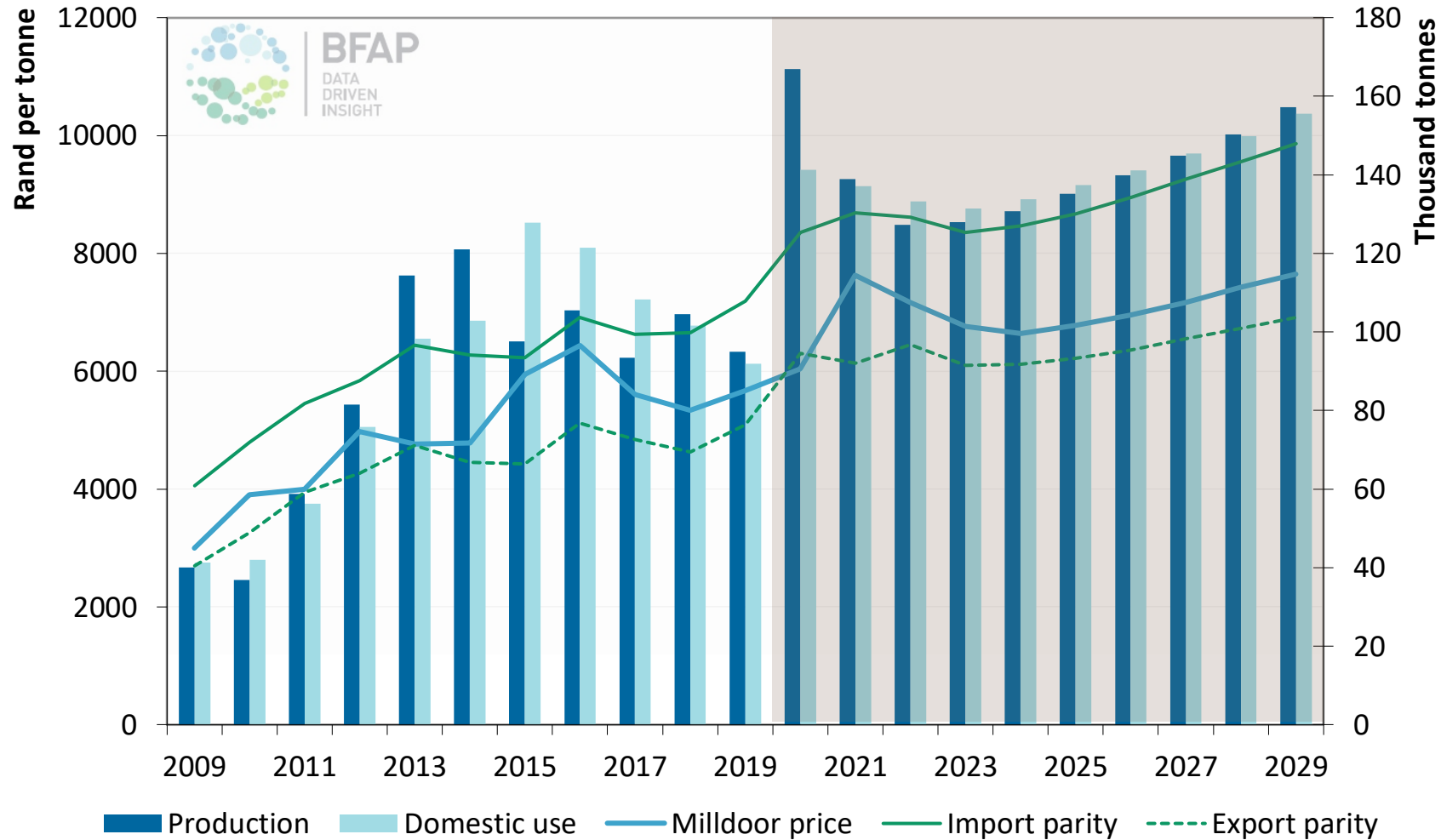
- ❖ Record harvest in 2020, due to area expansion and record yields in the Western Cape
  - ❖ Maltings reduced due to lockdown
  - ❖ Significant share of total production ended in feed market
- ❖ Carryover stock, which was already high in 2019, increased sharply in 2020, resulting in massive reduction in production mandates in 2021
- ❖ Some normalisation in area and production from 2022 onwards, but area remains below 2019 & 2020 levels in medium term
- ❖ Lockdown and alcohol sales bans associated with COVID-19 could influence domestic procurement agreements in future..
- ❖ Possible malt exports into rest of Africa in future

# Wheat balance sheet



- ❖ Price remains below HRW Import parity – origin of imports & duty free quota from EU
- ❖ Expanding population & urbanisation supports growing domestic use over time
- ❖ Stronger exchange rate in 2021 results in small short term price reduction
- ❖ Imports decline sharply in 2020/21 on the back of record yields domestically
- ❖ Significant area increase in Western Cape in 2021, as producers switch away from Barley

# Canola balance sheet



- ❖ All time record harvest in 2020, despite stable area – national average yield exceeded 2 t/ha for first time ever
- ❖ Sharp increase in area in 2021 as producers shift away from barley
- ❖ Price support from very bullish global vegetable oil market in 2021 – improves profitability relative to other winter crops
- ❖ Value in rotation remains important
- ❖ Introduction of new cultivars expected to improve profitability relative to other winter crops over coming decade



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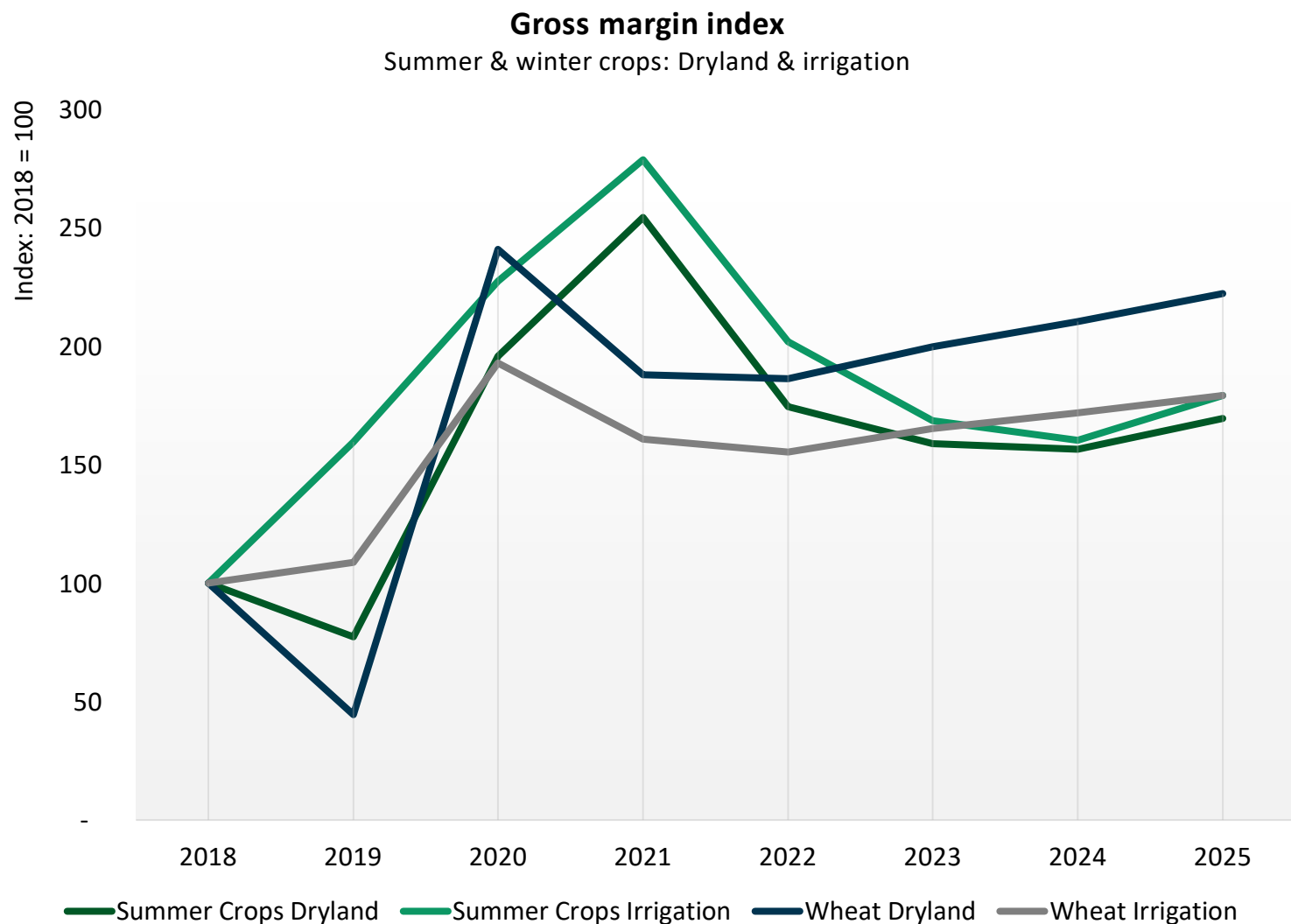


# Farm-level update

Gross margins for winter crops under  
dryland conditions & irrigation

# Summer & winter crops: Gross margin index

Dryland & irrigation: 2018 - 2025



## Gross margin index summary:

- ❖ Graph represents an index (base = 2018) for summer & winter crops produced under dryland & irrigated production systems over the period from 2018 – 2025 (2021 – 2025 projected)
- ❖ Globally, agricultural commodity prices have increased sharply since mid-2020. FAO Food Price Index, which is indicative of underlying agricultural commodity prices, increased steadily since June 2020, but then accelerated rapidly in recent months
- ❖ By March 2021, the FAO index had increased almost 25% relative to March 2020, mainly driven by vegetable oil prices (+86% yoy), sugar (+30% yoy), cereals (+26% yoy) and dairy products (+16% yoy)
- ❖ These price increases resulted from various demand and supply dynamics, which combined to form somewhat of a perfect storm:
  - ❖ Import demand from China has been particularly strong, for both maize and soybeans. This is predominantly due to the rapid rebuilding of its pig herd, which was reduced by roughly 30% in 2019 by the outbreak of African Swine Fever
  - ❖ Strong import demand has reduced US maize stocks sharply, heightening the price effects of concerns around the coming South American crop due to dry weather
  - ❖ Other important supply side factors include reduced palm oil production, exacerbated by labour shortages in Malaysia, caused by COVID-19 related travel constraints
  - ❖ Sunflower seed harvests in the Black Sea region were also below average, due to weather related challenges, and persistent drier weather in South America raised concern about soybean supply

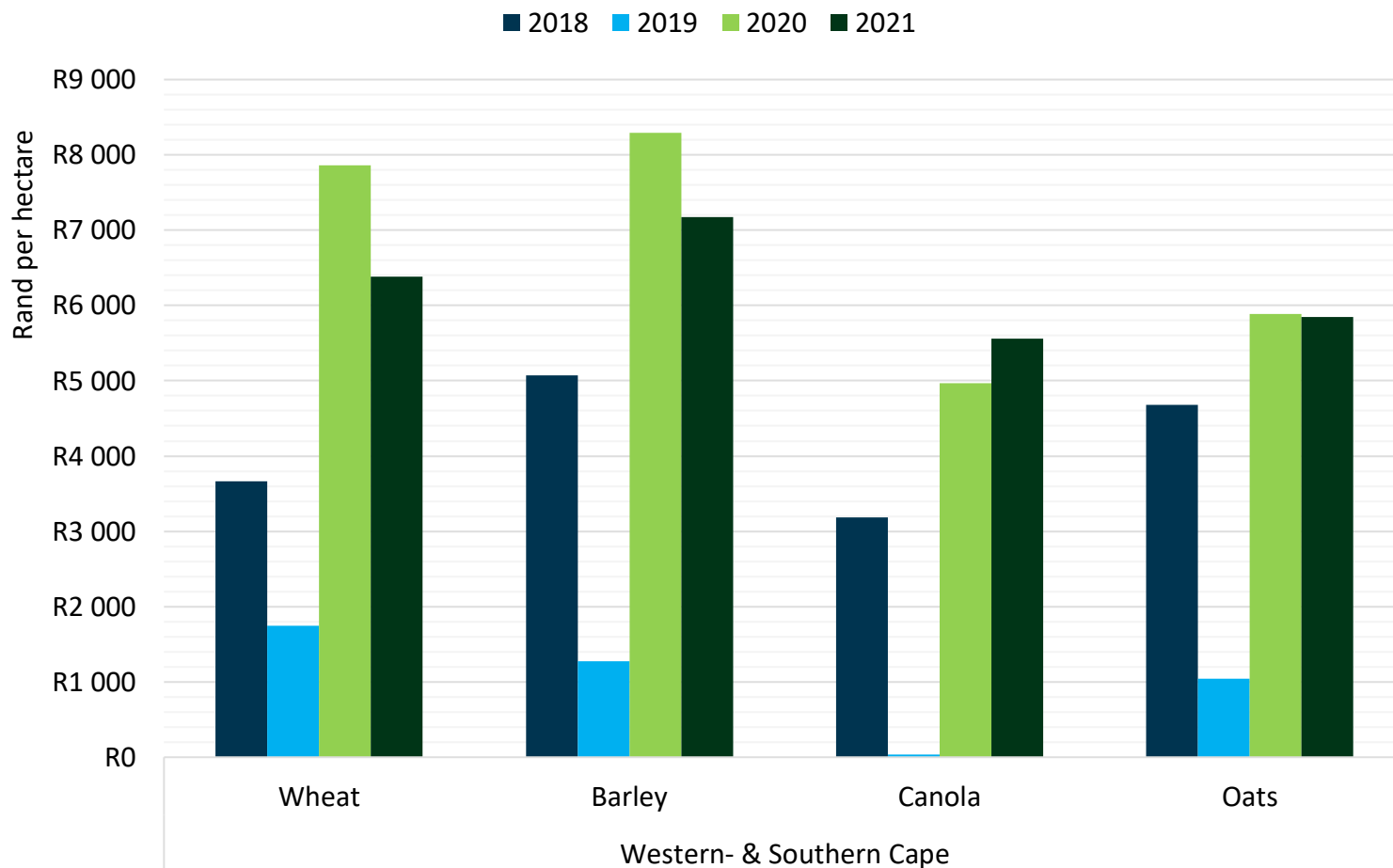
# Average Gross Margins: 2018 - 2021

Weighted average for Western- & Southern Cape (dryland producing regions)



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Western & Southern Cape: Winter crop gross margins



## Gross Margin Summary:

- ❖ Objective: To measure gross margin performance between enterprises across time. Graph illustrate a weighted average gross margin by crop for key agro-ecological producing regions in the Western- & Southern Cape (8 dryland regions)
- ❖ The gross margin illustrates the funds available after direct expenditure has been accounted for, hence, what is left to cover overhead expenditure, land rent & owner remuneration
- ❖ Wheat & barley to continue robust performance relative to 2018 & 2019, however, lower compared to the bumper crop in 2020. In the case for barley, it is important to note that 100% of production = malting grade. Canola margins projected to increase by 12% from 2020, underpinned by a higher contracted price assumption (with back-payment) for the 2021 season

## Technical notes:

- ❖ Wheat and barley price formulas have changed from 2018
- ❖ It is acknowledge than although exceptional yields were achieved in 2020, that quality was lower relative to 2019. As accurate data is collected regarding protein distribution & barley feed-grade by region, the historic gross margins will be updated
- ❖ The gross margins reflect the deterministic outcome which relies on a set of assumptions. These assumptions include that normal rainfall will prevail over the season, targeted yields will realise and for the case of barley, that the targeted yield will be of malting barley quality. It is key to note that risk still remains that wheat & barley grades can be lower. A separate analysis through simulation models can be conducted to incorporate risk elements, such as grade differentials & the implication on profitability

Source: Own calculations using data from Overberg Agri, SSK & Kaap Agri, 2021



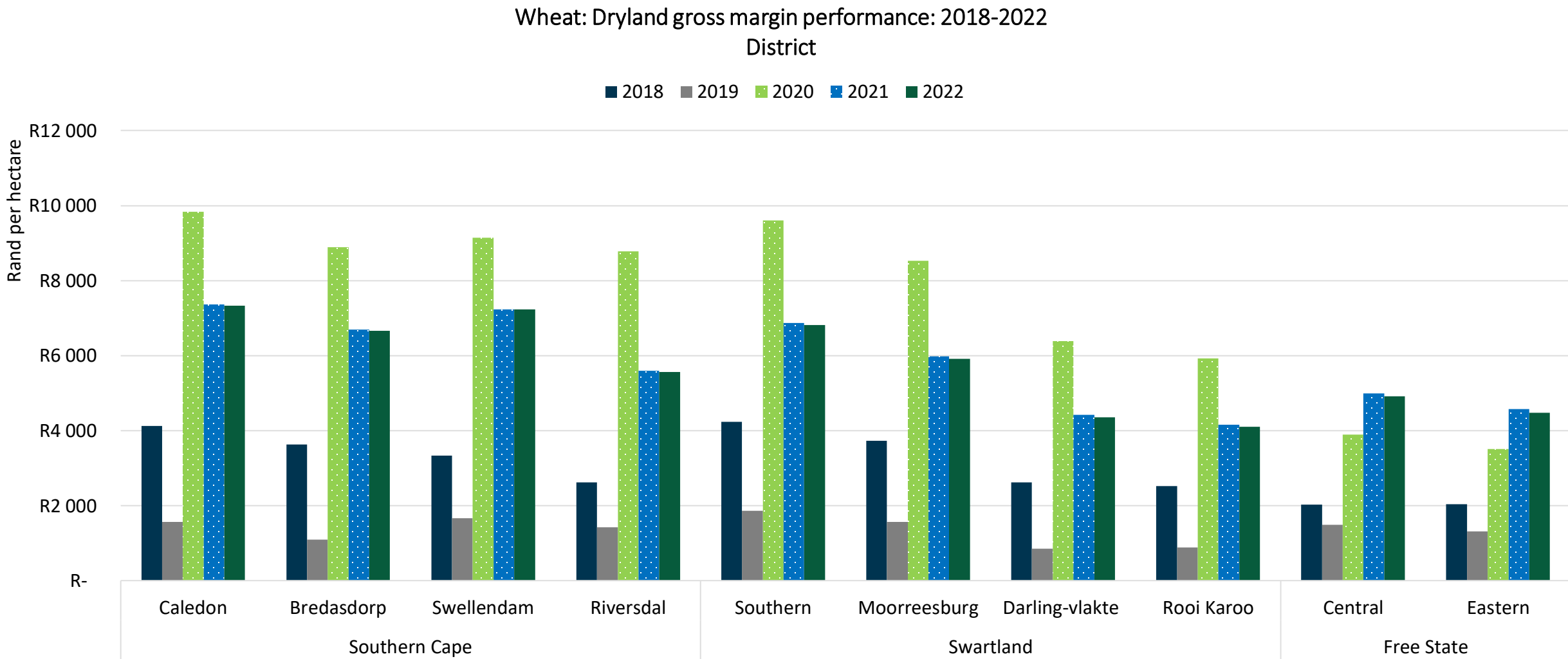
Bi-annual Scenario Planning – May 2021

# Regional Wheat Gross Margins: 2018 - 2022

Robust performance in wheat gross margins projected to continue



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Source: Own calculations using data from Overberg Agri, SSK & Kaap Agri, 2021

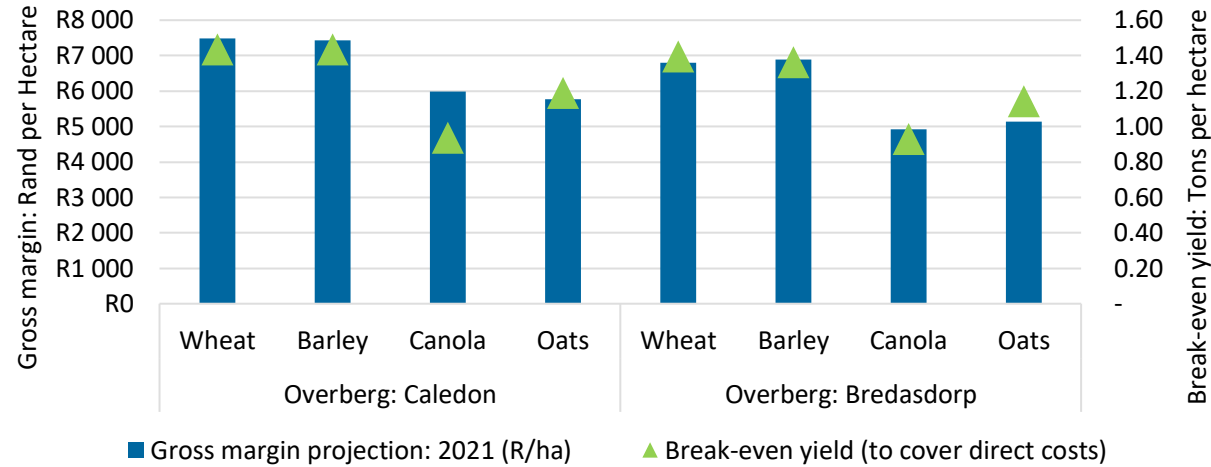


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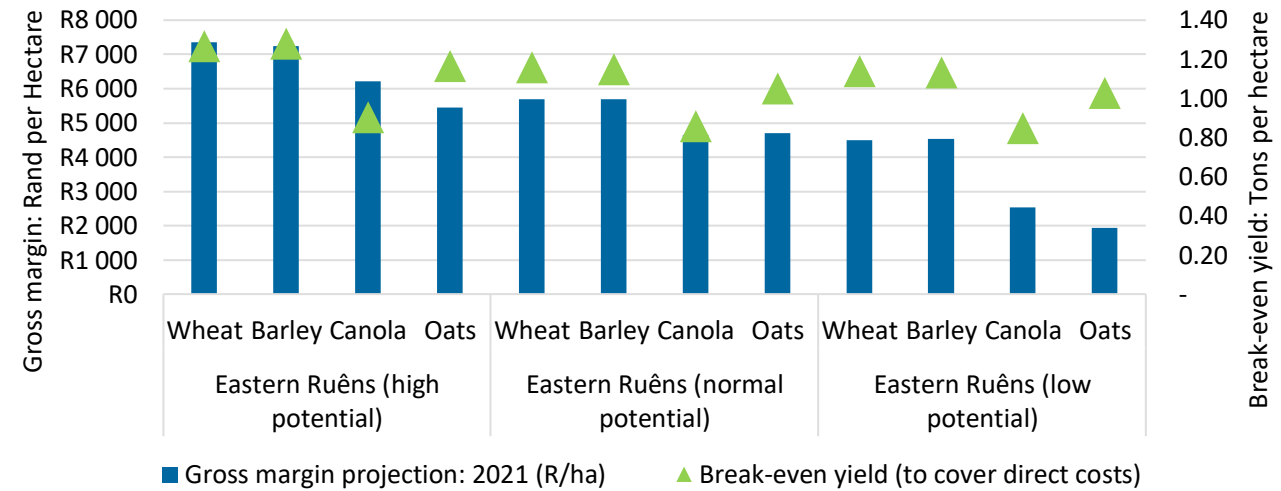
# Gross Margins: All Crops

## Western-, Southern Cape & Free State - Dryland

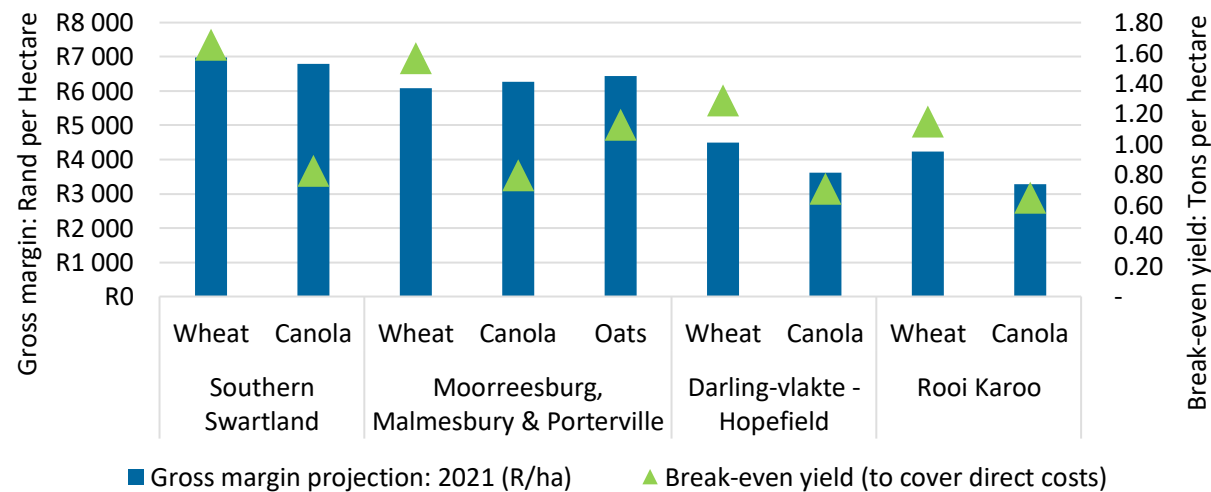
Caledon & Bredasdorp



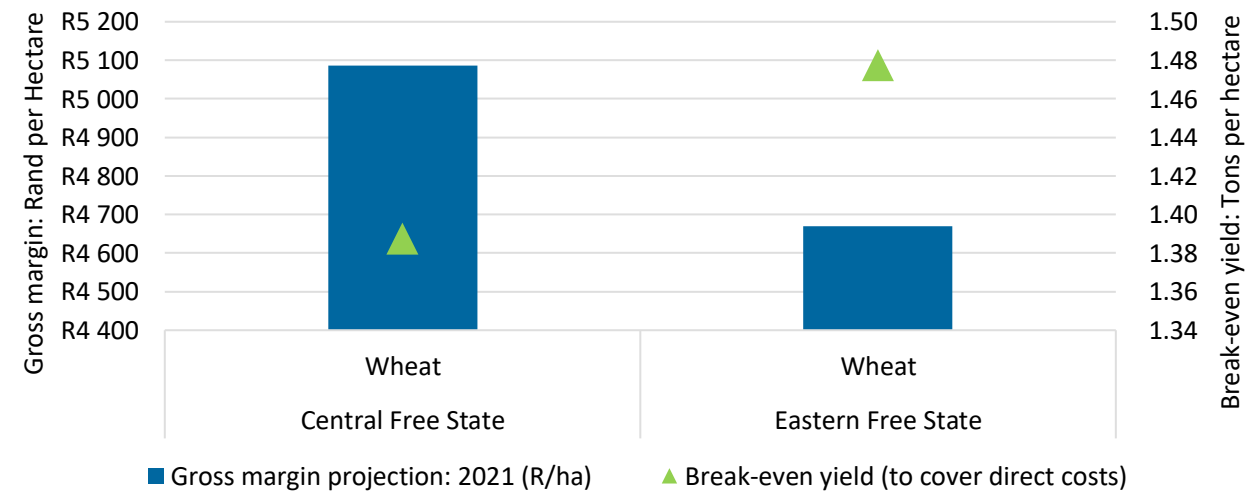
Eastern Ruëns



Swartland



Free State

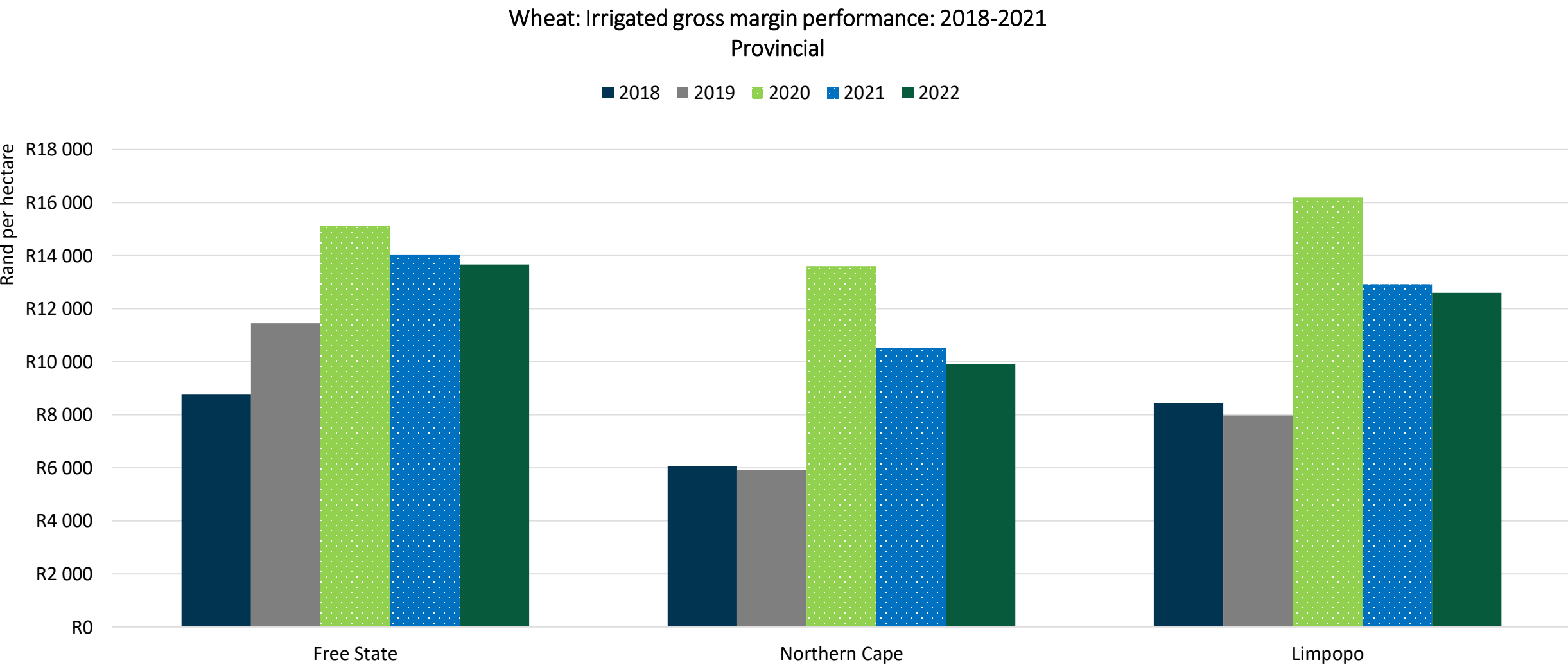


Bi-annual Scenario Planning – May 2021

Source: Own calculations using data from Overberg Agri, SSK, Kaap Agri & VKB, 2021

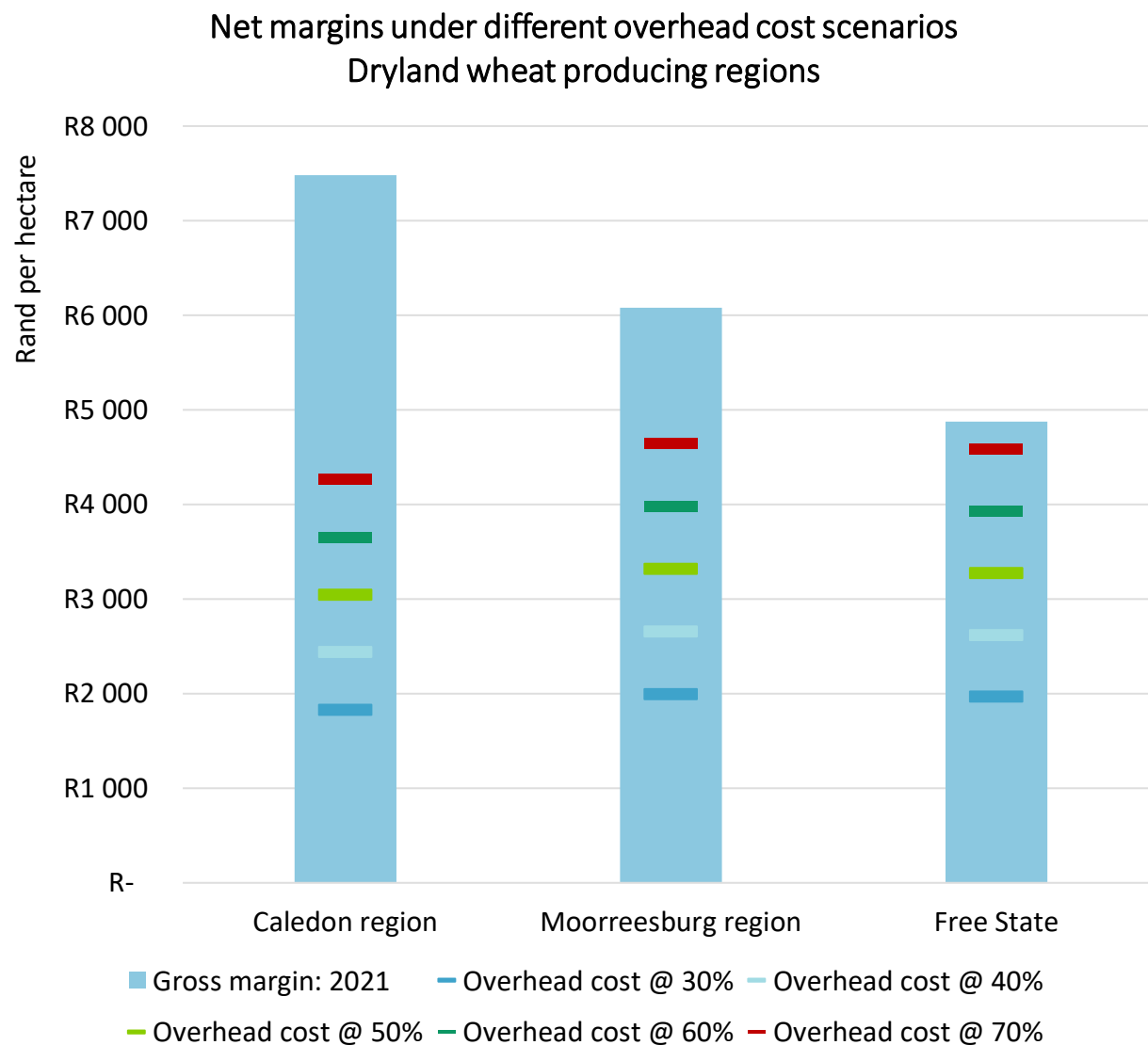
# Gross Margins: Irrigated Crops

## Free State, Northern Cape & Limpopo



# Farm-level Profitability: Overhead costs consideration

The importance of accounting for overhead costs in farm profitability



## Overhead costs considerations:

- The calculation/quantification of overhead costs is often a complex task due to large variations from farm to farm in overhead structures, land rent, capital intensity, production system approach, crop diversity & area, labour requirement & owner remuneration
- The methodology to allocate overhead costs to a specific crop will also differ from farm to farm
- Overhead costs should be accurately accounted for in the enterprise budget in order to determine the relative competitiveness & profitability of a crop and farm
- The analysis serves only as an example, but more importantly, a reminder to carefully assess the overhead cost composition when calculating farm profitability

## Examples:

- The figure illustrates the gross margin projection (blue bars) for 2021 for dryland wheat producing regions in Caledon, Moorreesburg & Free State
- These gross margins ultimately represent the available cash to cover overhead costs, farm investments & owner remuneration
- Overhead costs are presented as a percentage of total direct costs. The graph shows 5 scenarios, ranging from 30 – 70% of direct expenditure. For instance, in Caledon, a 30% overhead cost assumption would amount to R1,827/hectare. Total cost (direct + overheads) would amount to R7,919/hectare with a net margin of R5,651/hectare



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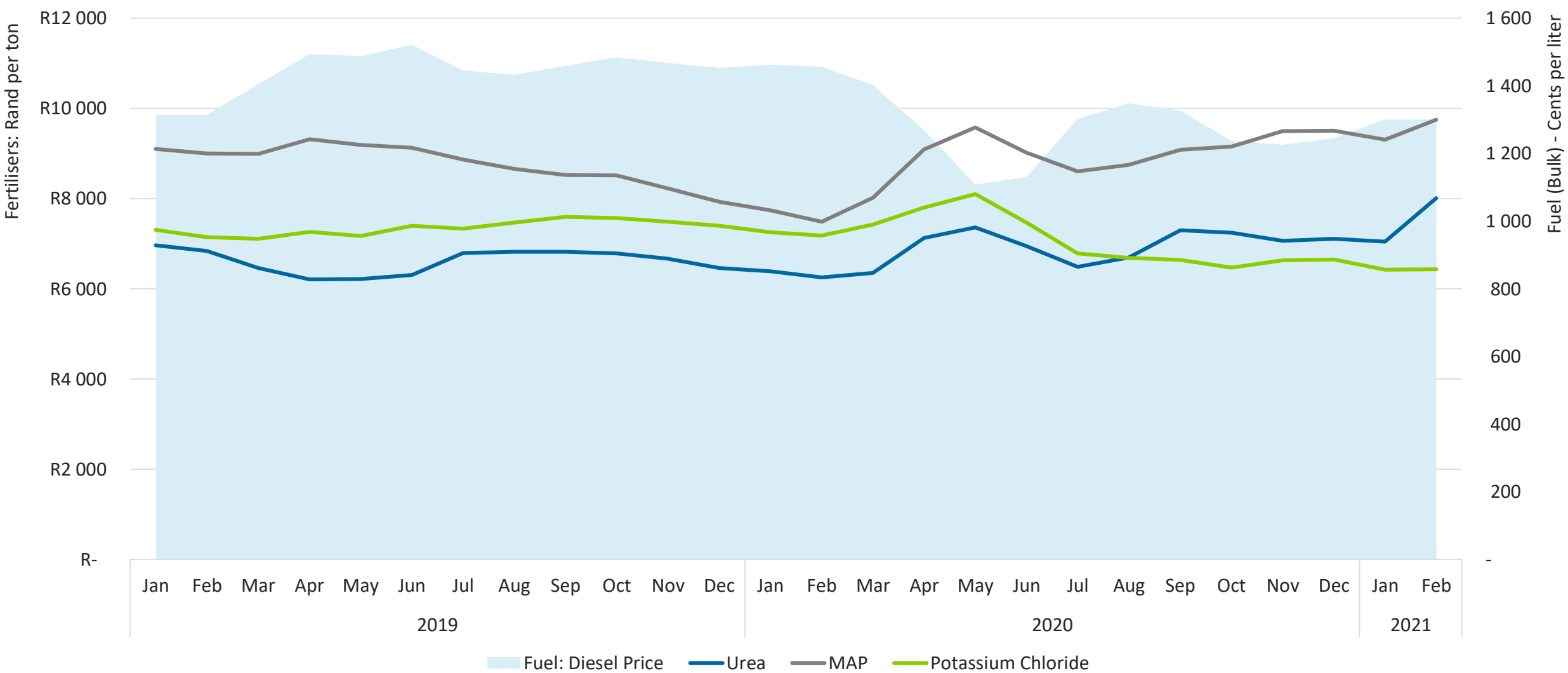
# Input cost trends

# Input cost trends

Fertiliser & diesel price trends: 2019 - 2021



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Source: Grain SA, 2021



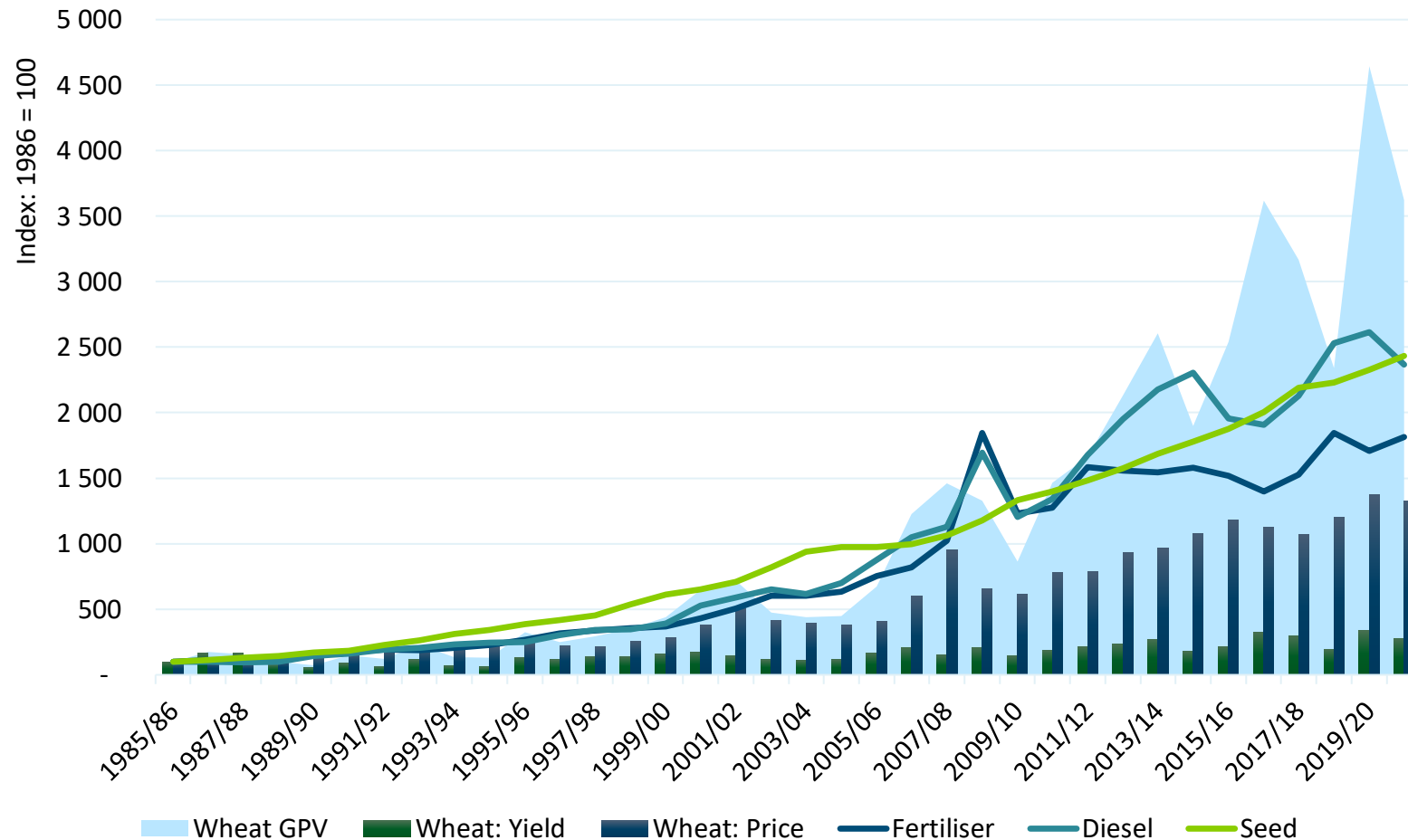
Bi-annual Scenario Planning – May 2021

# Input cost trends & wheat GPV

Measuring the cost-price squeeze

## Production cost inflation vs. wheat turnover indicators

Nominal



Source: Own calculations using data from Grain SA, 2021

## Production cost inflation vs. wheat turnover

- ❖ Graph represents indices (base year = 1986 = 100) for fertiliser, diesel, seed & machinery on the input side and wheat yield, price & turnover on the commodity revenue side
- ❖ Objective is to measure whether the cost of inputs has increased at a faster rate relative to turnover indicators (price, yield & revenue)
- ❖ From the indices, wheat dryland yield indicated the slowest pace over the period followed by price. However, the combination between these two shows the revenue or gross production value, which indicates a robust performance over the period, especially since the mid-2000's
- ❖ The dips in 2009/10, 2014/15 & 2018/19 was mainly driven by years associated with lower rainfall & lower yields



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# Wheat: Grade Differential

The implication of varying wheat grade  
differentials on gross margins:  
A sensitivity analysis

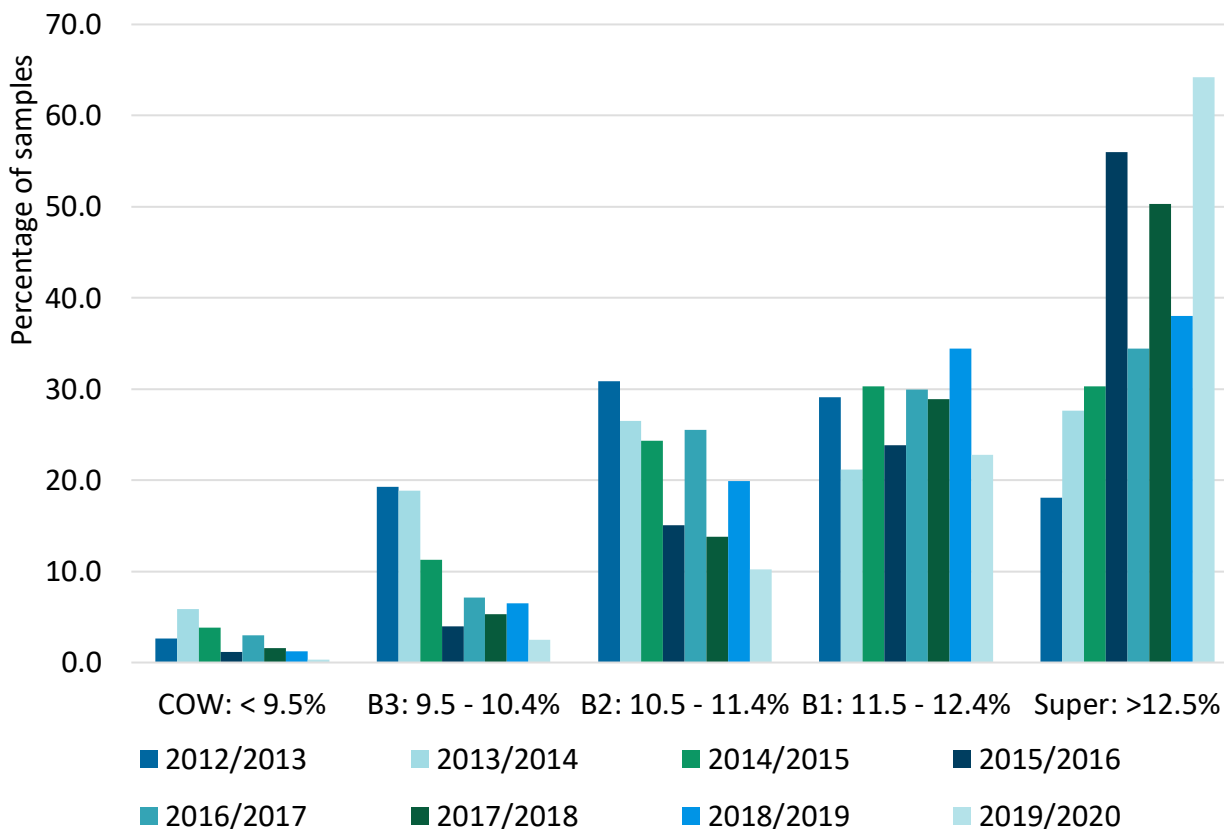
# Wheat grade differential: Protein distribution

New grading system more favourable for producers

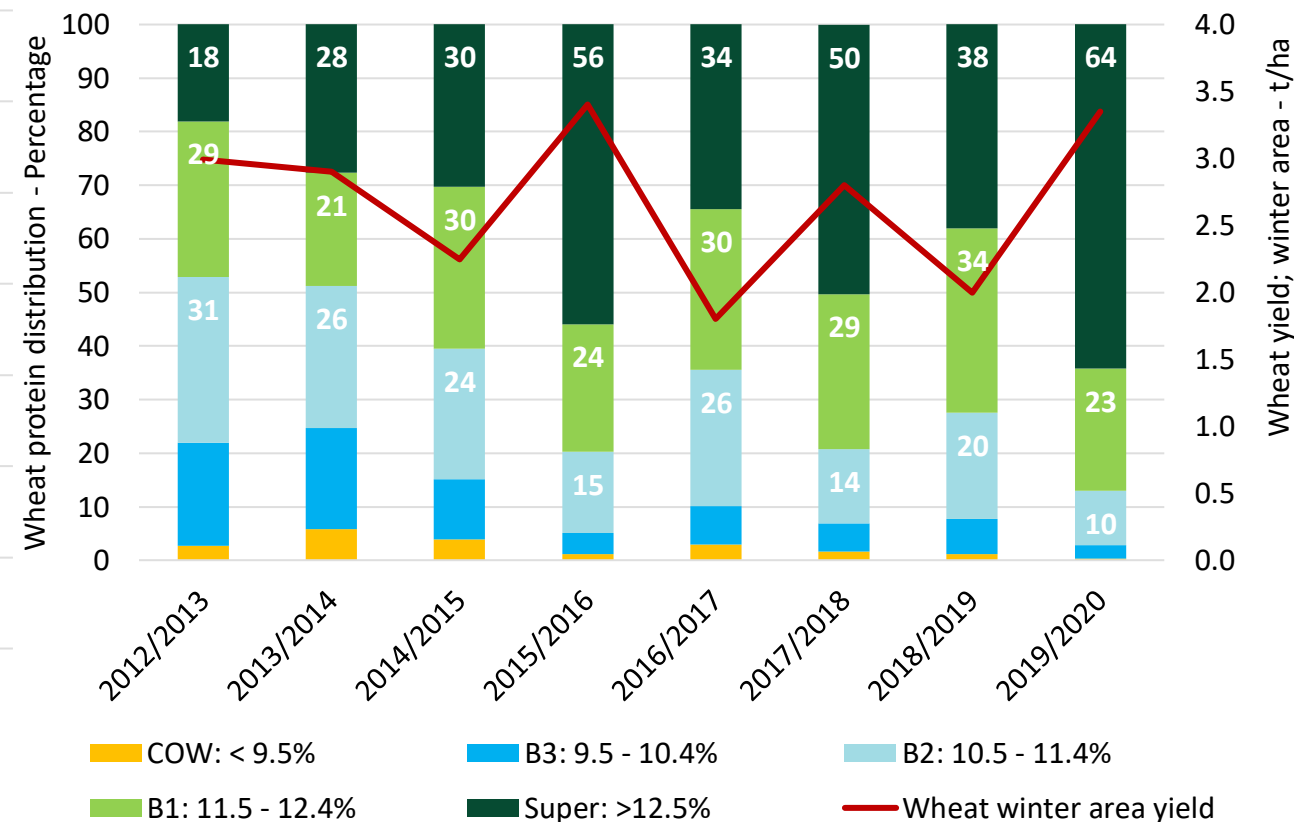


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National wheat protein distribution



National wheat protein distribution: 2012/13 - 2019/20



## National wheat protein distribution & grading over time:

- The graphs show the protein distribution & grading of wheat at national level over the period from 2012/13 to 2019/20 which is illustrated as the percentage of samples collected:
  - BS, B1, B2, B3 & class other wheat (COW)**
- Objective of the analysis is to quantify the grade differentials at farm-level & to construct sensitivity analysis to compute the impact on gross margin given various grading assumptions
- For the analysis, the 2021 projected gross margins are calculated & adjusted according to historic trends & stress-tests for possible future scenarios



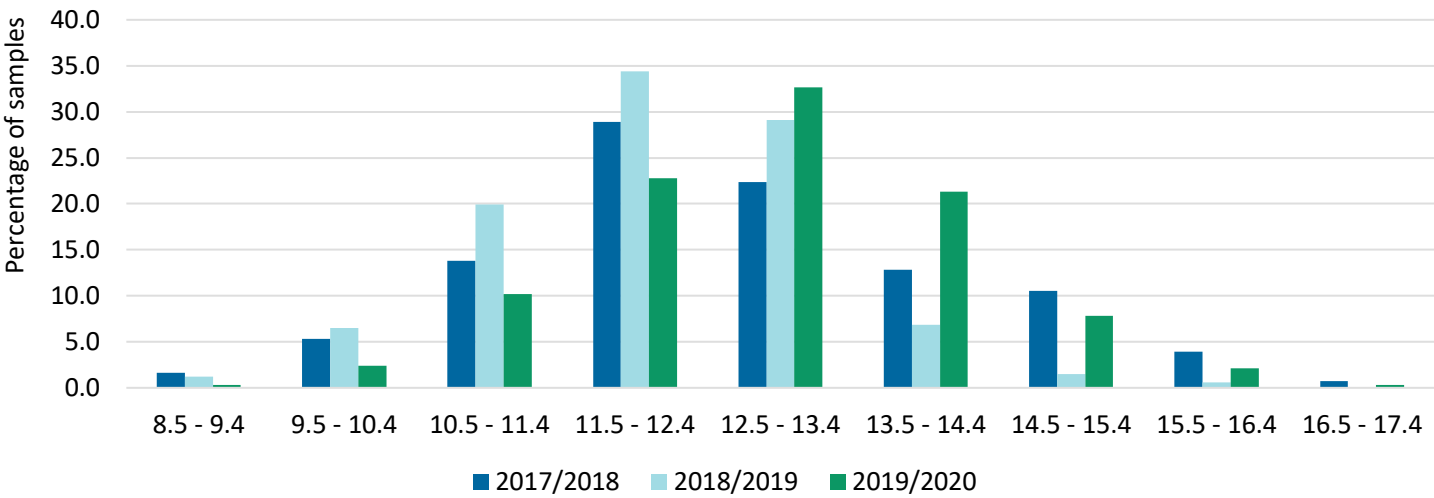
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Source: SAGL, 2021

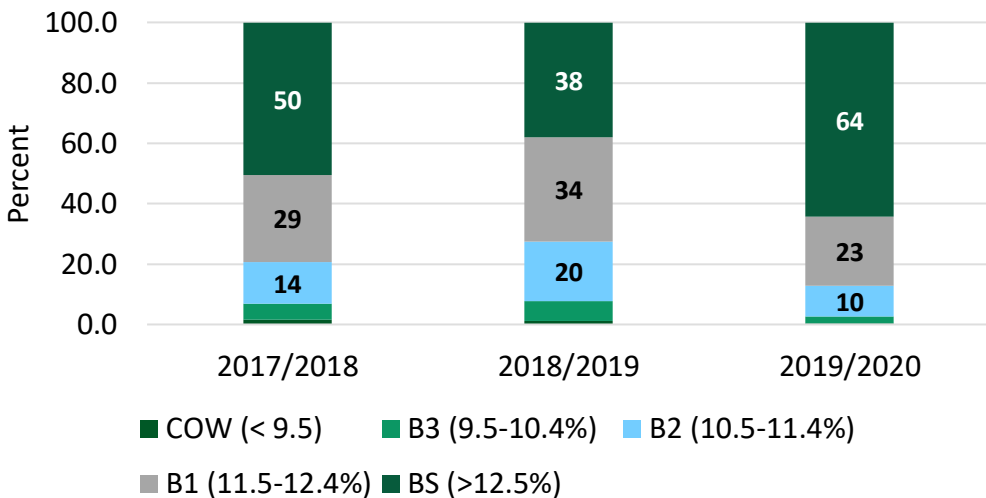
# Wheat grade differential: Protein distribution

National & region wheat protein distribution & quality grades

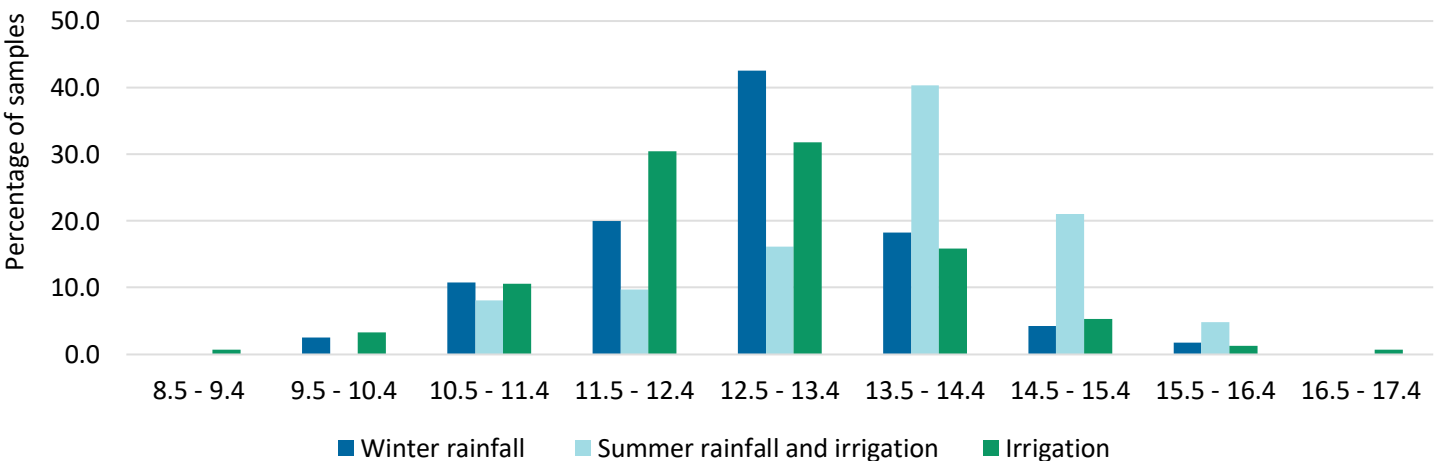
National: Protein content distribution



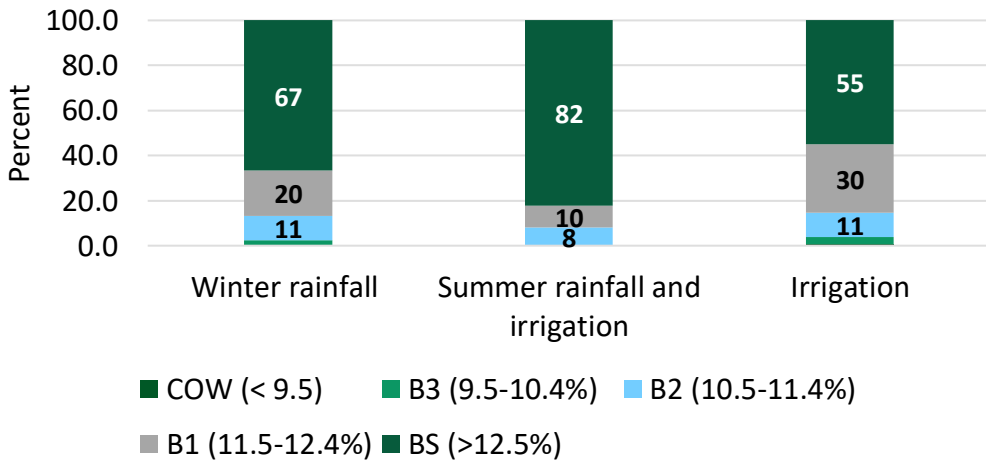
South Africa: Quality grading



Regional: Protein content distribution for 2019/20

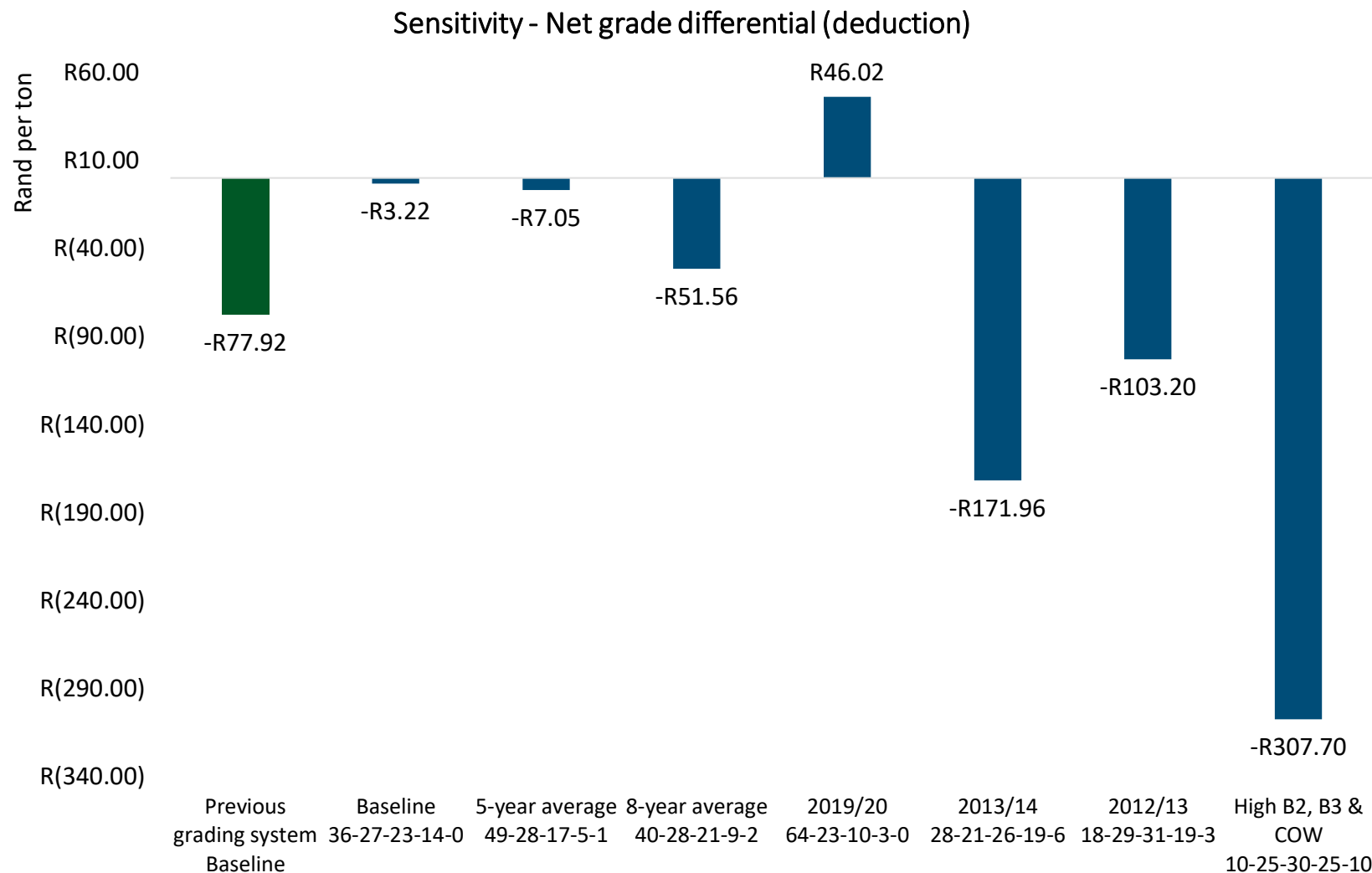


Regional: Quality grading for 2019/20



# Wheat grade differentials: Deductions

Sensitivity: Net deductions from wheat grade differential

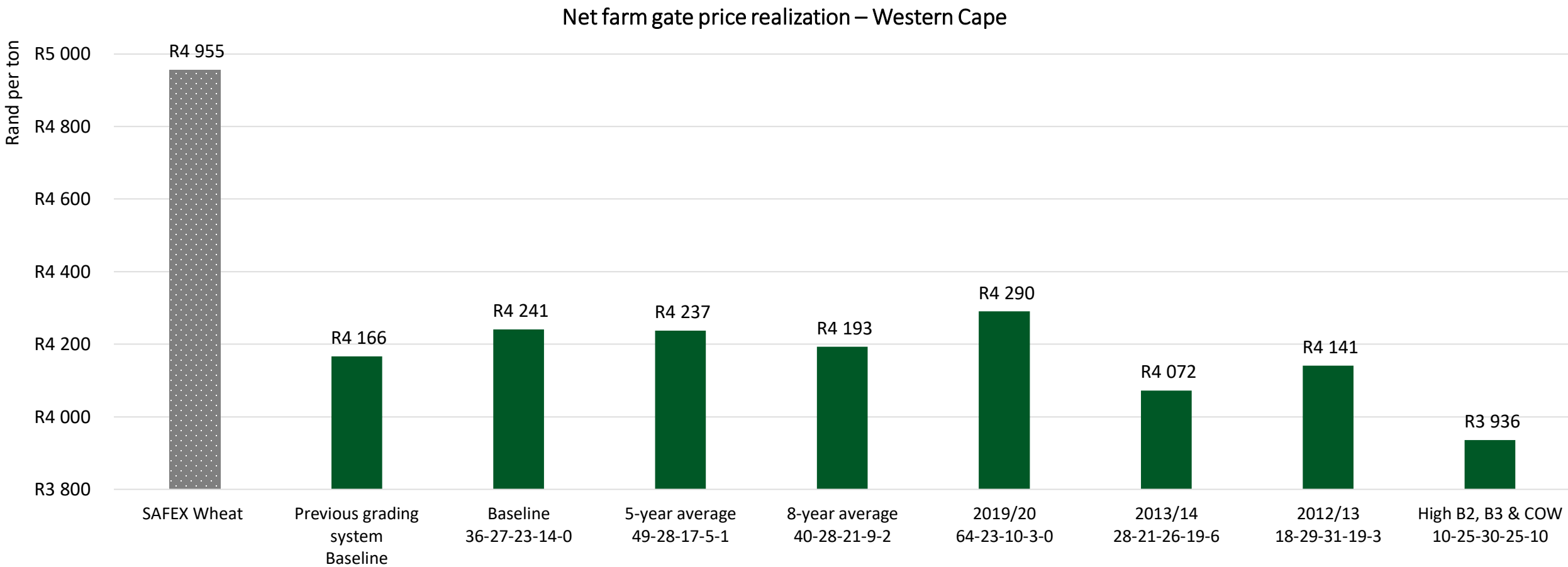


## Sensitivity on grade differentials:

- ❖ The graph shows sensitivity on the net deduction per ton that results from grade differentials:
  - ❖ BS: Premium of 2%
  - ❖ B1: PAR or no deduction
  - ❖ B2: 1% discount
  - ❖ B3: 4% discount
  - ❖ COW: 75% of yellow maize SAFEX
- ❖ The green bar illustrates the previous grading system's net deduction of R77.92/ton
- ❖ The baseline deduction represents the new system that compensates for delivering wheat that exceeds a protein content of 12.5%
- ❖ The remainder of the bars represents sensitivity surrounding historic protein distribution & scenarios
  - ❖ E.g. the 5-year average represents a protein distribution of BS – 49%; B1 – 28%; B2 – 17%; B3 – 5% & COW – 1%

# Grade Differentials: Net farm gate price

Net farm gate price comparison: All deductions



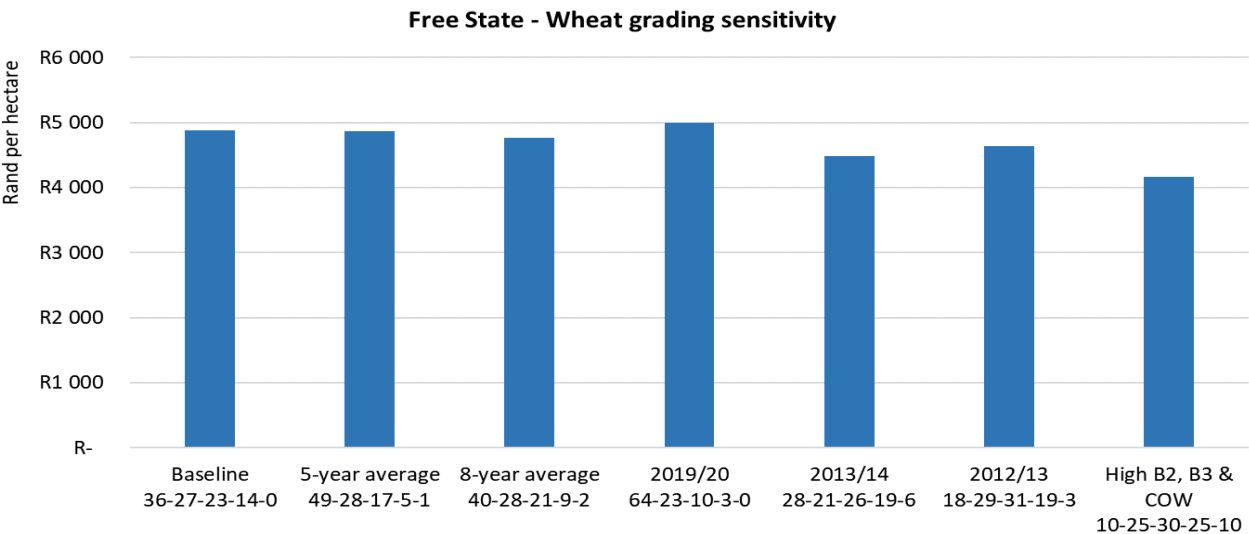
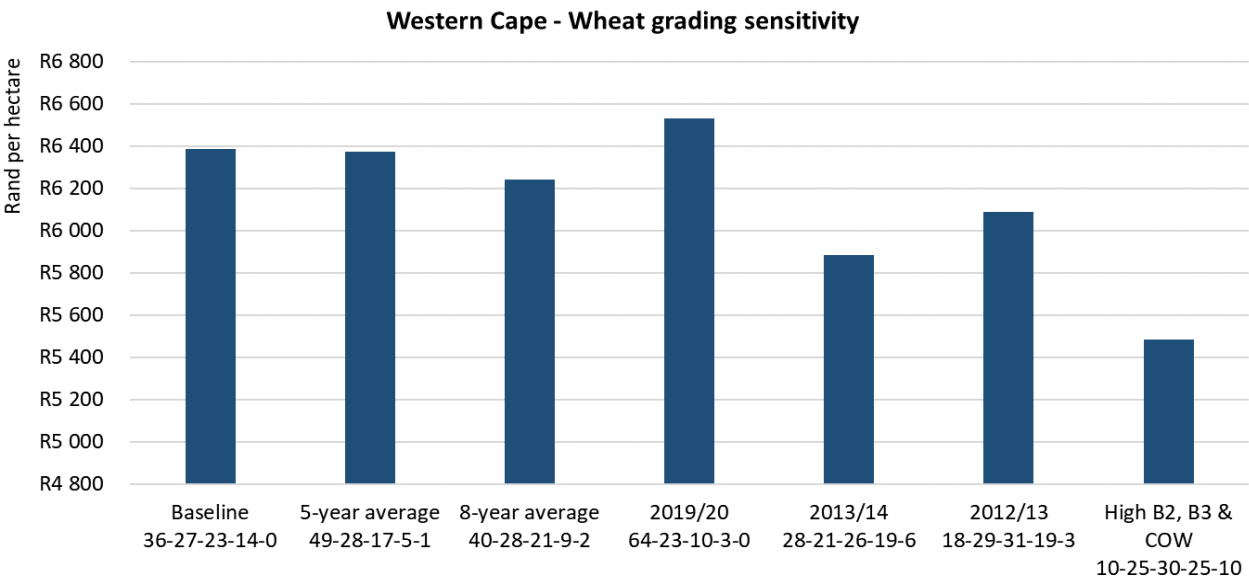
## Net farm gate price realisation:

❖ The graph shows the difference between the wheat SAFEX- & farm gate price which accounts for a grade & transport differential, silo handling fees, administration & levies



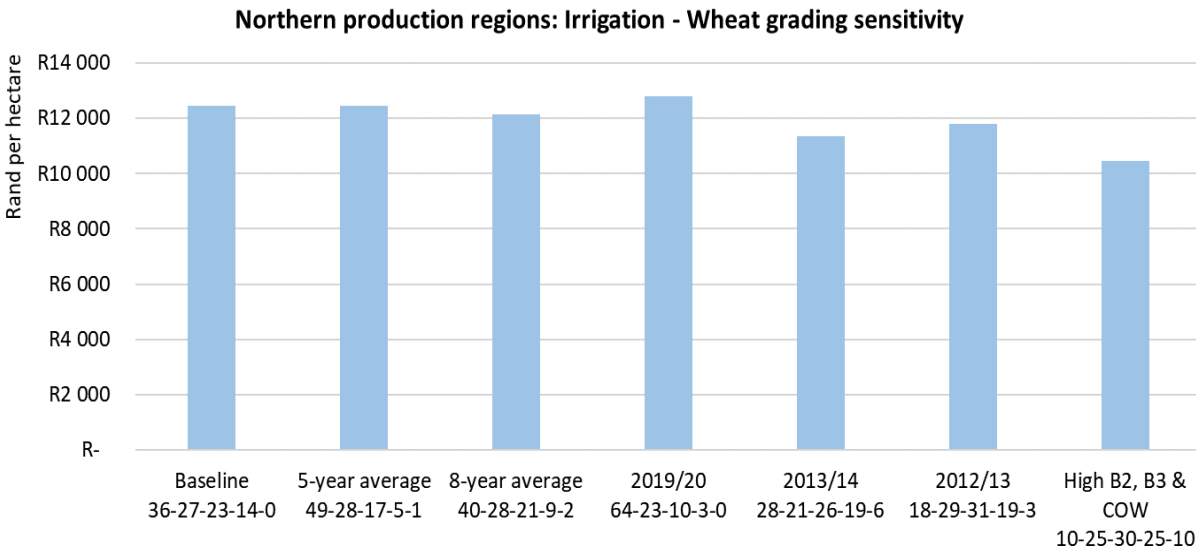
# Grade Differentials: Impact on Profitability

Gross margins for Western Cape, Free State & Irrigated producing regions



## Wheat grading sensitivity:

- ❖ The graphs show the gross margins for the 2021 production season given grading sensitivity for the Western Cape, Free State & Northern irrigation producing regions

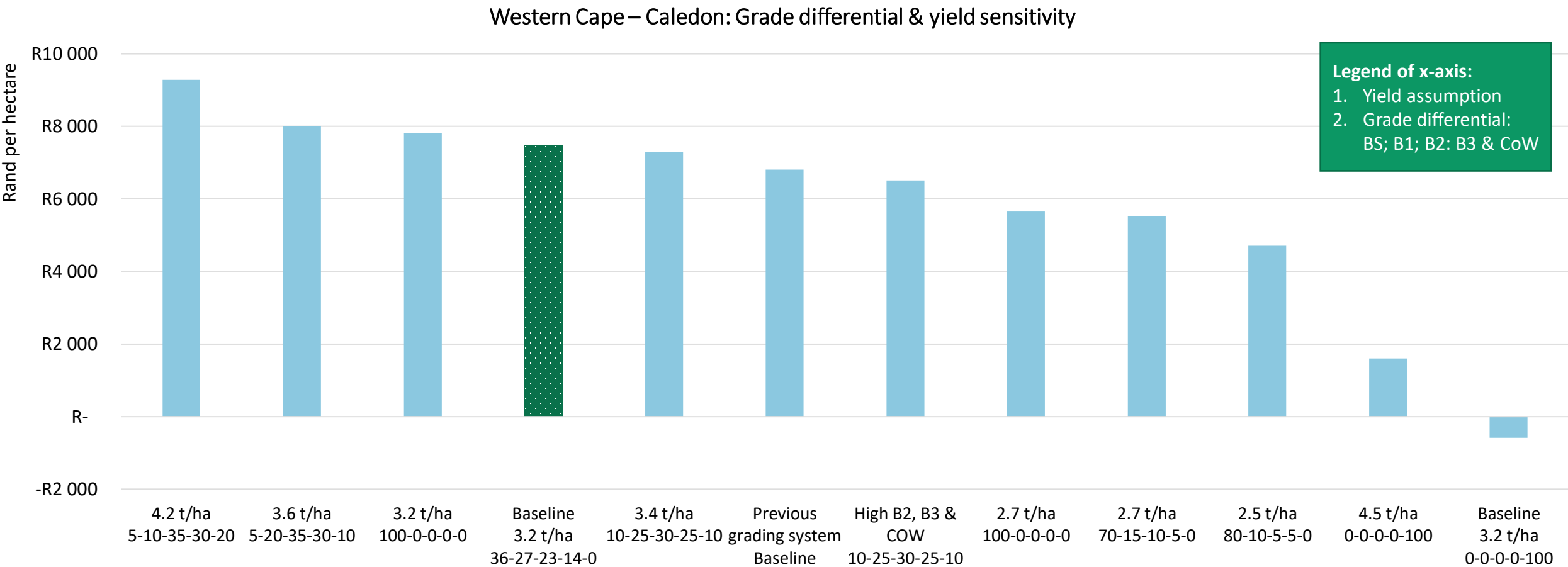


# Grade Differentials: Impact on Profitability

Gross margin sensitivity for Caledon region, Western Cape



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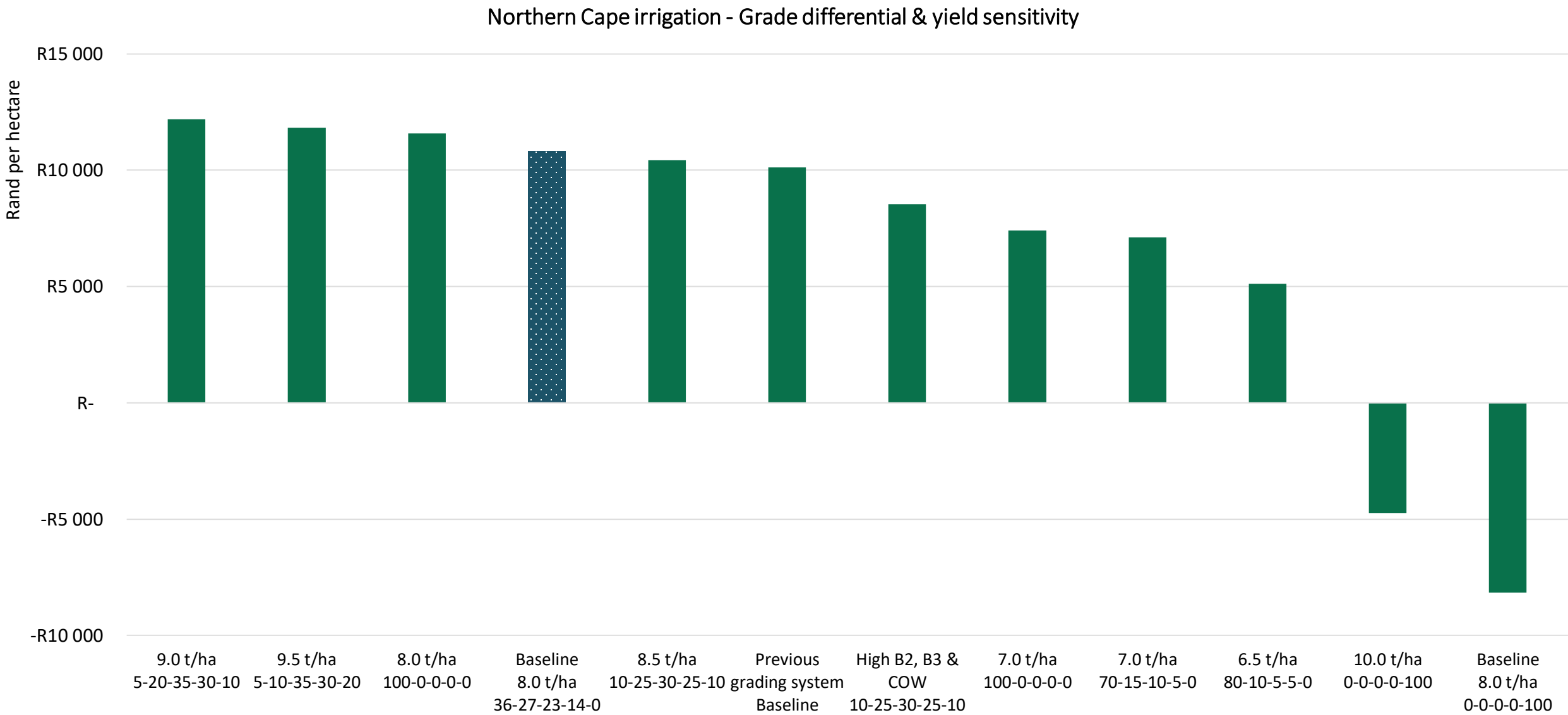


## Sensitivity analysis: Grading vs. yield in Caledon, Western Cape dryland producing region

- An arbitrary analysis has been conducted where variation in yields and grading trade-offs were simulated to illustrate the impact on gross margins. It is important to note that the grading trade-off is not based on scientifically validated correlations between yields and grades. It merely illustrates potential scenarios given yield and grade differentials
  - The green bar represents the baseline which in this analysis, assumes a yield of 3.2 t/ha & grade distribution of **BS:36%; B1:27%; B2:23%; B3:14%; COW: 0%**
  - In most scenarios, it remain beneficial to achieve higher yields even if it implies that grades are lower. However, given a 4.5 t/ha & assuming 100% is diverted into the animal feed market, the gross margin will fall below R2,000/hectare, substantially lower opposed to the baseline & alternative grade scenarios. Similarly, at baseline or trend yields & assuming 100% is absorb into the feed market, gross margins will turn negative
- Source: Own calculations using data from Overberg Agri, SSK, Kaap Agri, VKB & GWK, 2021

# Grade Differentials: Impact of Profitability

Gross margin sensitivity for Northern Cape irrigated producing region



Source: Own calculations using data from Overberg Agri, SSK, Kaap Agri, VKB & GWK, 2021



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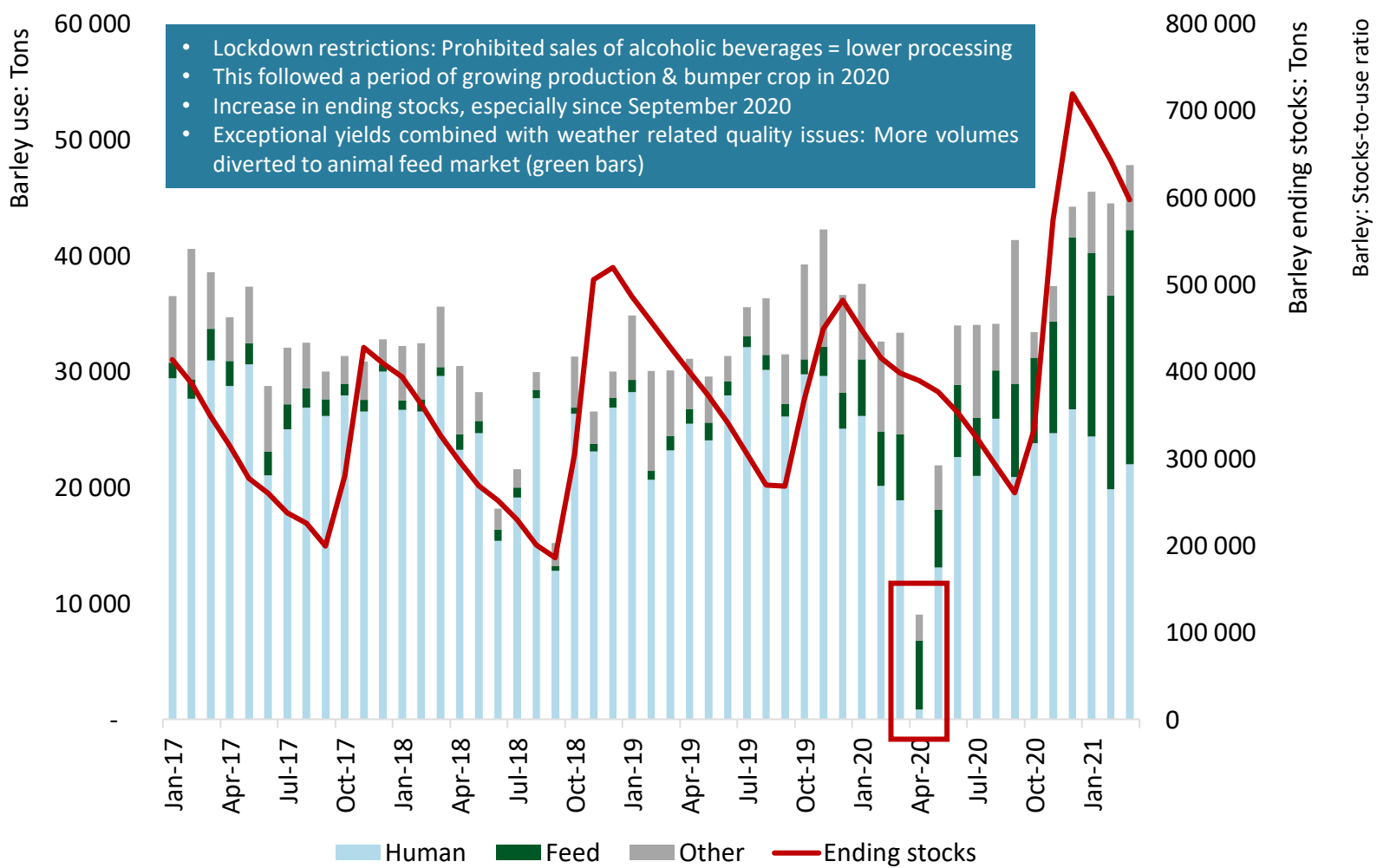
# Barley

Growing production, increased stock levels,  
increasing volumes diverted into feed  
market & domestic lockdown restrictions –  
A perfect storm that impacts the domestic  
barley industry

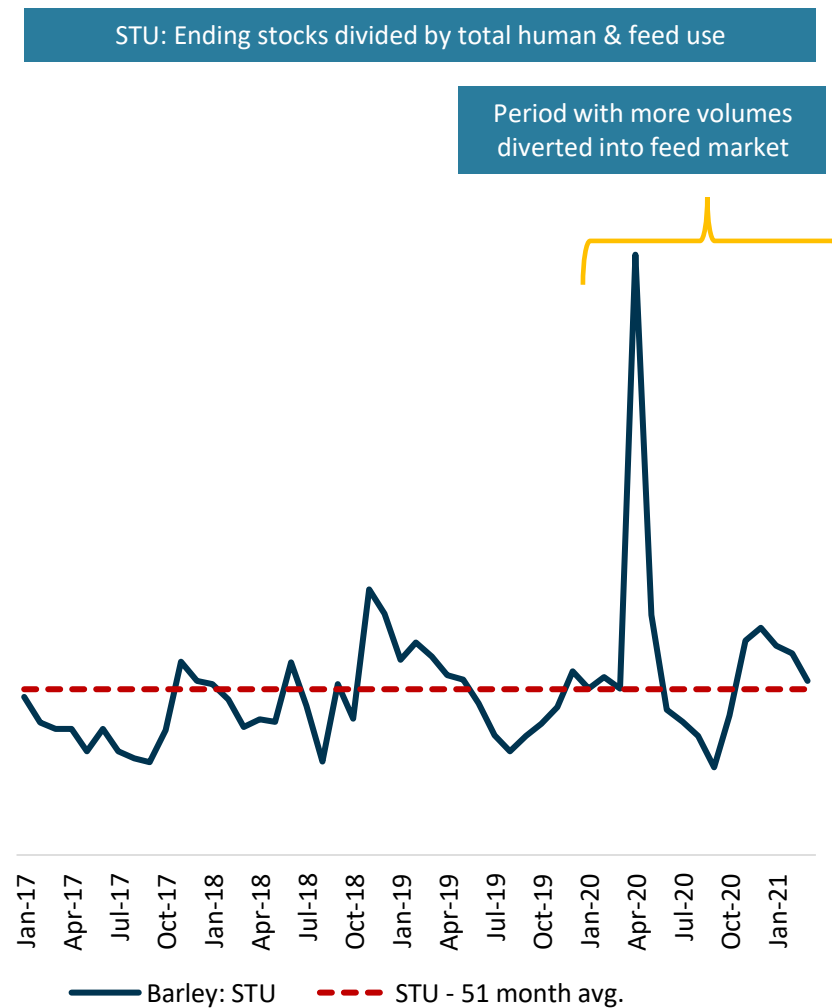
# Barley use & ending stocks

Increase in production & lower human demand lead to higher ending stocks

Barley use & ending stocks



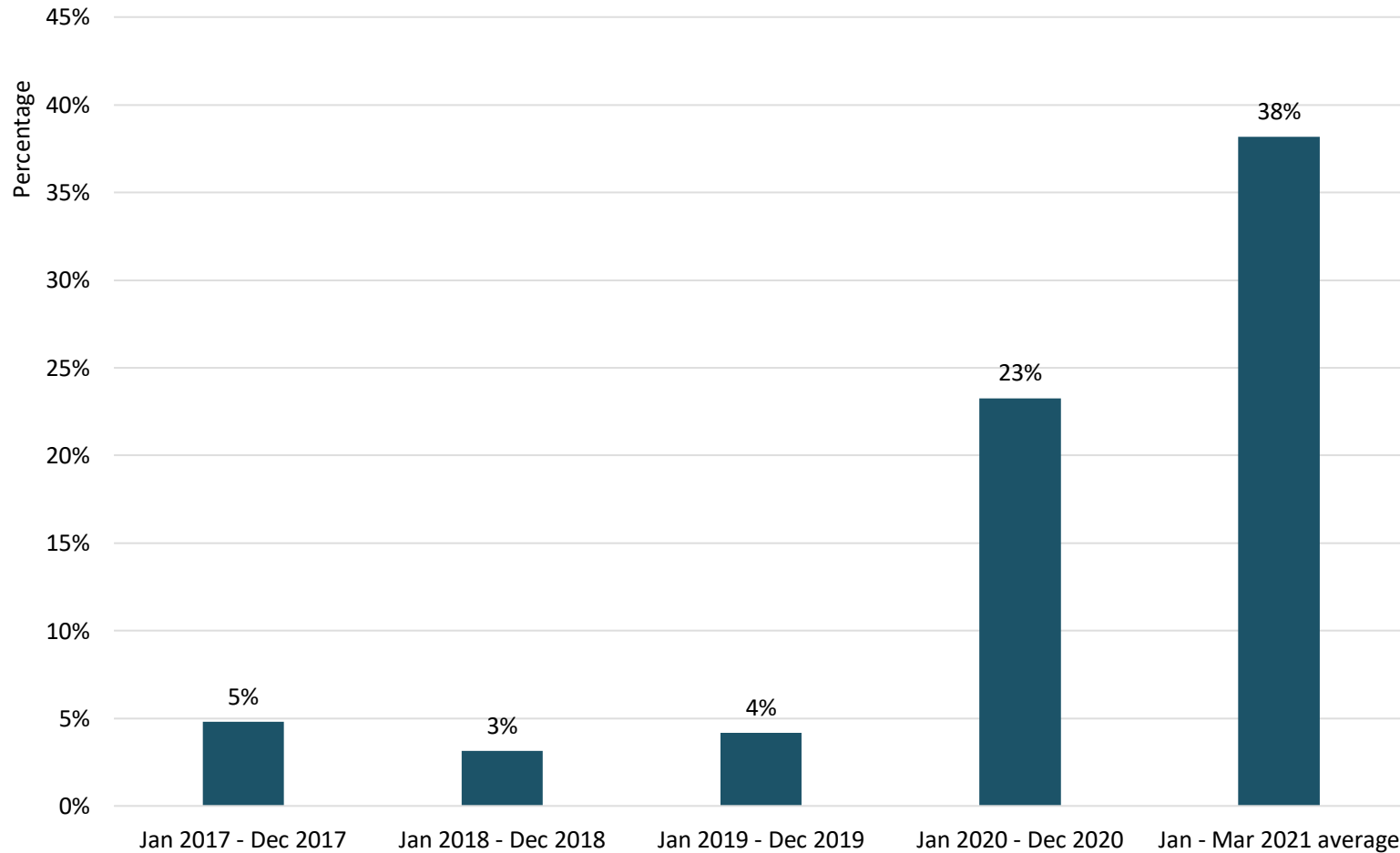
Barley: Stocks-to-use ratio (STU)



# Barley: Increasing feed use

Period from January – March 2021: Average of 38% of barley consumed in feed market

Barley feed use as % of total use



## Barley feed use & impacts:

- Increasing barley volumes diverted into animal feed market – Barley feed use as % of total use:
  - Jan – Dec 2017: 5%
  - Jan – Dec 2018: 3%
  - Jan – Dec 2019: 4%
  - Jan – Dec 2020: 23%
  - Jan – Mar 2021: 38%
- Significant impact on farm gate price received for barley
  - Malting barley derived from wheat price
  - Feed-grade barley: Estimated at 75% of yellow maize SAFEX price
  - Difference between malting & feed-grade farm gate price: +-R1800/ton
- Lower farm gate price due to increased volumes of feed-grade: Substantial impact on farm gross margins

Source: SAGIS, 2021



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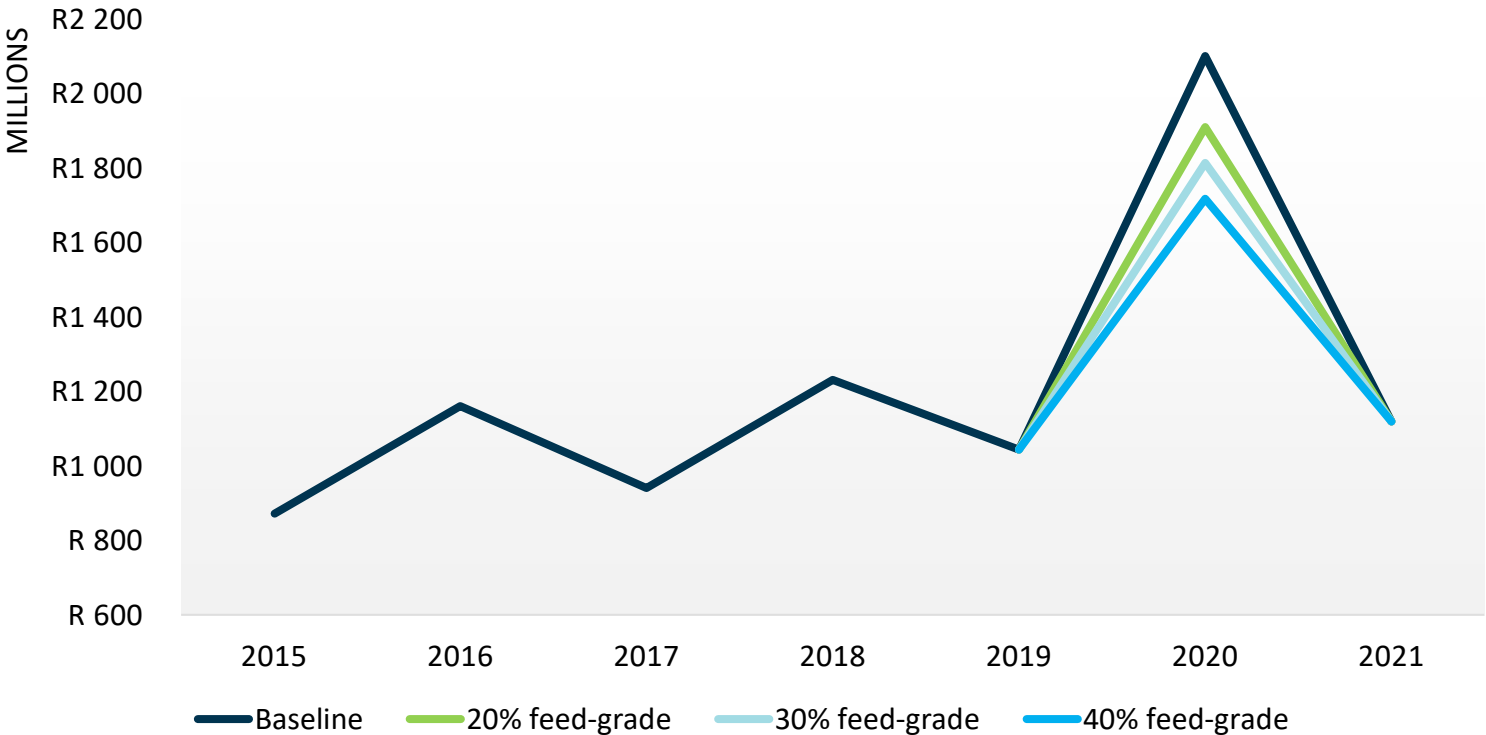
# Barley feed-grade scenarios – Gross production value

Sensitivity: Western Cape total industry impact

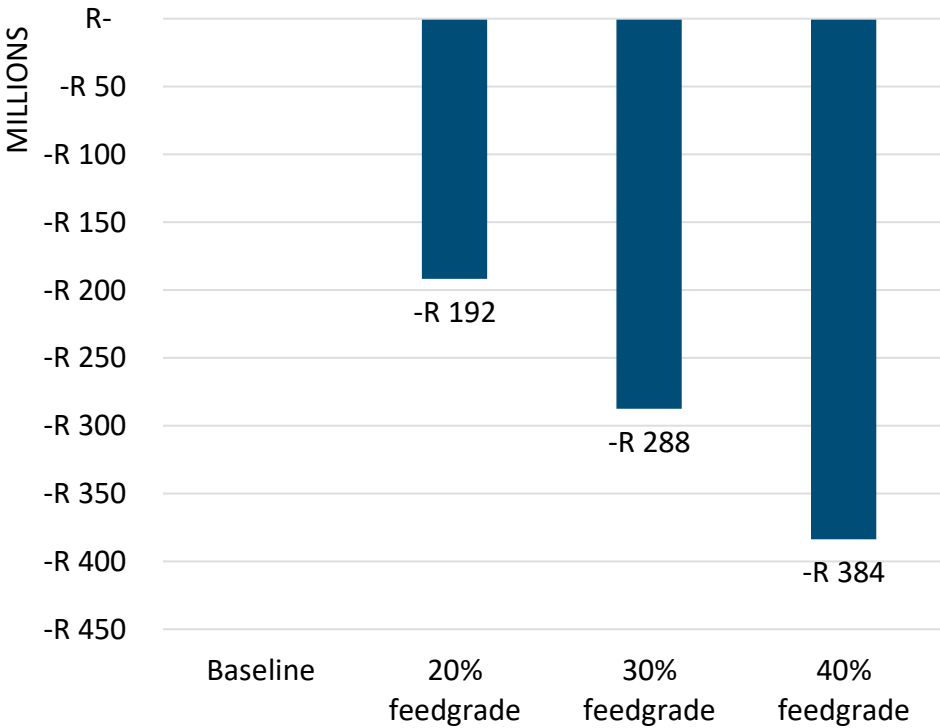


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Barley: Western Cape dryland gross production value  
Caledon derived price



Difference in GPV: Barley feed-grade scenarios  
Opportunity cost of selling feed- instead of malting grade



## Sensitivity: Western Cape barley industry impact

- ❖ Graphs shows the gross production value for barley for the 2020 season, hence, price multiplied by production which is a function of area & yield
- ❖ Sensitivity illustrates opportunity cost of selling feed- instead of malting grade barley: Assuming 20-40% is downgraded to feed-grade
- ❖ 40% feed-grade scenario will have an impact (opportunity cost) of R384 million for the dryland Western Cape producing region



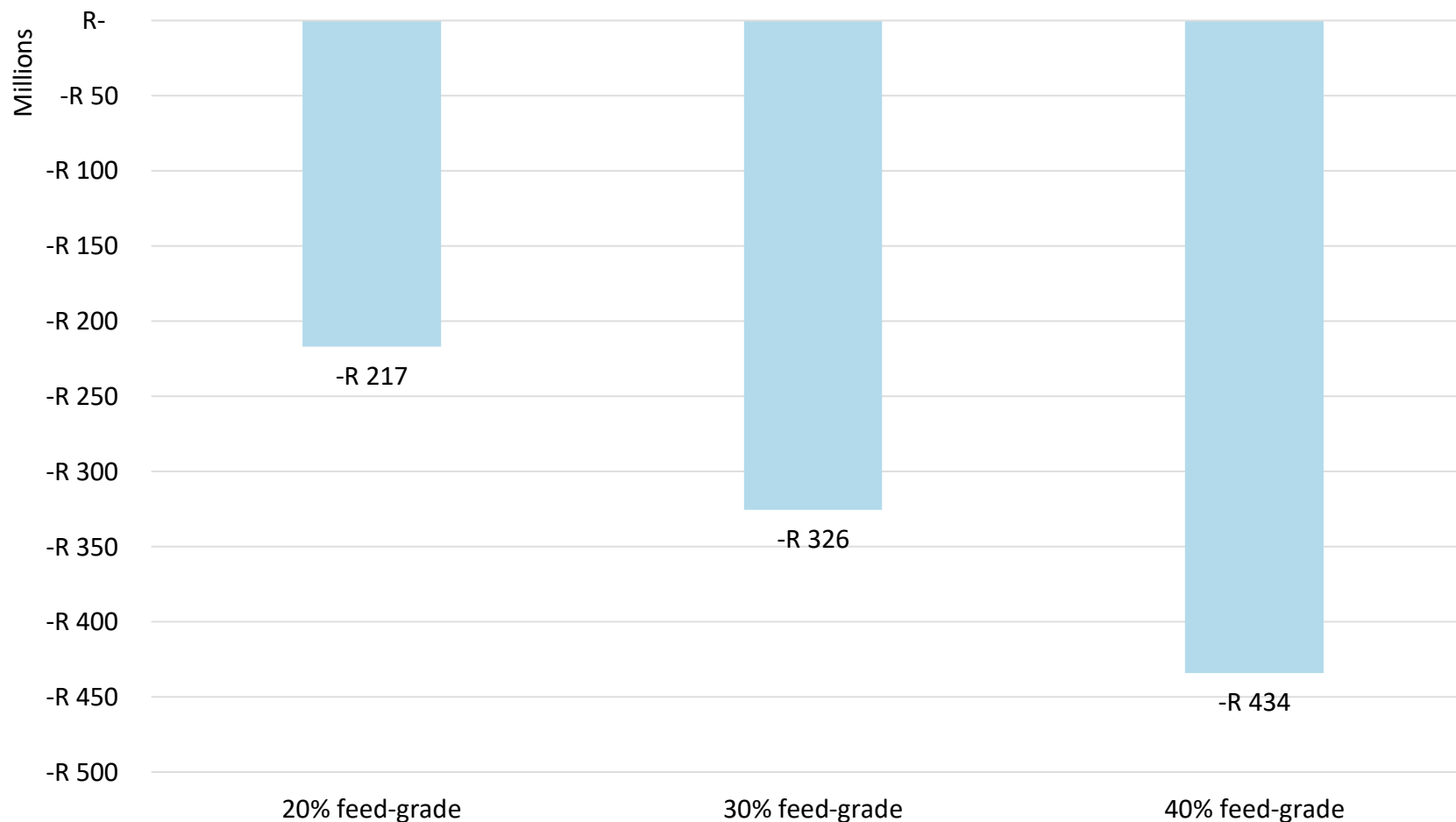
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# Barley feed-grade scenarios – Gross production value

Sensitivity: Total South African industry (summer & winter producing regions)

## South African barley industry - Gross production value (GPV)

Summer & Winter producing regions



## Sensitivity: Total industry impact

- ❖ Scenarios shows the potential opportunity cost given that the winter & summer producing regions were affected by more volumes entering the animal feed market
- ❖ Total barley industry impact (difference between baseline GPV which assumes 100% malting grade & feed-grade scenarios):
  - ❖ 20% feed-grade = -R217 million
  - ❖ 30% feed-grade = -R326 million
  - ❖ 40% feed-grade = -R434 million
- ❖ Combination of factors will affect the barley area for 2021 season:
  - ❖ Barley mandates to decline
  - ❖ Area under barley production projected to decline significantly
  - ❖ Shift to alternative crops such as canola, wheat, lupines, oats & pastures



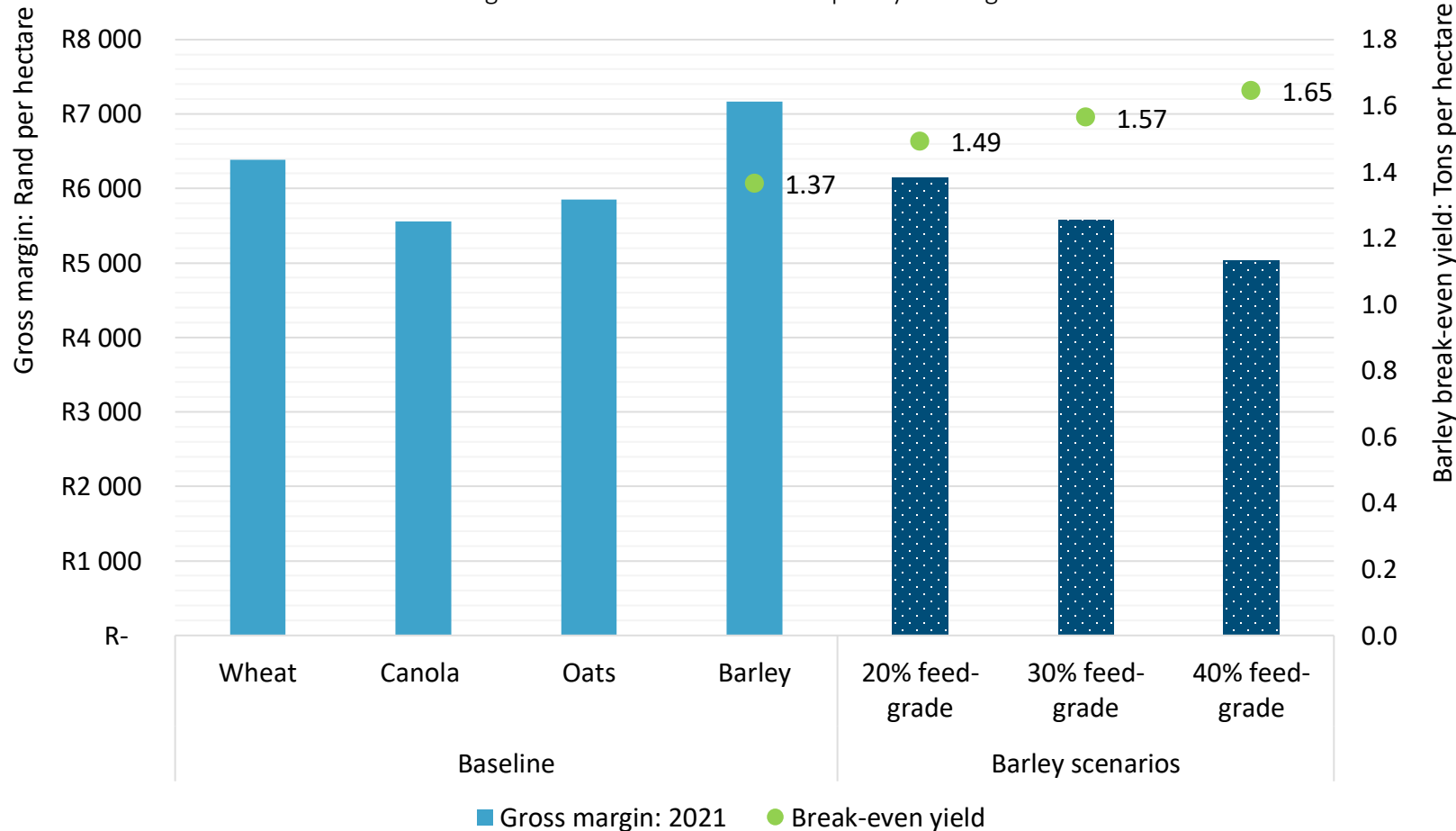
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# Barley feed-grade scenarios – Impact on gross margin

Sensitivity given feed-grade assumptions

## Barley sensitivity: Malting & feed grade combination

Average for Western & Southern Cape dryland region



## Sensitivity analysis:

- ❖ Objective: To measure barley gross margin relative to alternative crops given variability in feed-grade realisation (**computed at trend yields**)
- ❖ **Key to note:** Gross margins are computed by multiplying the region's targeted yield (which is based on agro-ecological potential) with a farm gate price (SAFEX or derived price minus deductions including grade and transport differentials) minus direct expenditure
- ❖ Overhead costs such as production finance interest, depreciation, administration, land rent and owner remuneration are not included in the calculations
- ❖ Sensitivity:
  - ❖ 20-40% share of crop is considered feed grade
  - ❖ Feed grade barley priced at 75% of yellow maize price
- ❖ Gross margin impact:
  - ❖ 20% = feed grade: GM is R1,031/ha lower
  - ❖ 30% = feed grade: GM is R1,586/ha lower
  - ❖ 40% = feed grade: GM is R2,142/ha lower

Source: Own calculations using data from Overberg Agri, SSK & Kaap Agri, 2021

# Barley feed-grade scenarios – Impact on gross margin

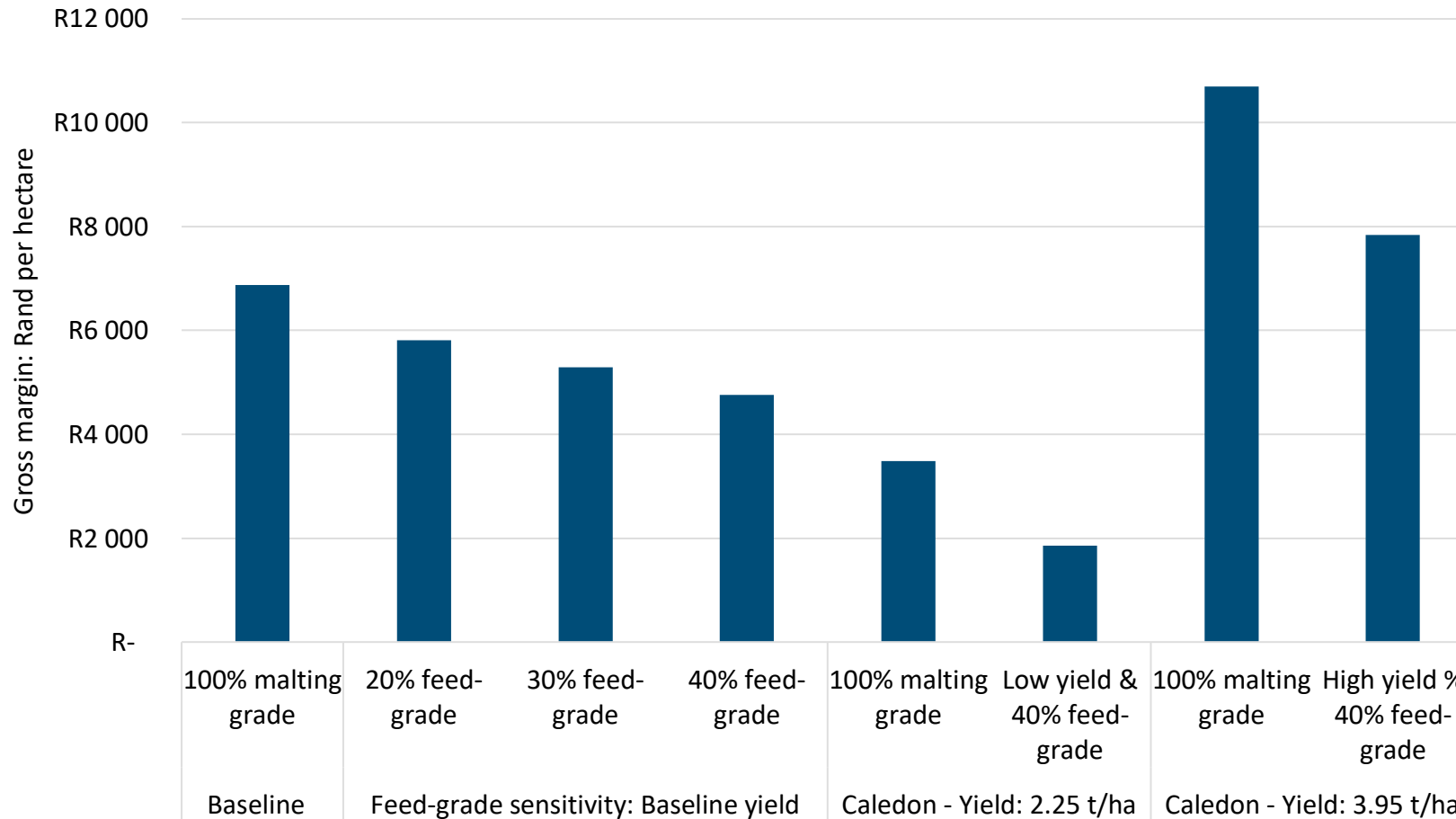
Sensitivity given feed-grade & yield assumptions



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## Barley: Feed-grade sensitivity analysis

Western Cape dryland producing region



## Sensitivity analysis:

- ❖ Objective: Compare baseline against feed-grade sensitivity & feed-grade combined with yield sensitivity
- ❖ Baseline vs. Scenarios:
  - ❖ Baseline = 100% malting grade
  - ❖ 20-40% feed-grade assumptions at trend yield
  - ❖ Caledon: Low & high yield at 40% feed-grade assumption

Source: Own calculations using data from Overberg Agri, SSK & Kaap Agri, 2021



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# Eastern Free State Wheat Competitiveness Updated for 2021

# Eastern Free State: Rainfall trends

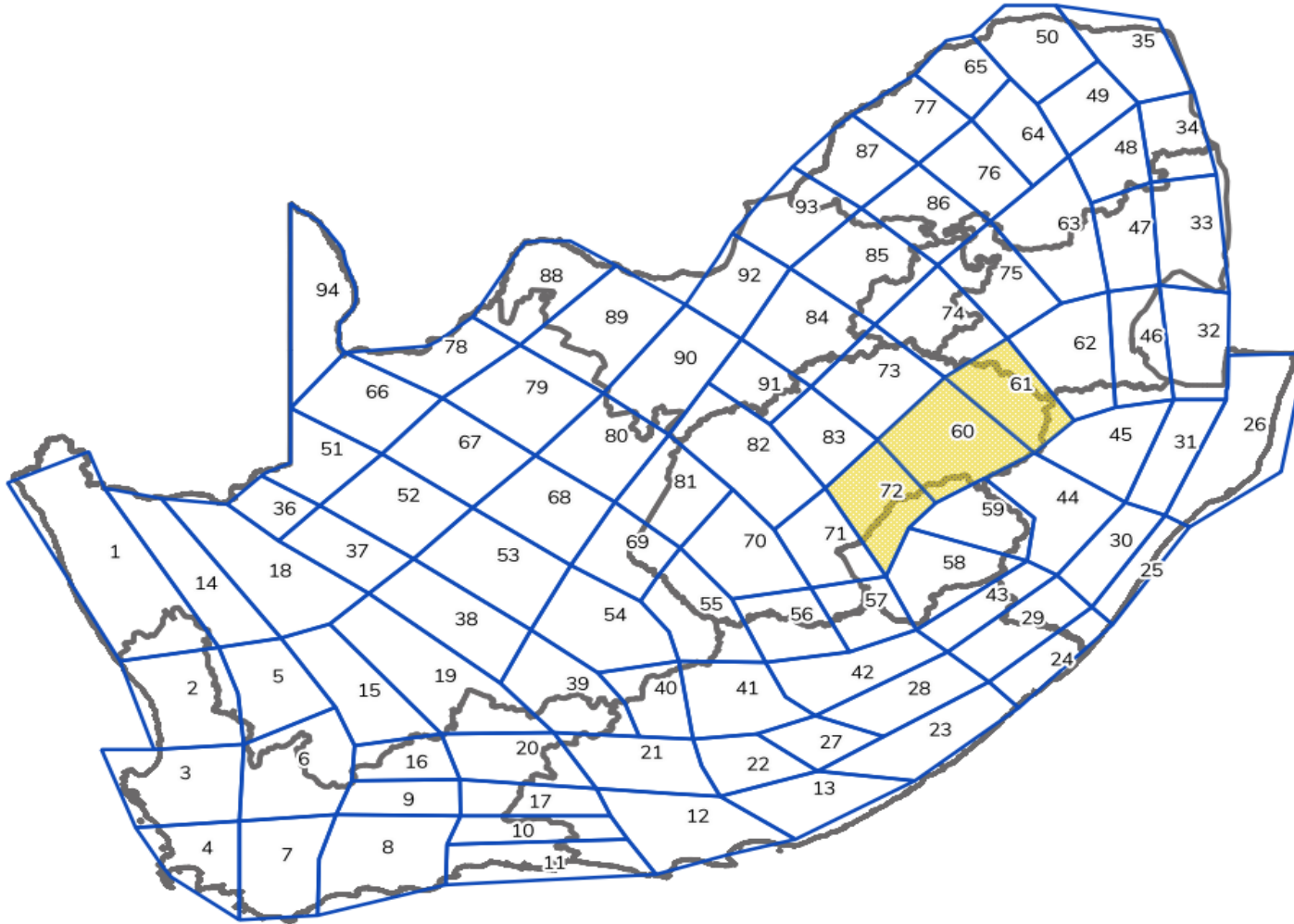
Districts: 60, 61, 72 & 73



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## Eastern Free State district reference:

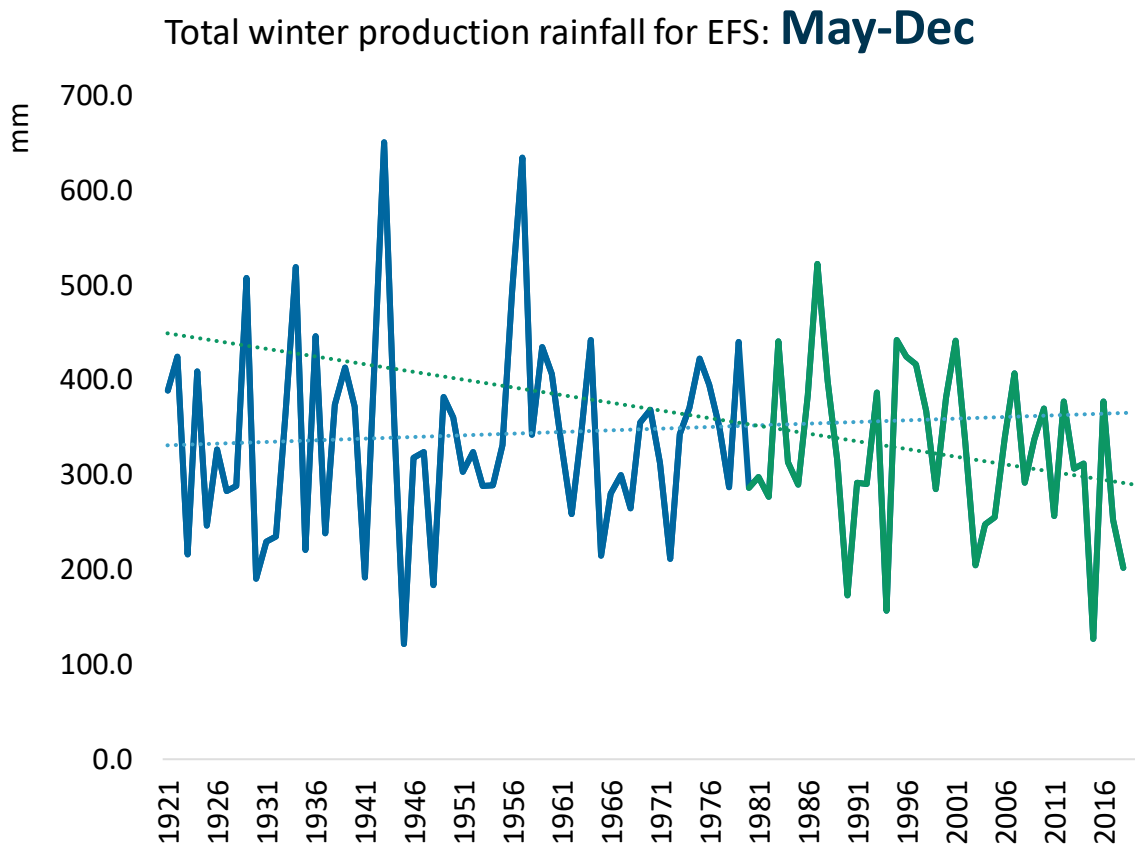
- ❖ 60 – Bethlehem region
- ❖ 61 – Vrede / Memel region
- ❖ 72 – Ficksburg region



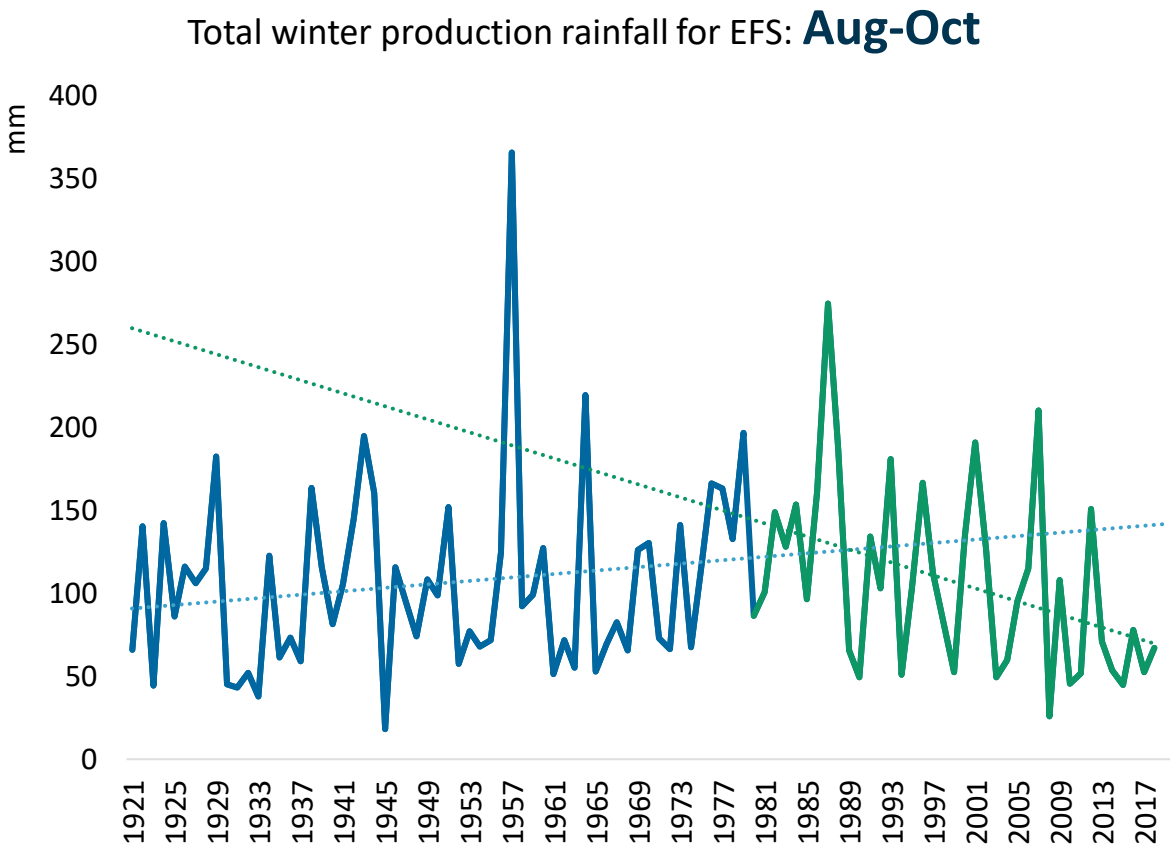
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# Eastern Free State: Rainfall trends

## Districts: 60, 61 & 72



Blue line: Pre-1980: +0.18% per annum  
Green line: Post-1980: -0.56% per annum



Blue line: Pre-1980: +0.52% per annum  
Green line: Post-1980: -2.08% per annum

Source; Compiled from  
Weather SA data, 2020



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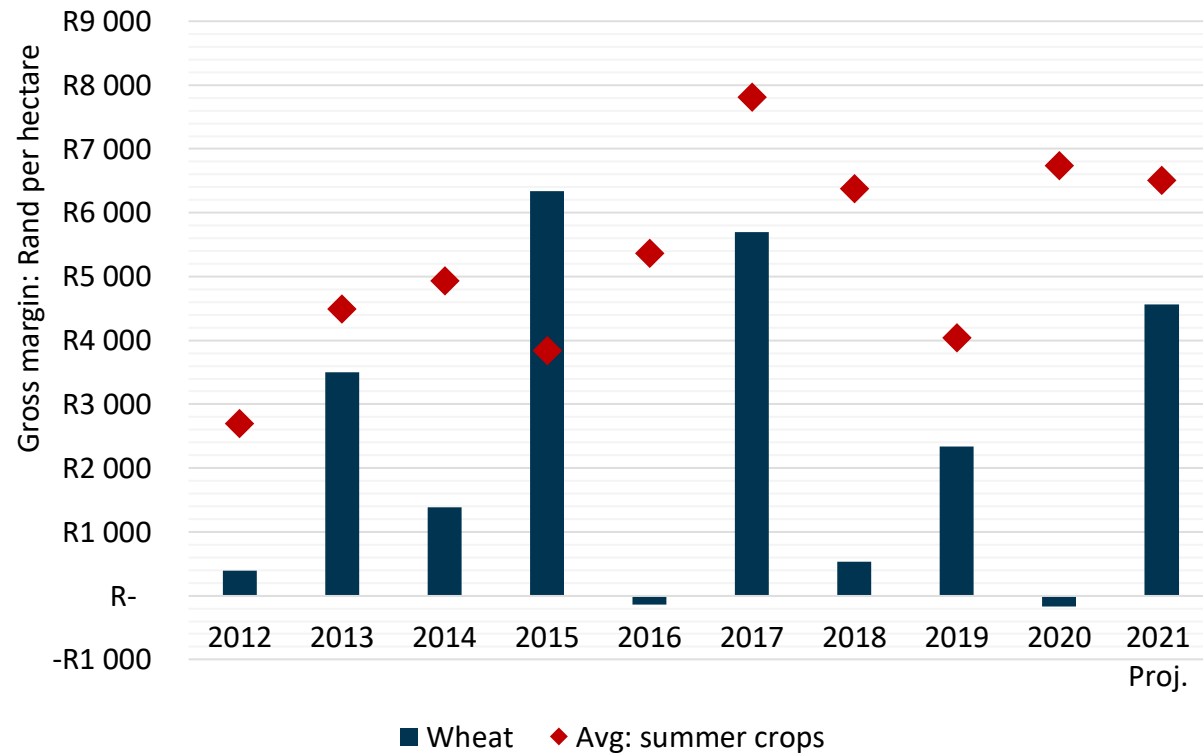
Eastern Free State district reference:

- ❖ 60 – Bethlehem region
- ❖ 61 – Vrede / Memel region
- ❖ 72 – Ficksburg region

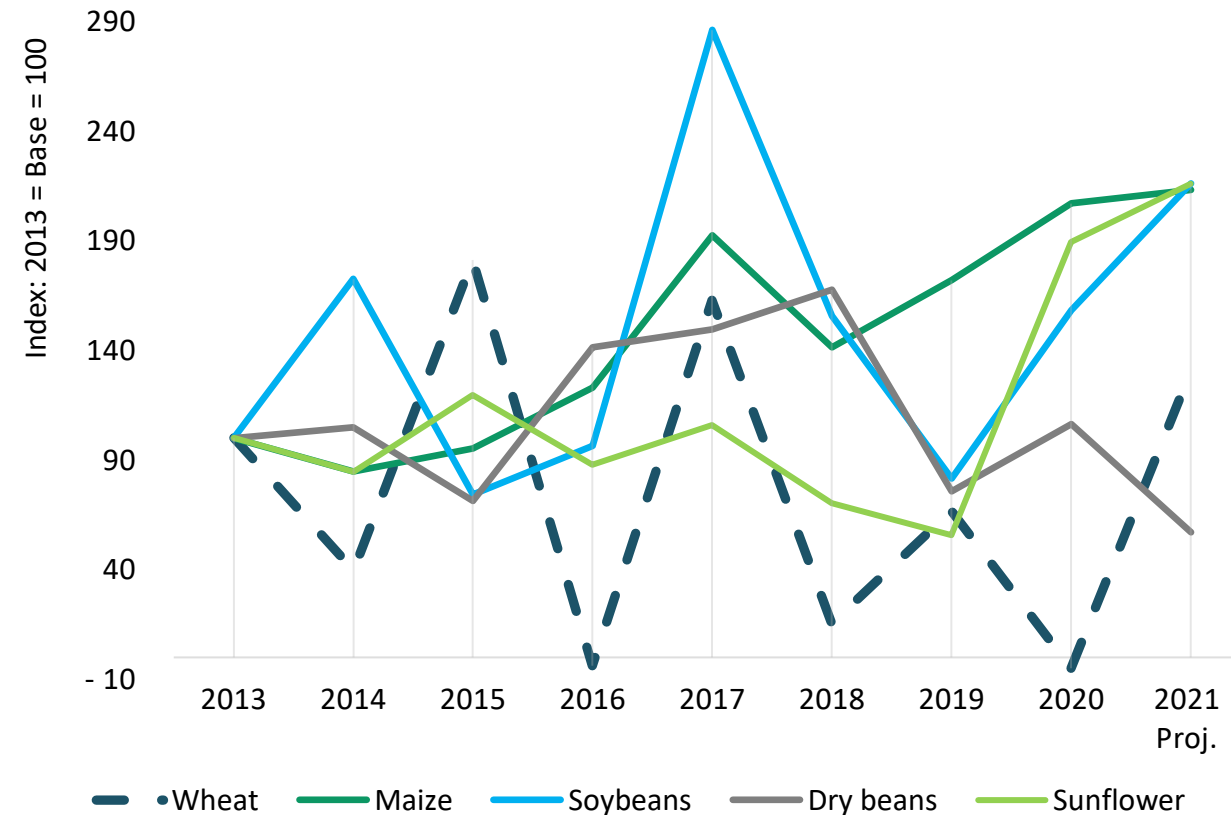
# Eastern Free State: Wheat gross margin performance

## Wheat vs. summer crops: 2012 - 2021

Eastern Free State: Wheat performance against summer crops  
2012-2021



Eastern Free State - Gross margin index  
2013 = 100



### Eastern Free State historic performance

- ❖ Objective: To reflect on wheat's competitiveness against alternative summer crops
- ❖ Actual gross margins indicate that wheat has only outperformed the summer crop average once over the past 8 years (2015)
- ❖ An index further indicate that wheat demonstrates high levels of volatility in gross margin



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Source: Compiled from Grain SA  
& BFAP data, 2020

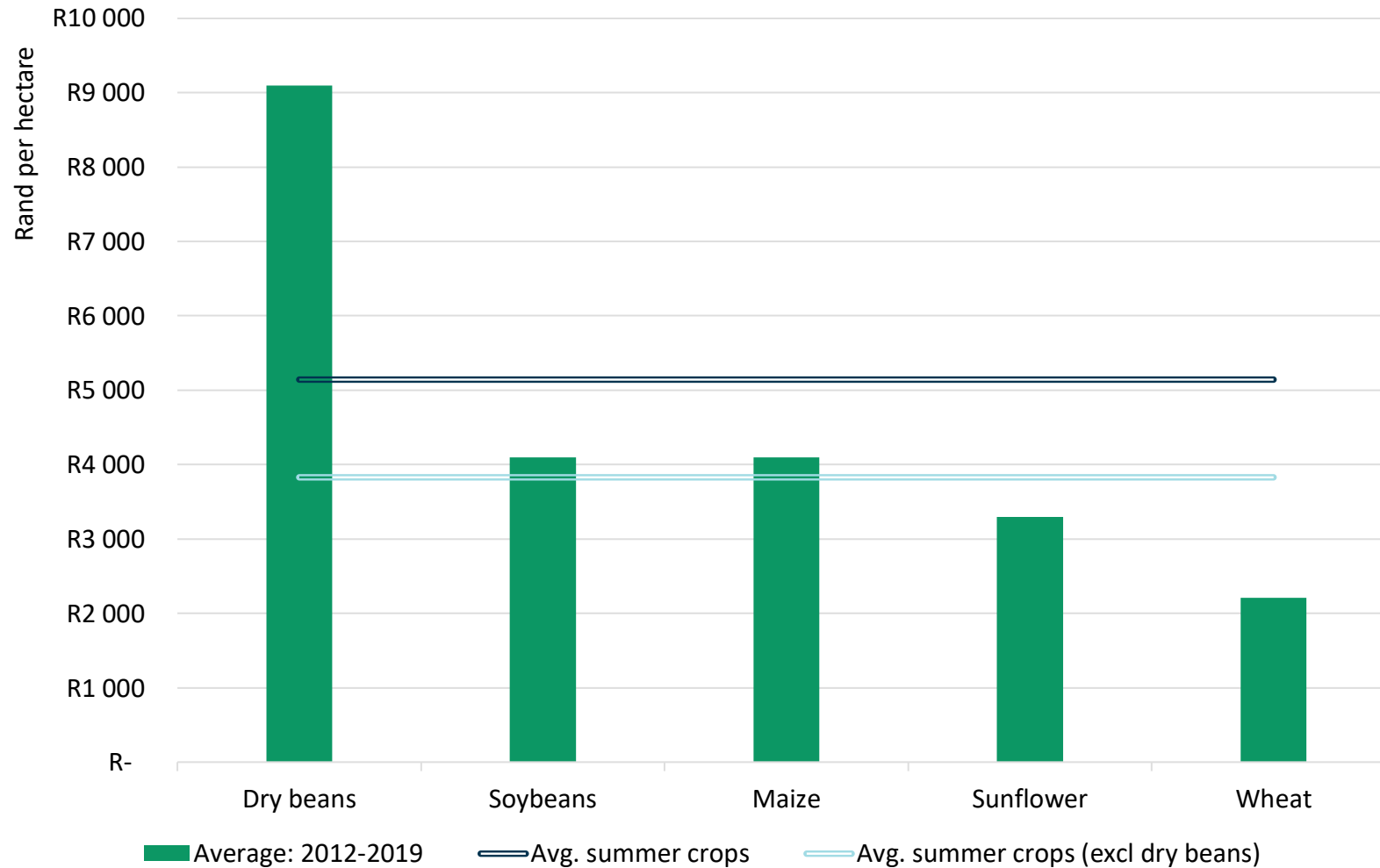
# Eastern Free State: Wheat competitiveness

Average gross margins: 2012 - 2020



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Eastern Free State: Average gross margin from 2013 - 2020



Eastern Free State: Gross margins

- ❖ Graph illustrates an average gross margin over the period from 2013 to 2020
- ❖ Wheat & sunflower indicated the lowest gross margin over the period
- ❖ Although dry beans indicate robust performance, yield & price risk remain a factor that should be considered



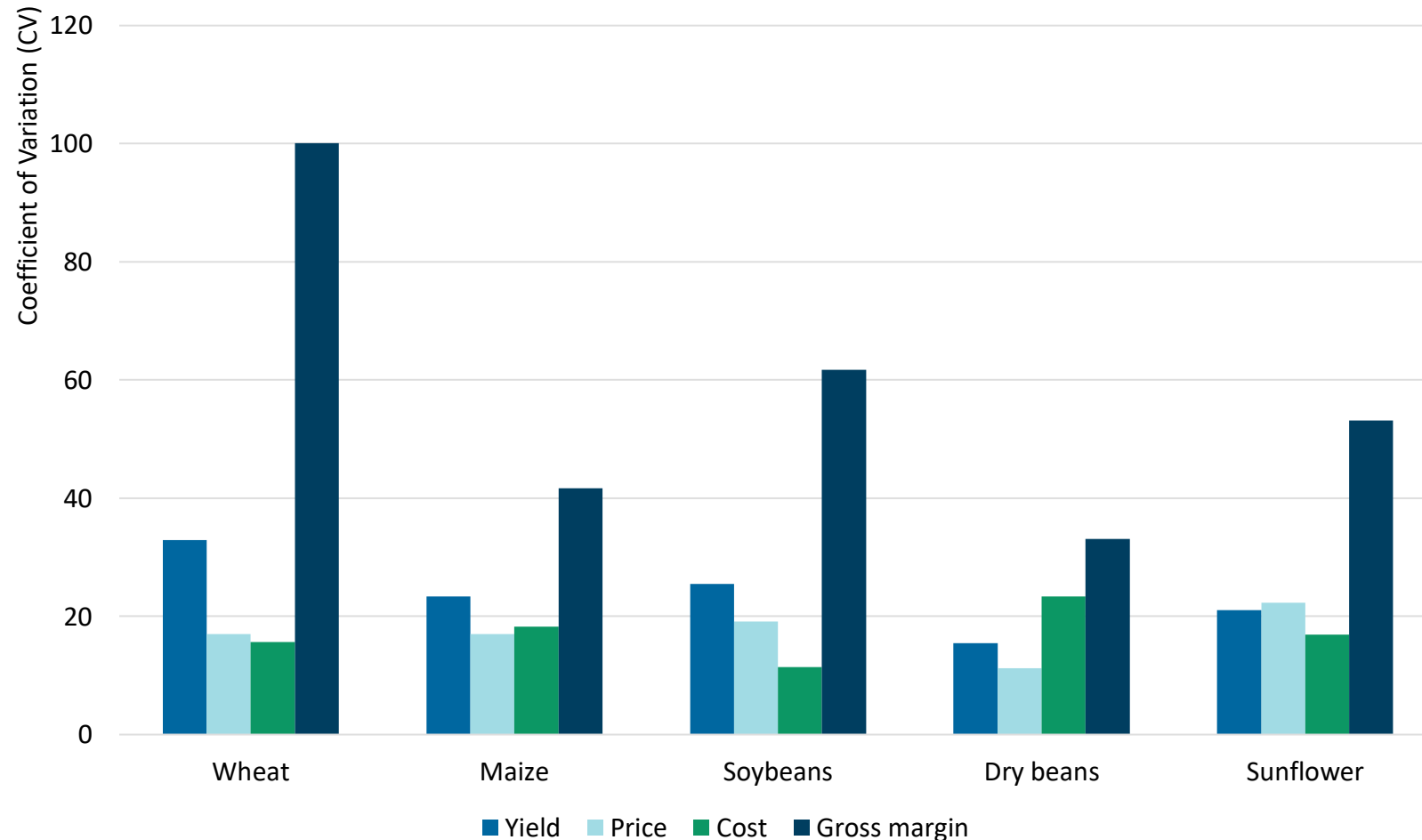
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Source: Compiled from Grain SA & BFAP data, 2020

# Eastern Free State: Wheat competitiveness

## Coefficient of variation – Measurement of volatility

Eastern Free State - Coefficient of variation (CV)  
Yield, price, cost & gross margin: 2012-2021



### Coefficient of variation: 2012-2021

- ❖ Coefficient of variation (CV): Statistical measure of the dispersion of data points in a data series around the mean (standard deviation divided by the mean)
- ❖ It represents a measurement of volatility

#### Yield:

- ❖ Wheat followed by soybeans reported the highest CV across crops

#### Price:

- ❖ Although relative constant across crop, sunflower indicated the highest CV followed by soybeans. Relative to the same analysis in 2020, the spike in 2021 commodity prices, especially in the vegetable oils market, has shifted sunflower & soybeans above wheat

#### Cost:

- ❖ Dry beans indicated the highest CV, followed by maize

#### Gross margin:

- ❖ Wheat followed by soybeans reported the highest variability in gross margin





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