A Model and Tool for Table Grapes Profitability and Financial Sustainability Analyses

SATI

August 2019

BFAP Group's analytical approach

BFAP DATA DRIVEN INSIGHT

Integration & presentation

IVIS INTEGRATED VALUE INFORMATION SYSTEM

Consumer Economics

Rural Development

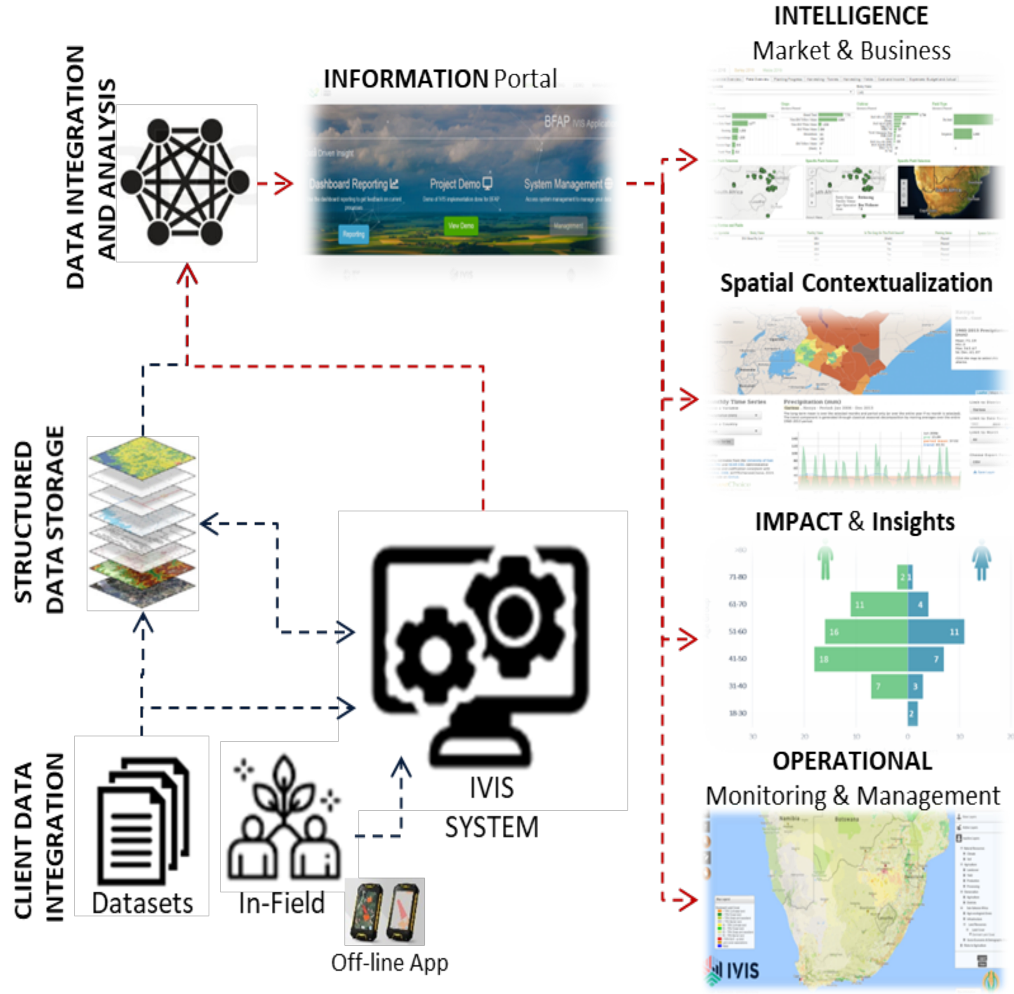
Data Science

Value Chain Analytics

Commodity Markets and Foresight

Farm Level Economics

Land Use and Natural Resources



Performance: Agricultural GDP

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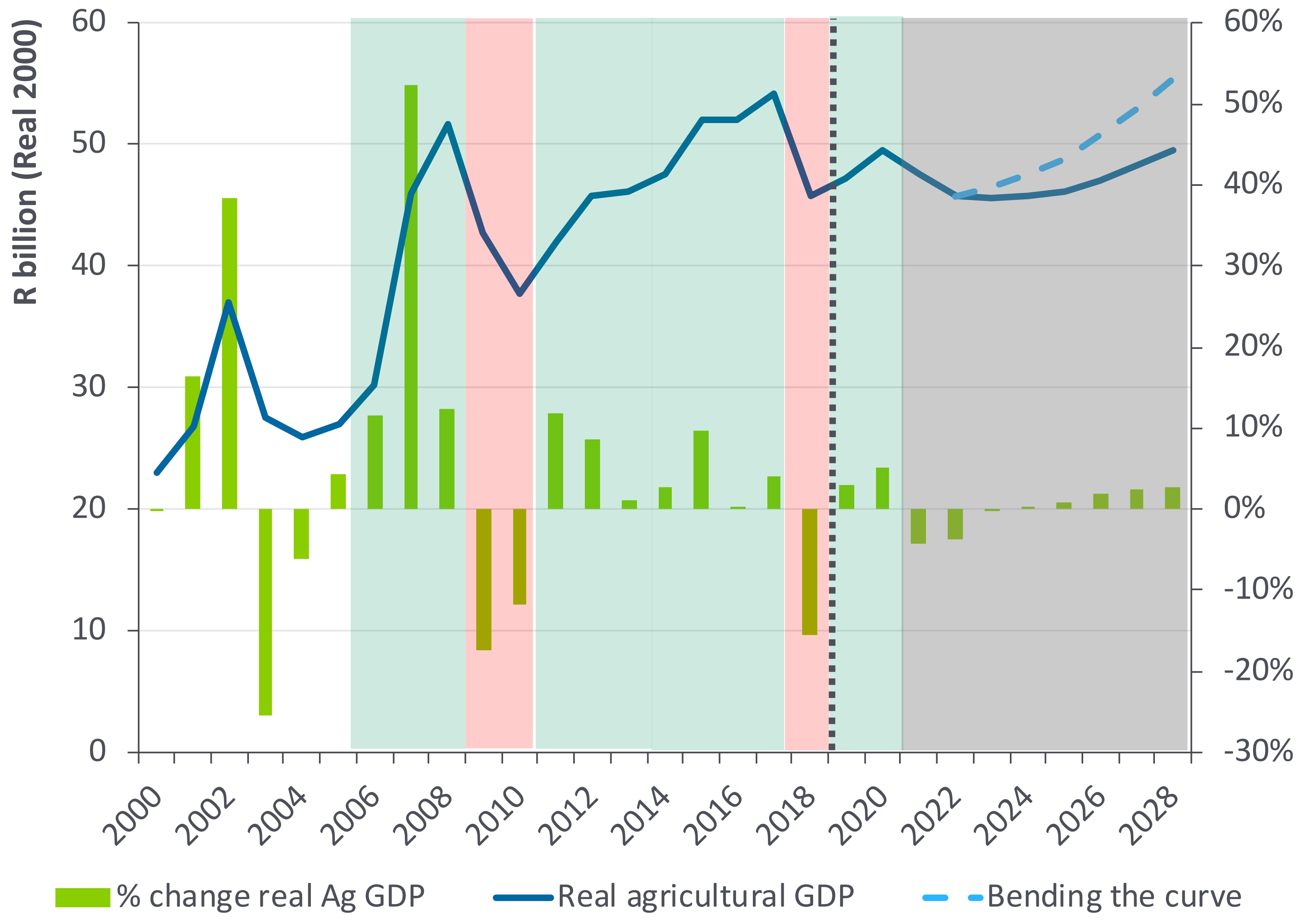


Growth Periods:

- International factors:
  - New level for international prices – Biofuel & China Economy
  - Consecutive droughts in USA & low stocks
- Domestically:
  - Sustained investment & export driven expansion

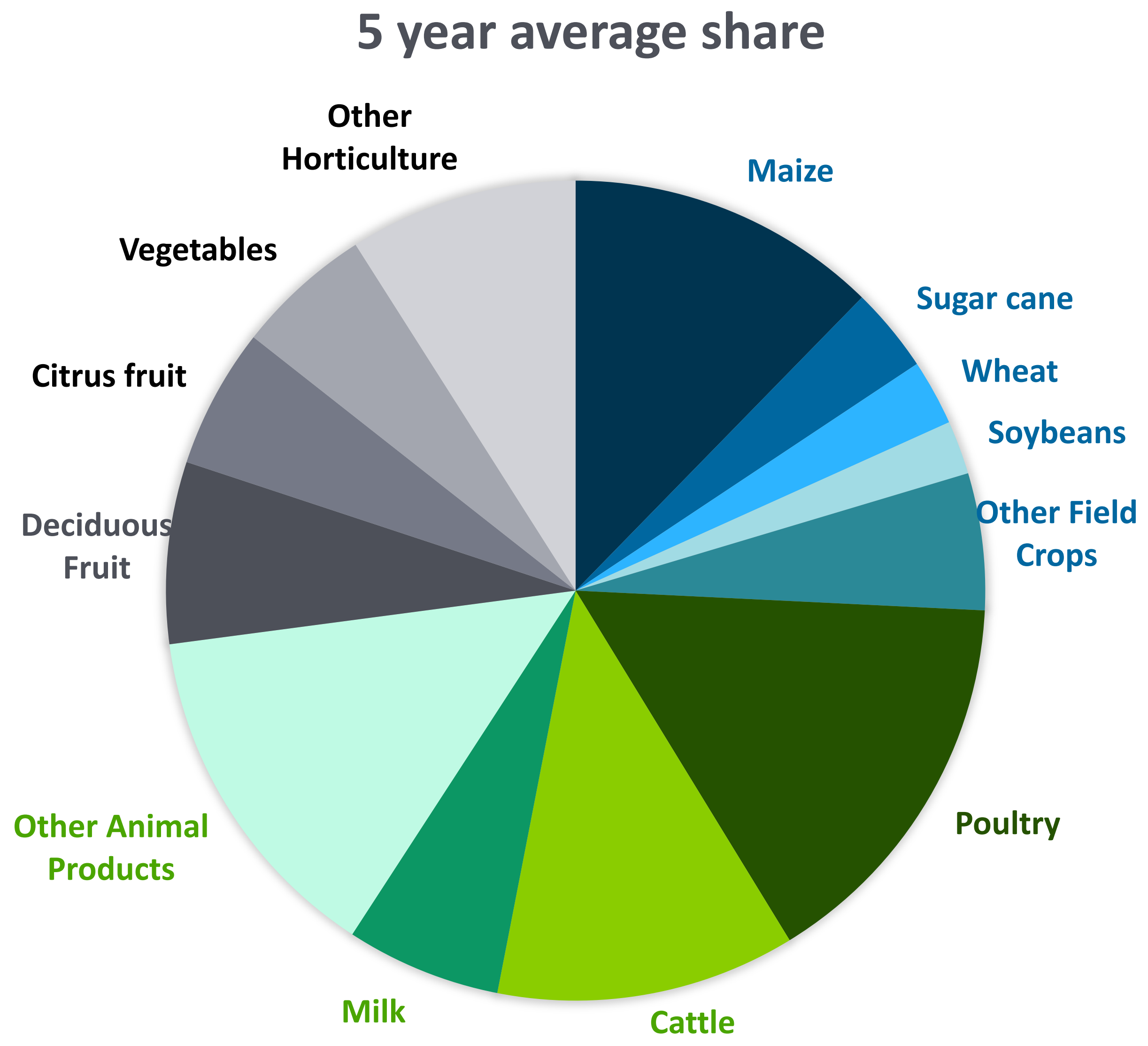
Weak periods:

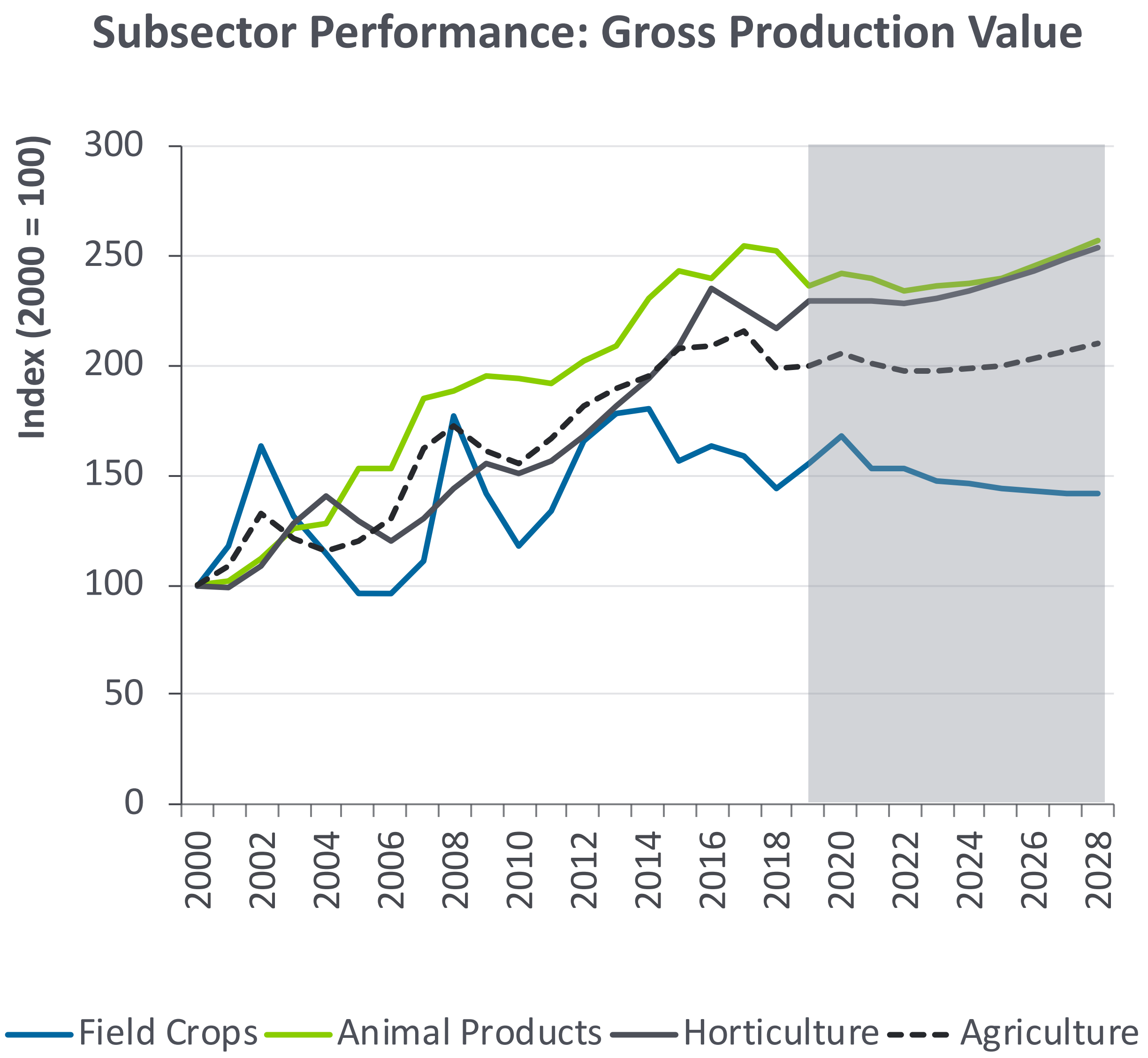
- Global recession
- Domestic weather & animal disease impacts

Going forward:

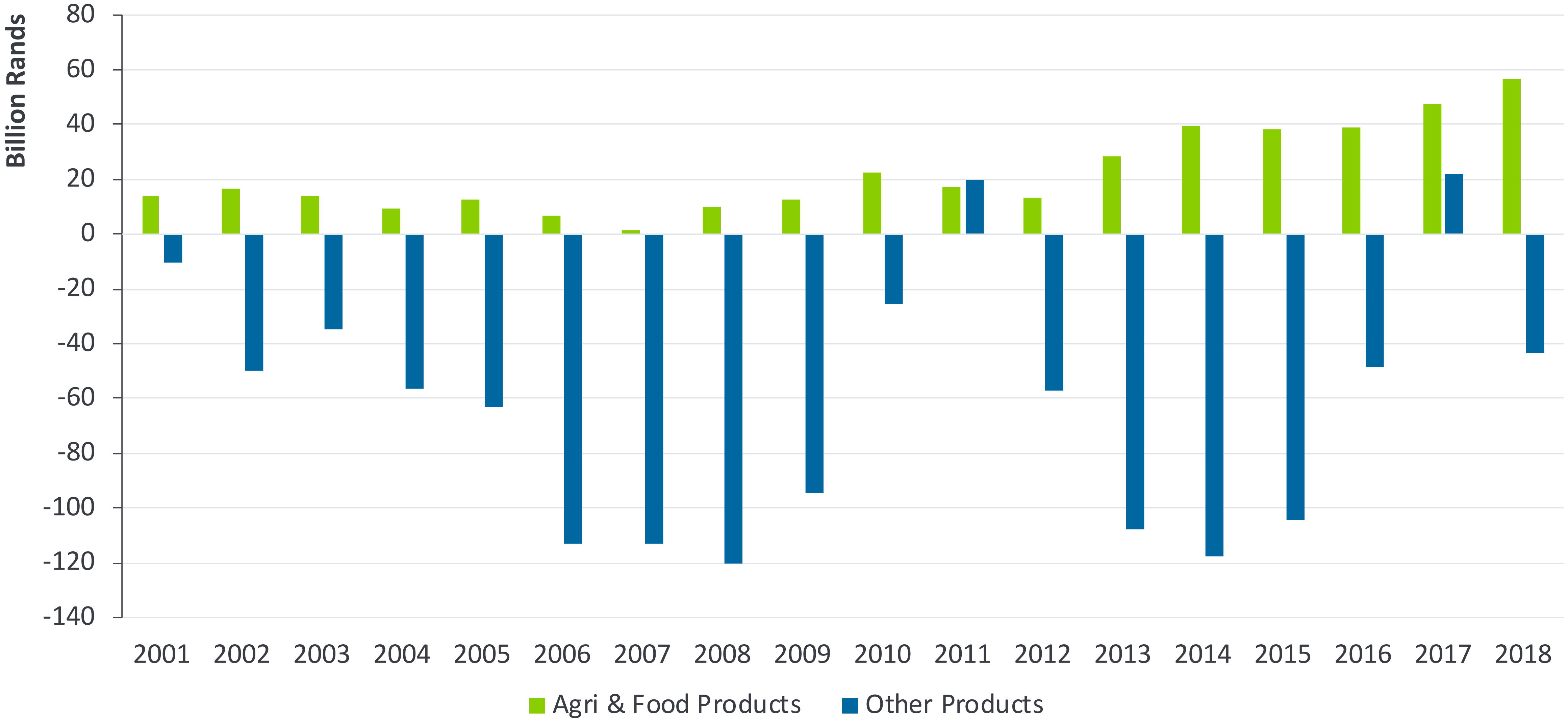
- Short term global support?
- Business as usual vs. accelerated growth

Subsector Performance





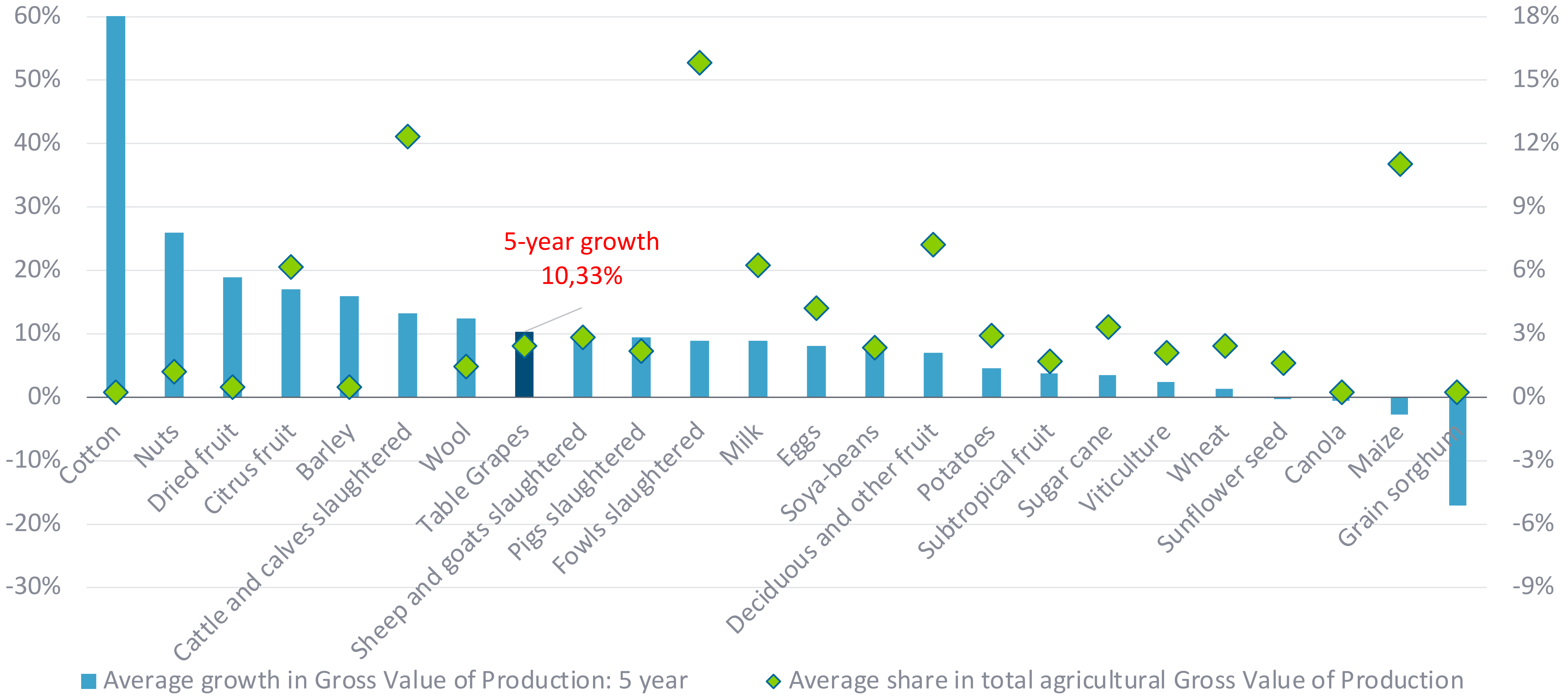
Agriculture's contribution to trade balance



Source: World Bank, 2019

High-growth industries are on track

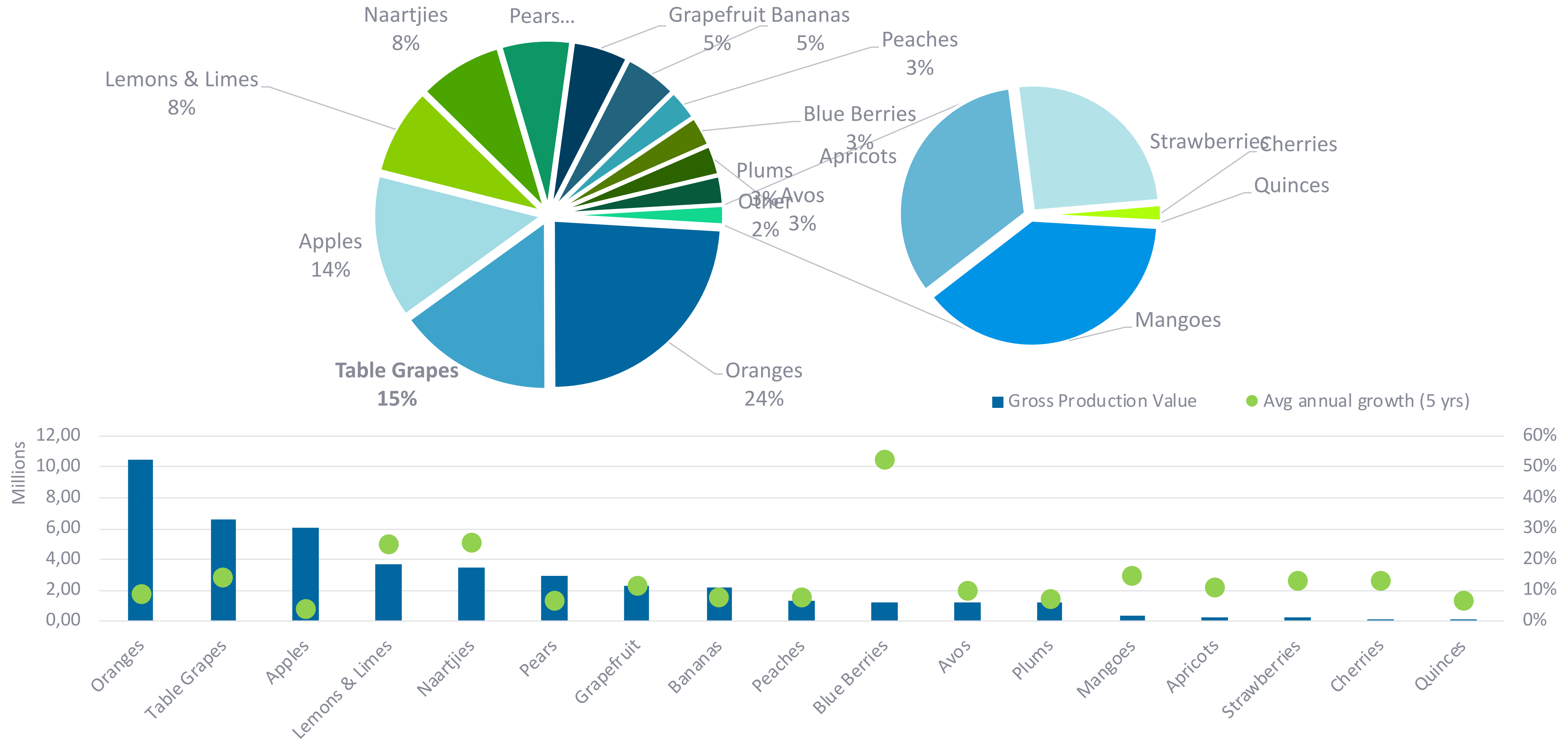
Gross Value of Agricultural Production: 2014-2018



Source: DAFF, 2019

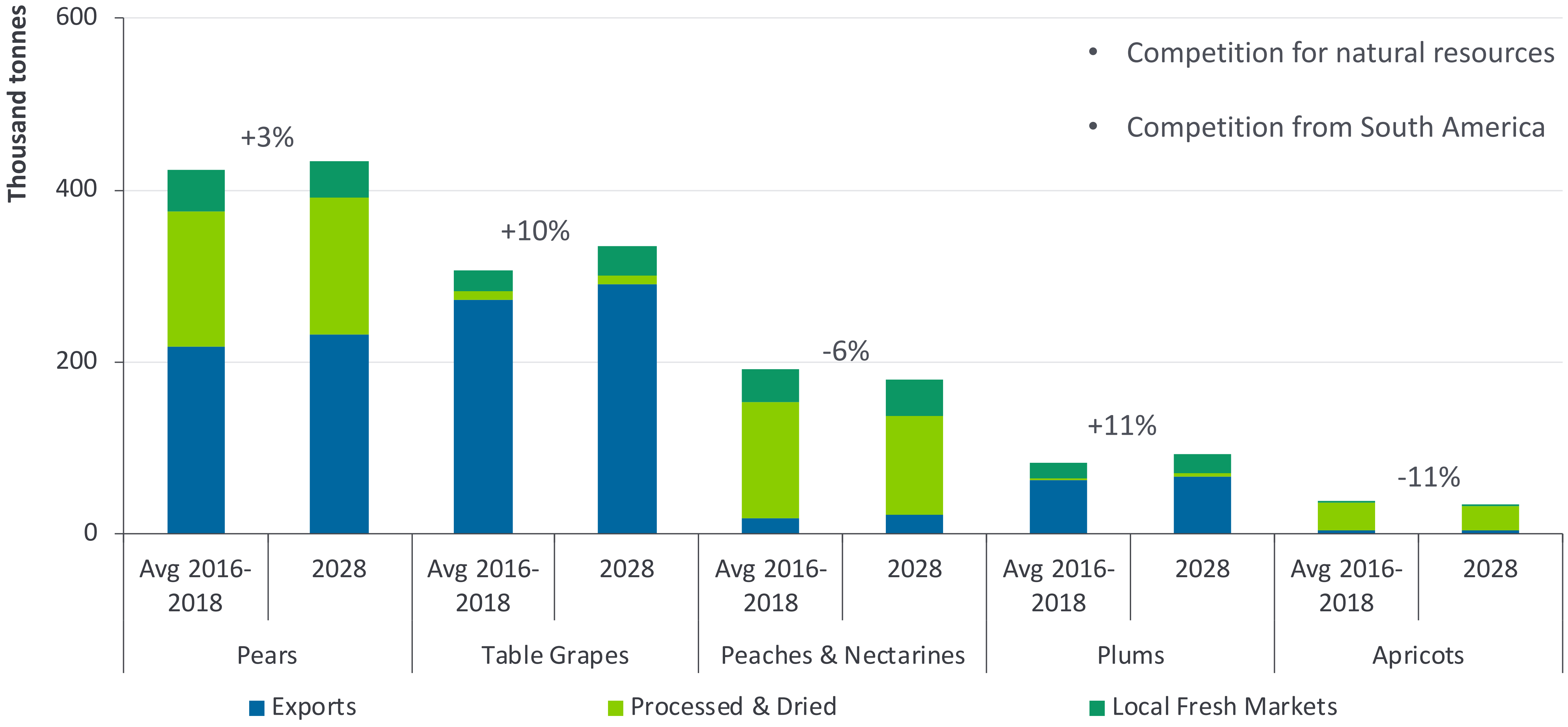
Fruit: Performance across industries

Gross Value of Agricultural Production



Fruit demand overview

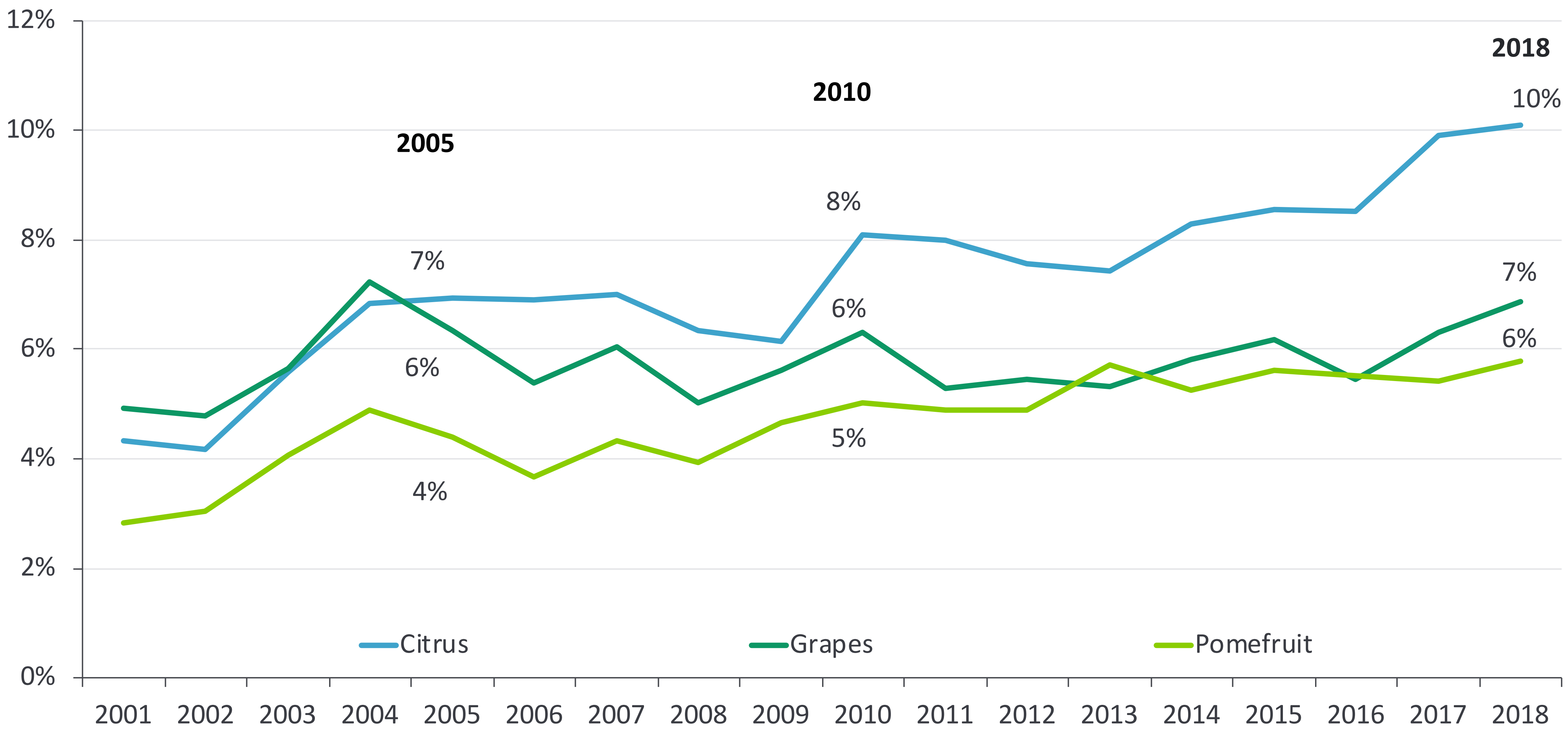
Exports still primary driver of expansion



- Competition for natural resources
- Competition from South America

SA’s performance in global export markets

Capturing a growing share of global market



Outlook for table grapes

- Planted area is projected to expand by 7%, resulting in a production expansion of 10% over the period
- Slower expansion due to
  - Water, land, margins
- 9% increase projected in export volumes over the period of outlook
- Increasing competition for market share from southern hemisphere competitors (Chile and Peru)
- Domestic demand is projected to increase by 14% (small base) by 2028

Table grape age distribution change over time

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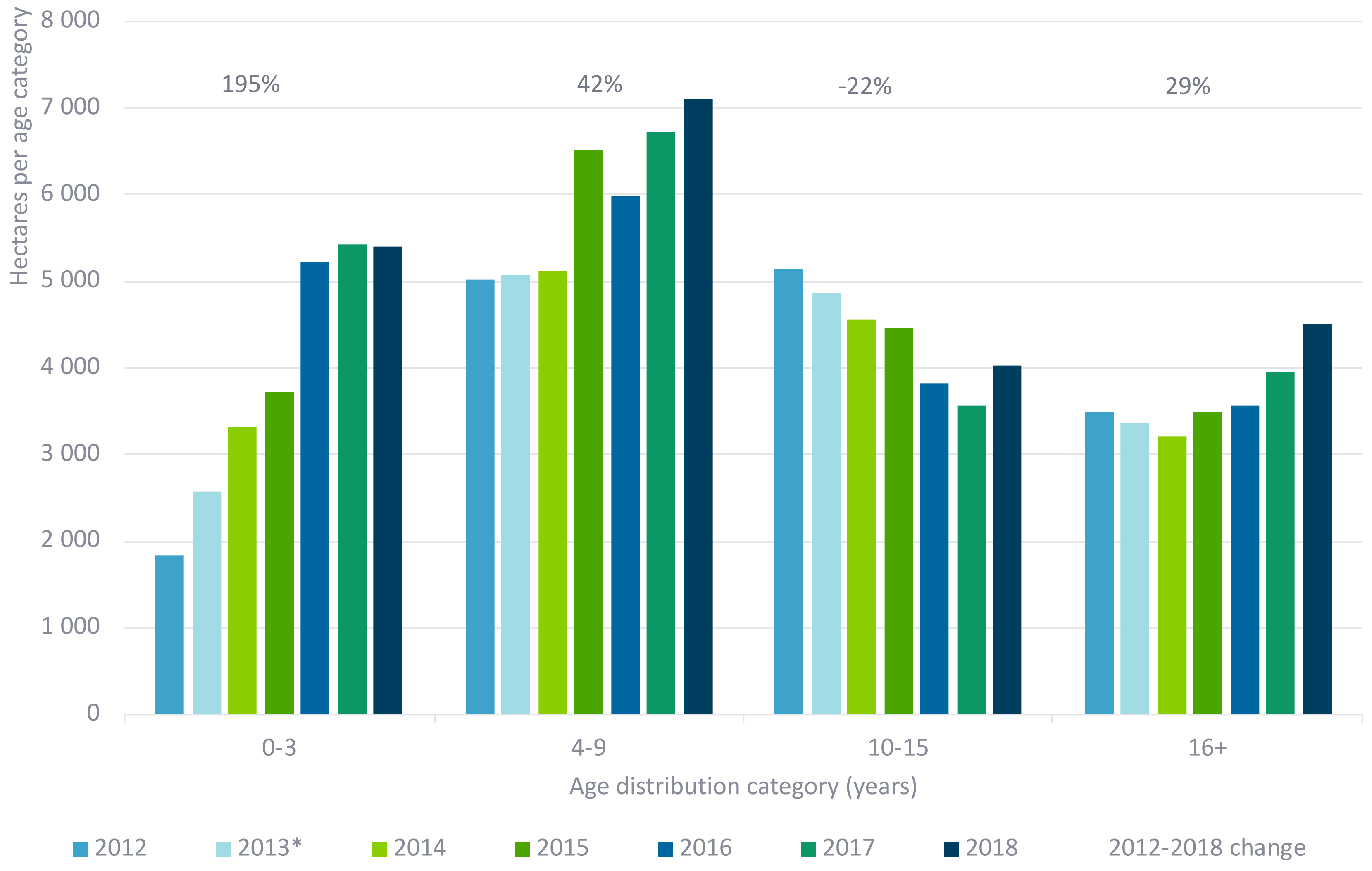


- 0-3: Non-bearing increased substantially and then plateaued
- 4-9: Knock-on effect from dramatic change in non-bearing
- 10-15: Decline possibly due to changes in consumer preferences – earlier replacement
- 16+: expansion in new establishments and earlier than expected lifting of 10-15 year old vines led to increasing volume of older, productive vines.

Real Table Grape Prices

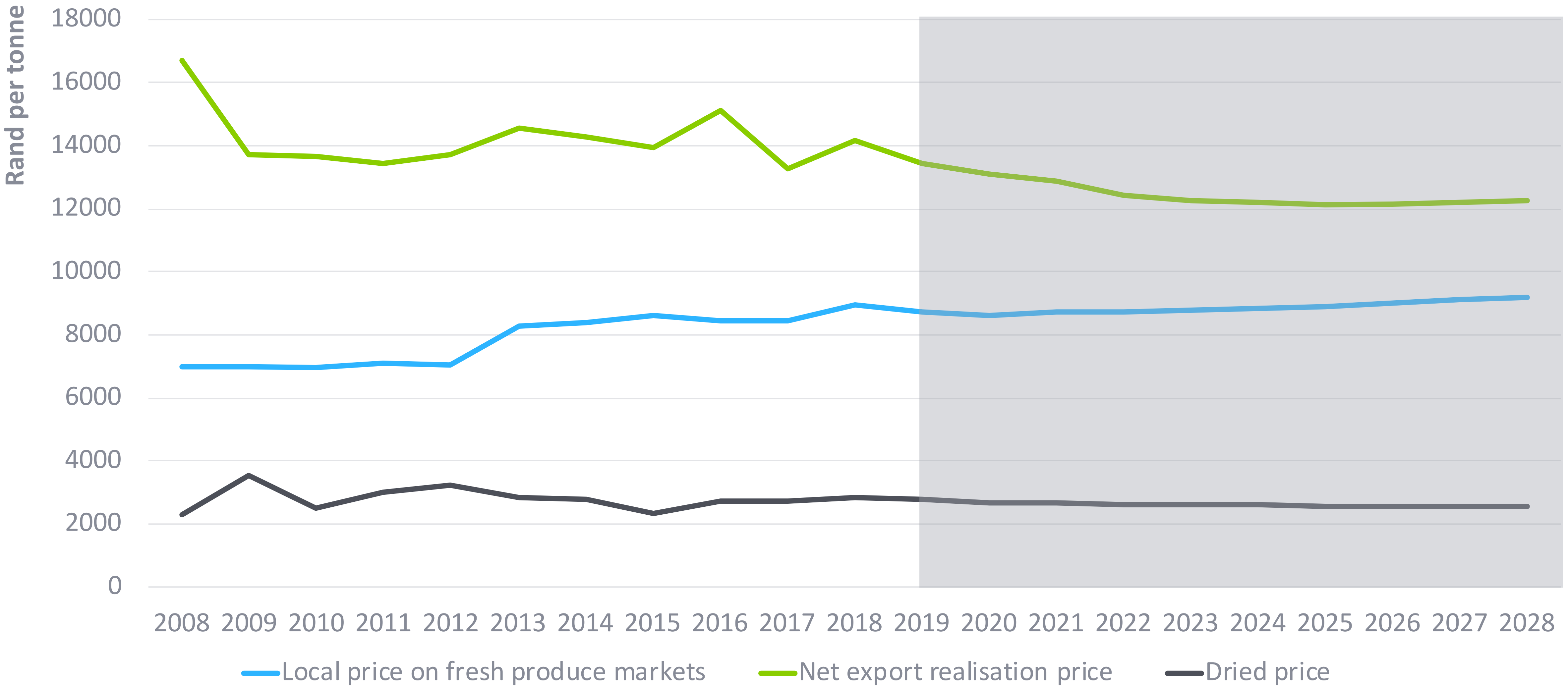
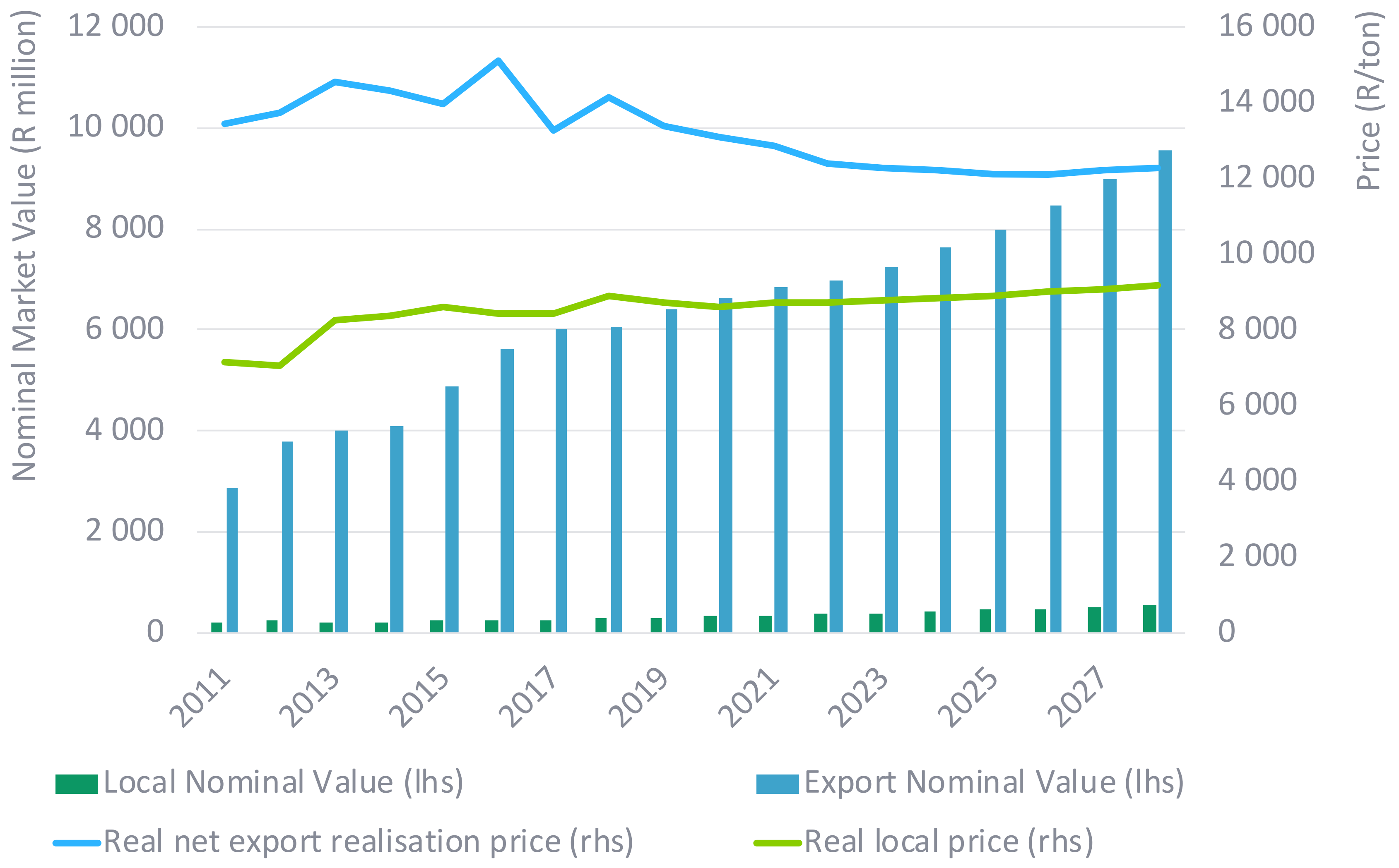


Table grapes local versus exports



- Real (inflation adjusted) prices lower over outlook
- 3% growth in ***real*** prices on domestic fresh markets up until 2028
- ***Nominal*** value of exports is projected to increase by 58% in 10 years to approach the R9.6bn mark
- Value of the local market expected to expand by 95% to surpass R550m by 2028

High reliance on EU & UK, fast growth in Asia

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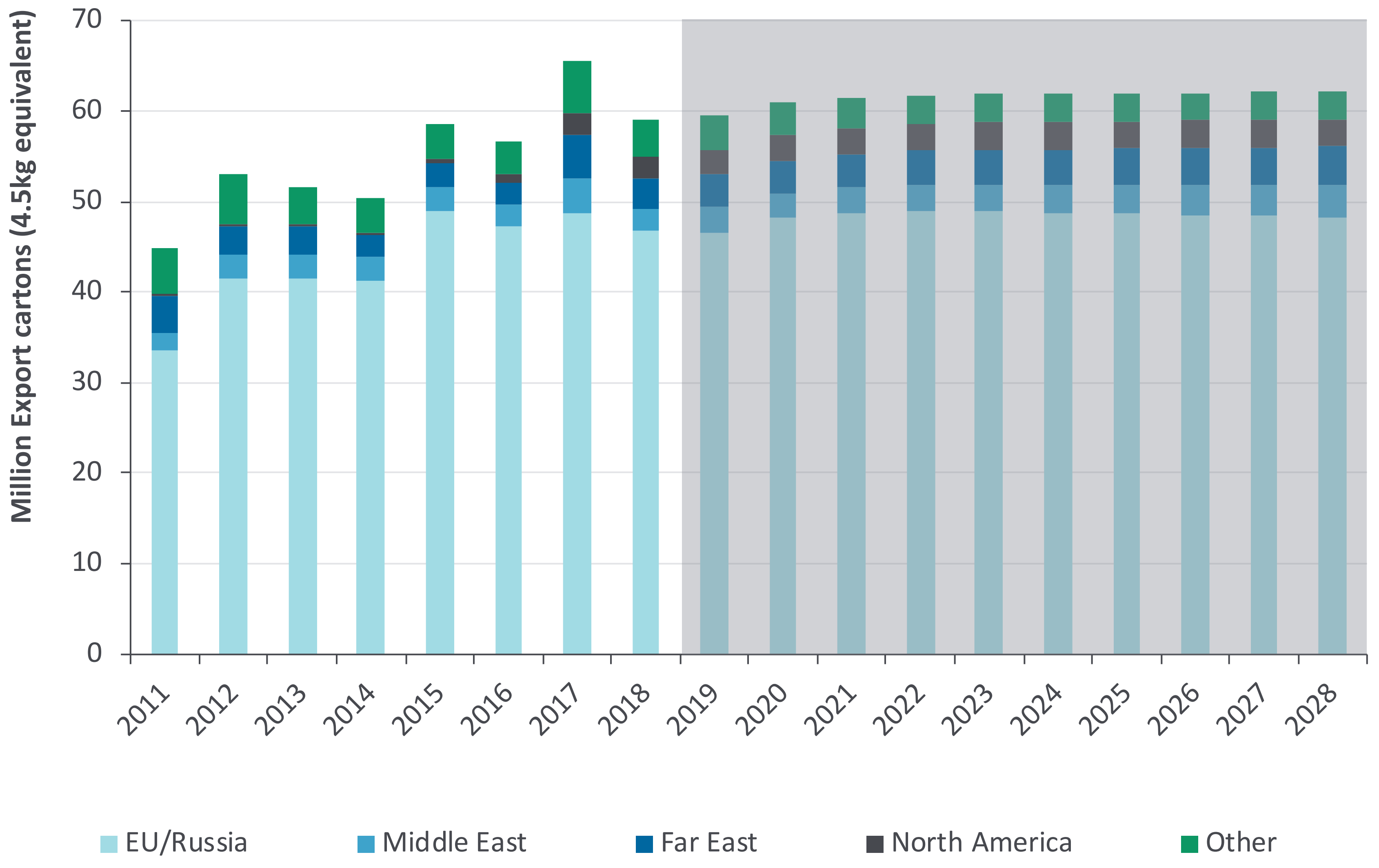
Fruit type	Share of production exported (%)	EU & UK Combined Share of exports (%)
Oranges	74%	40%
Soft Citrus	68%	54%
Grapefruit	67%	43%
Lemons & Limes	67%	38%
Table grapes	**88%**	**76%**
Plums	77%	74%
Blueberries	71%	95%
Avocado	53%	95%
Nectarines	34%	80%

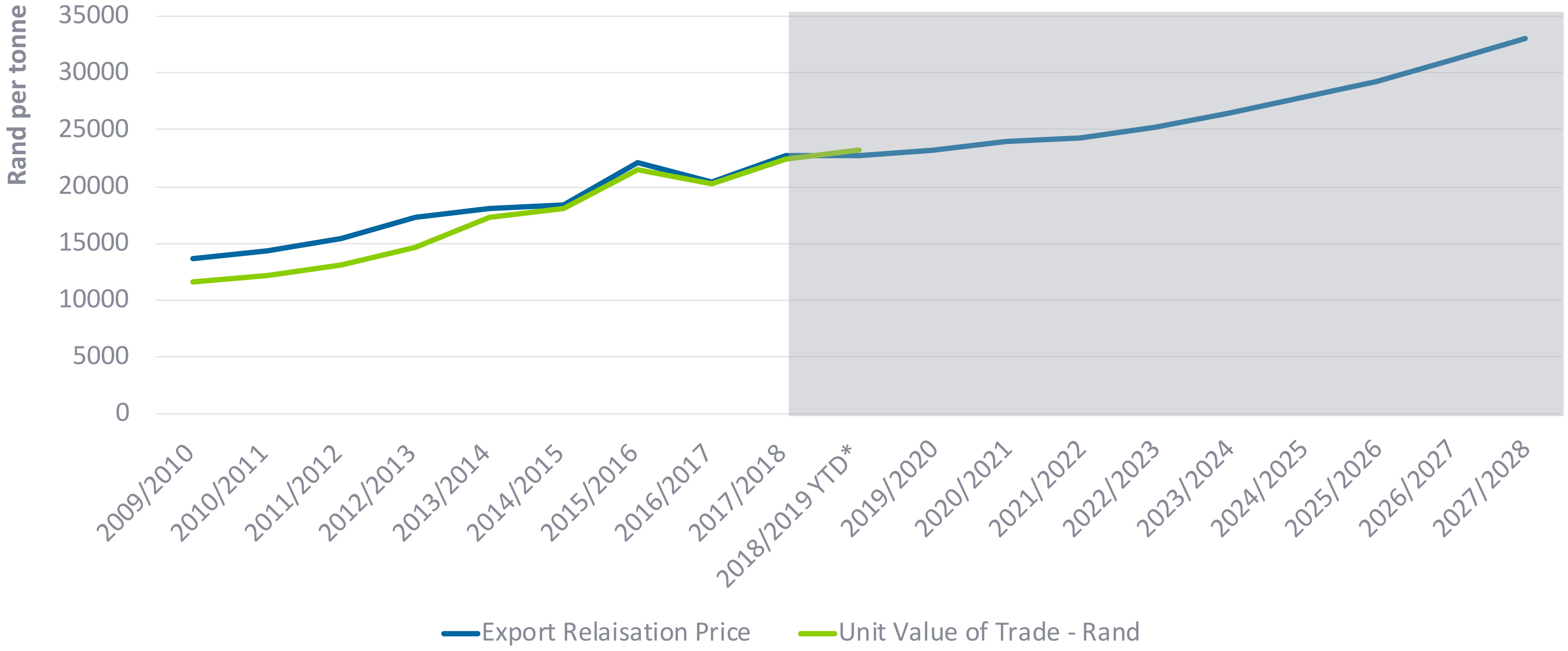
Table grapes exports



- Shift away from traditional markets such as the EU with additional cartons
- Shift towards UAE, Saudi Arabia, Hong Kong, China, Malaysia, Thailand, Russia, USA and Canada
- Access to new lucrative markets will have to be expanded
- Position in existing market space not to be compromised by access to new markets

Perspectives on export prices

Average export price vs. Unit value of trade (SARS)

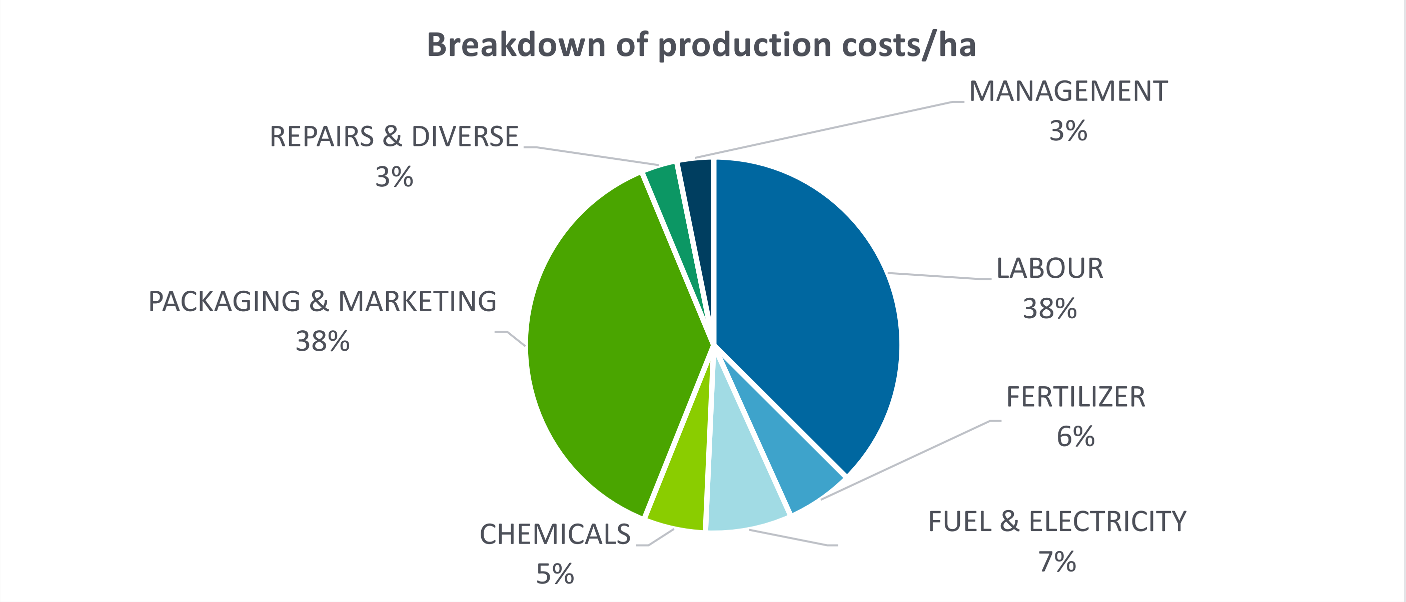


Orange River FinSim prototype

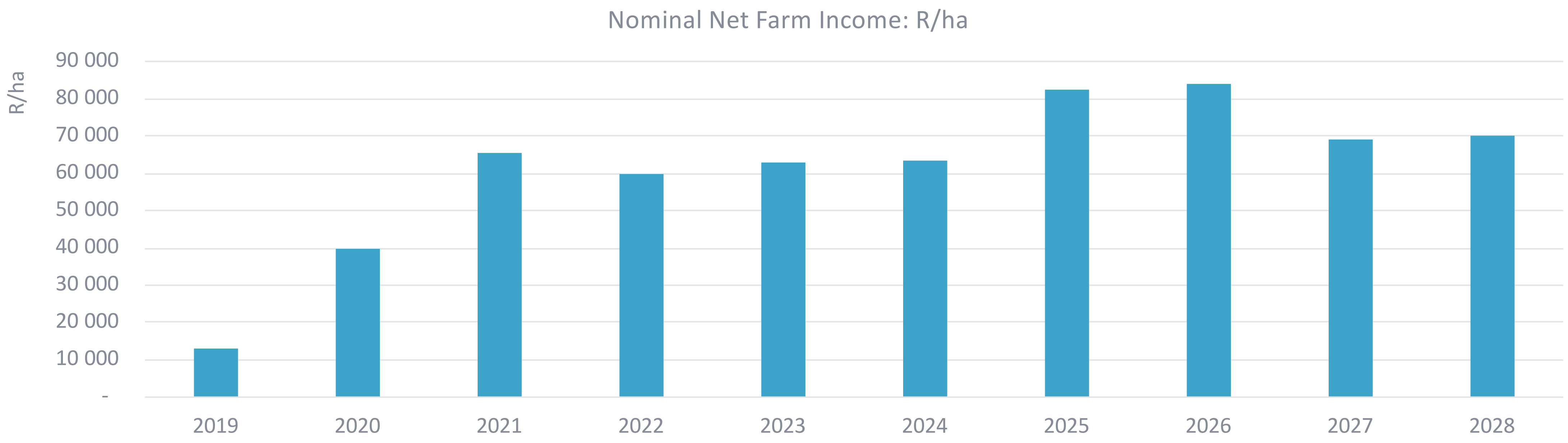
ORANGE RIVER PROTOTYPE FARM		
TABLE GRAPE VARIETY	**HA**	**%**
Prime	14	26%
Sweet Globe	9	17%
Early Sweet	5	9%
Flame	7,5	14%
Thompson Seedless	7,5	14%
Allison	5	9%
Midnight	5	9%
TOTAL	**56**	**100%**

- The BFAP farm-level FinSim model for table grapes is based on:
  - 56 ha under table grapes production
  - Establishment cost were calculated at R 423 720 per hectare (netting cheaper than in WC and drainage not standard)
  - Production cost per hectare amounts to R 388 226 per hectare (including packaging material and allocation of overheads to production hectares)
  - Fixed assets and moveable assets were allocated accordingly to the production unit's requirements to service the investment, along with its operational activities

- Normalised establishment distribution
- 20 year production life cycle
- Variety distribution vary between different farms



Orange River prototype: Net Farm Income/ha



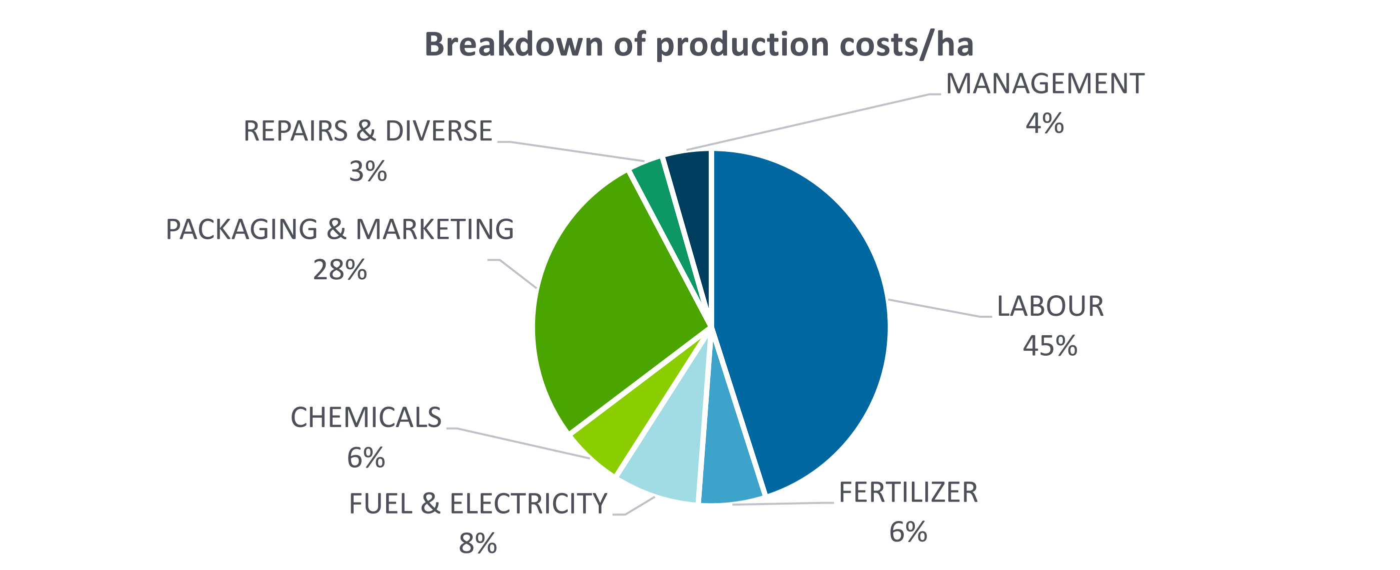
- On current cultivars and current prices
- Peru supply to European markets will continue to create price problems for early table grapes, but the expectation is that producer will reorganise themselves within different export markets
- Based on August 2019 sector model projections
- As netting becomes more and more the standard, the establishment costs increase substantially

Hex River prototype FinSim

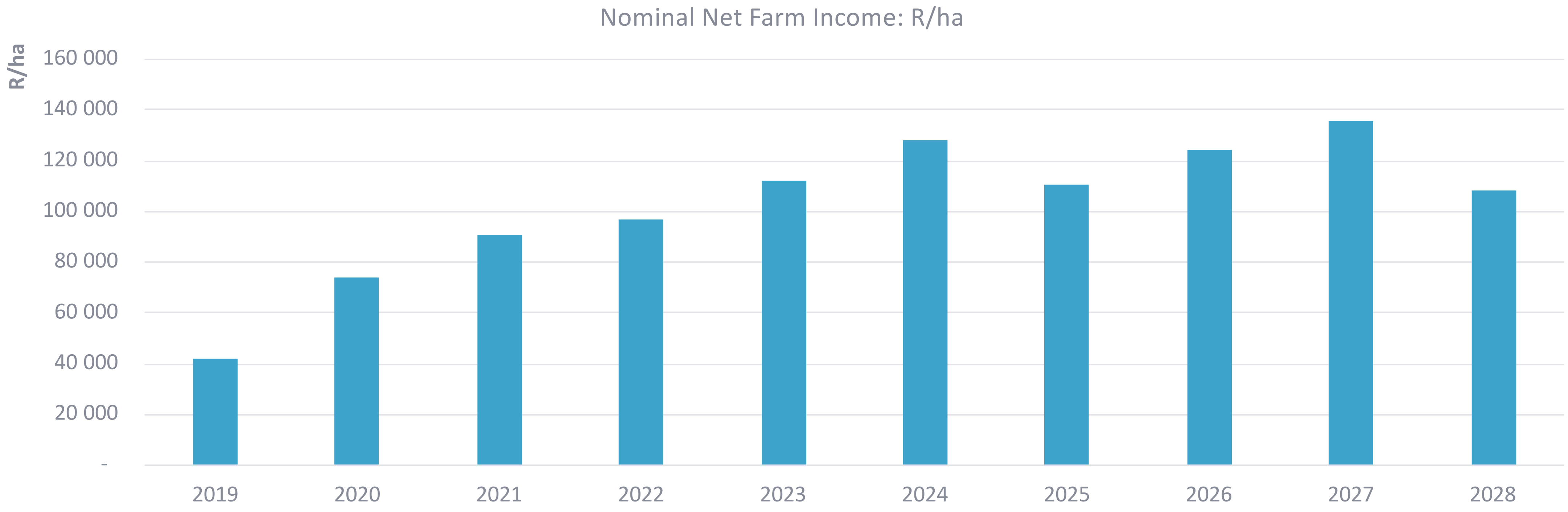
HEX RIVER PROTOTYPE FARM		
TABLE GRAPE VARIETY	**HA**	**%**
Barlinka	1,2	3%
Autumn Crisp	1,5	4%
Red Globe	3,5	8%
Crimson	18	43%
Thompson Seedless	5,5	13%
Sable	6	14%
Sweet Celebration	6,3	15%
TOTAL	**42**	**100%**

- The BFAP farm-level FinSim model for table grapes is based on:
  - 42 ha under table grapes production
  - Establishment cost were calculated at R 612 015 per hectare (including nets and drainage)
  - Production cost per hectare amounts to R 384 467 per hectare (including packaging material and allocation of overheads to production hectares)
  - Fixed assets and moveable assets were allocated accordingly to the production unit's requirements to service the investment, along with its operational activities

- Normalised establishment distribution
- 20 year production life cycle
- Variety distribution vary between different farms



Hex River prototype: Net Farm Income/ha



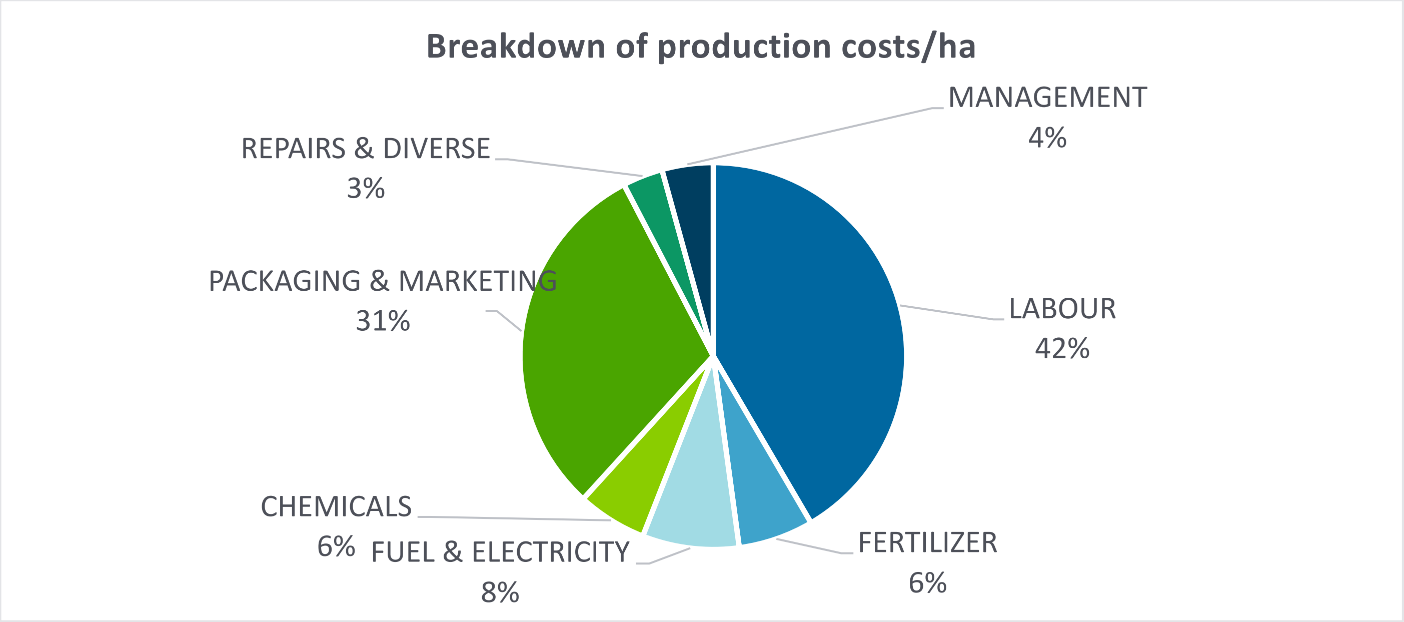
- On current cultivars and current prices
- Crimson the steadfast money maker for this area
- Based on August 2019 sector model projections
- As netting becomes more and more the standard, the establishment costs increase substantially

Berg River FinSim prototype

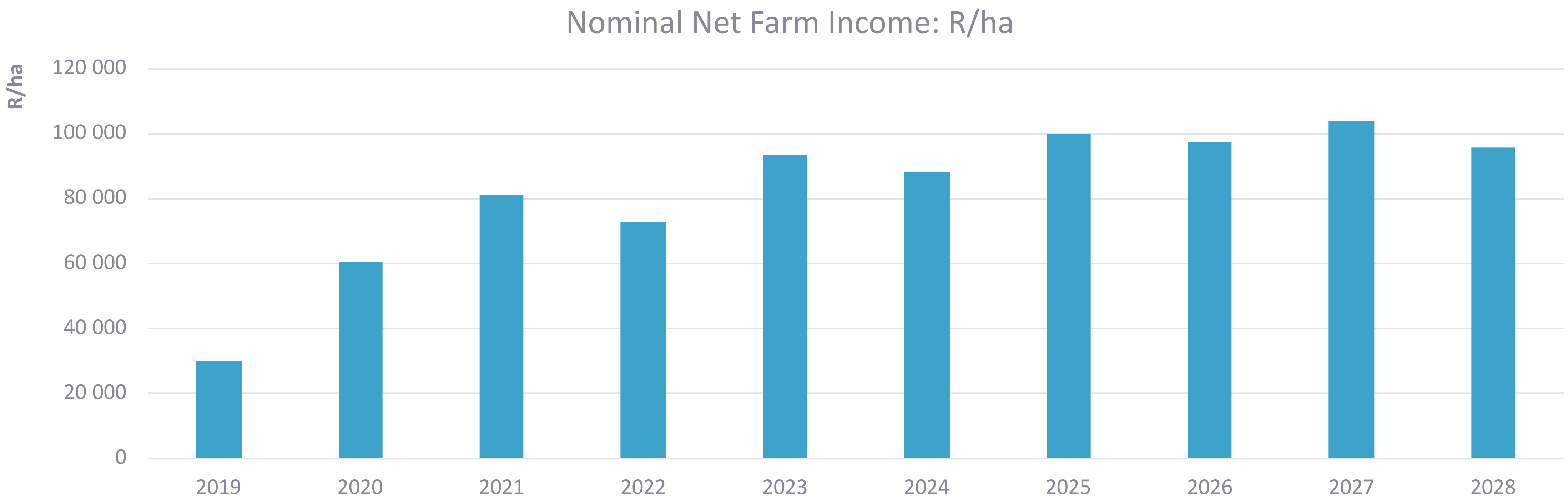
BERG RIVER PROTOTYPE FARM		
TABLE GRAPE VARIETY	**HA**	**%**
Crimson Seedless	13,5	30%
Thompson Seedless	6	13%
Autumn Crisp	7,2	16%
Adora	6,2	14%
Scarlotta	4,2	9%
Sable	4,9	11%
Midnight	3	7%
TOTAL	**45**	**100%**

- The BFAP farm-level FinSim model for table grapes is based on:
  - 45 ha under table grapes production
  - Establishment cost were calculated at R 518 271 per hectare (netting and drainage not standard)
  - Production cost per hectare amounts to R 374 734 per hectare (including packaging material and allocation of overheads to production hectares)
  - Fixed assets and moveable assets were allocated accordingly to the production unit's requirements to service the investment, along with its operational activities

- Normalised establishment distribution
- 20 year production life cycle
- Variety distribution vary between different farms



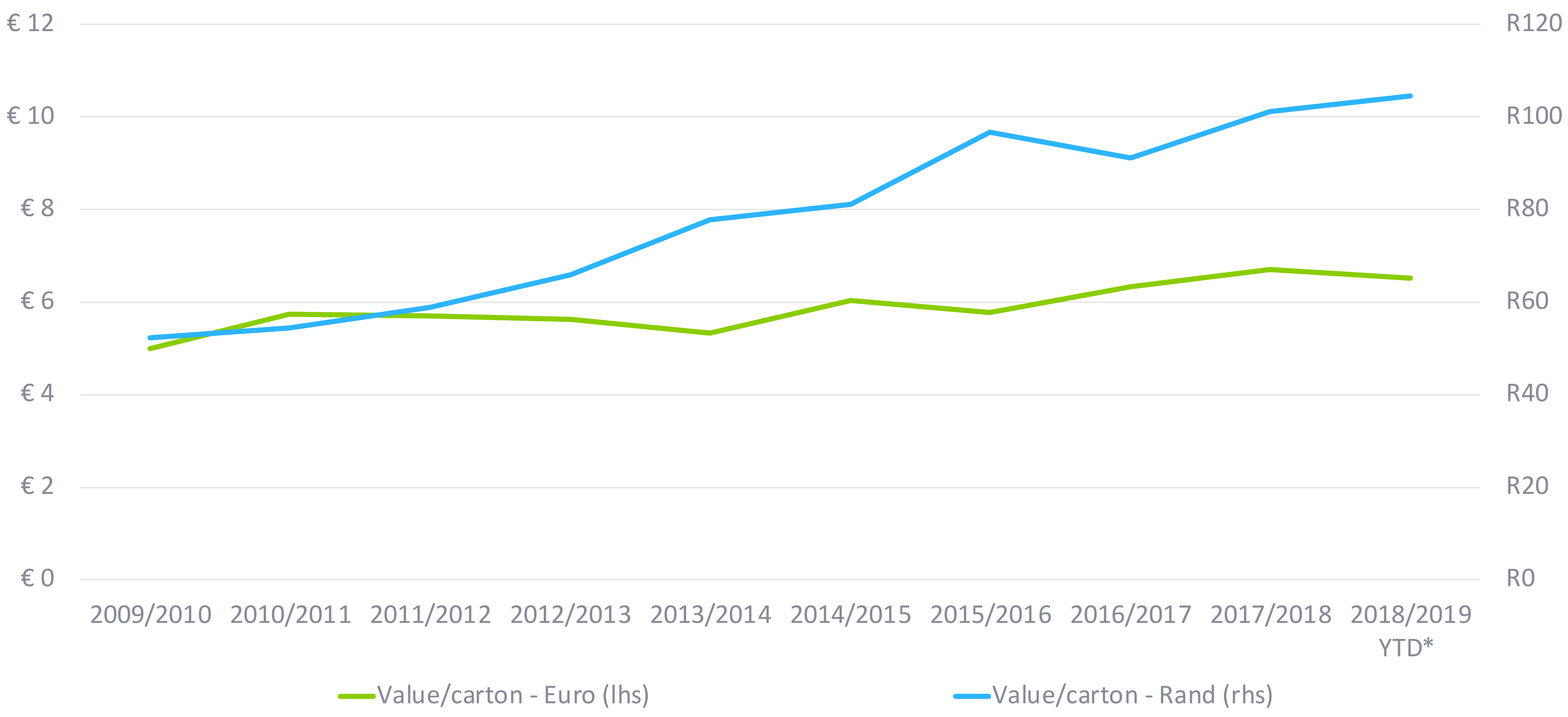
Berg River prototype: Net Farm Income/ha



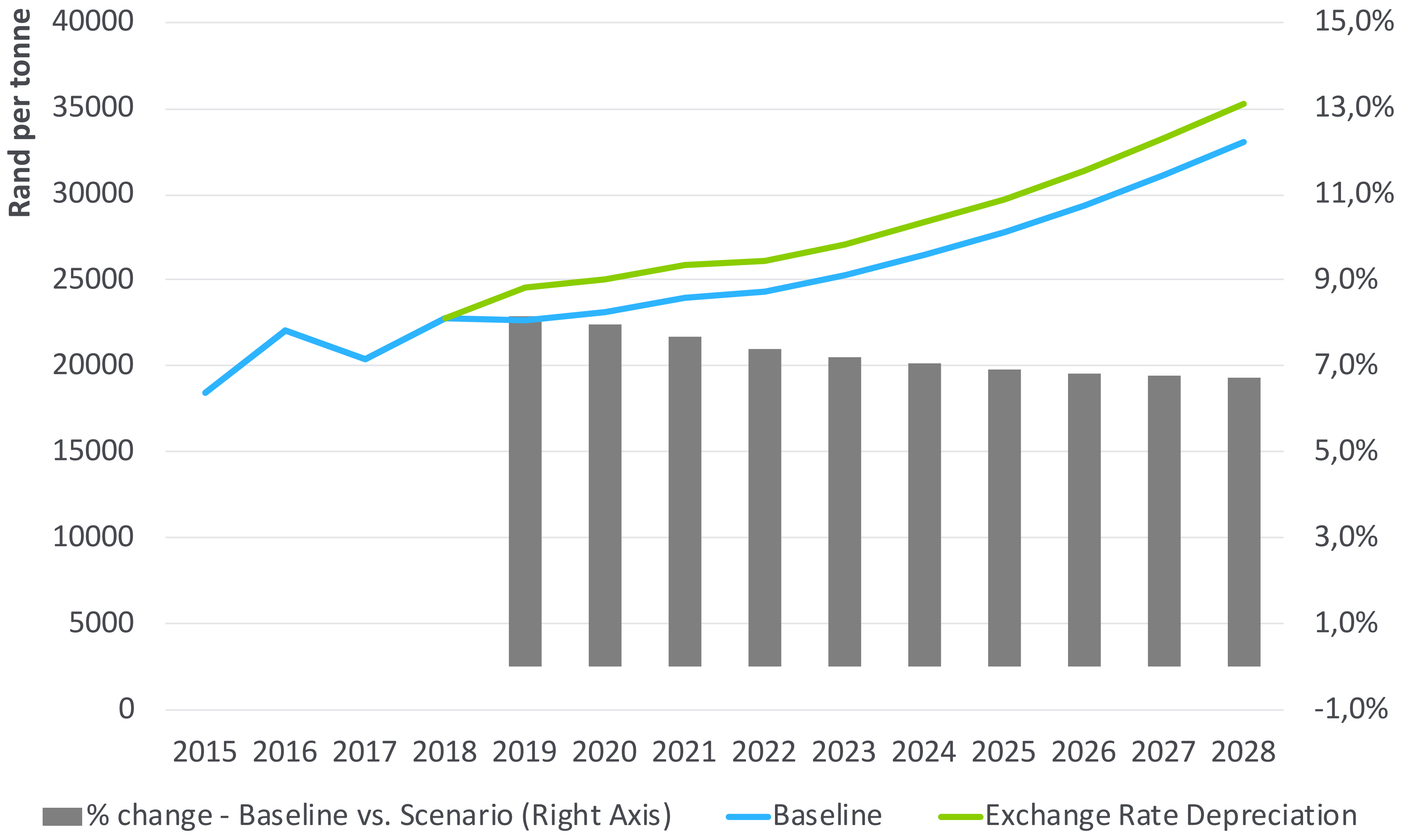
- On current cultivars and current prices
- Slightly higher labour cost per hectare and more variation in productive land than Hex negatively impacts NFI
- Based on August 2019 sector model projections
- As netting become more and more the standard, the cost in establishment increase substantially

Table grape scenarios
August 2019

Impact of Exchange Rate: Nominal Prices

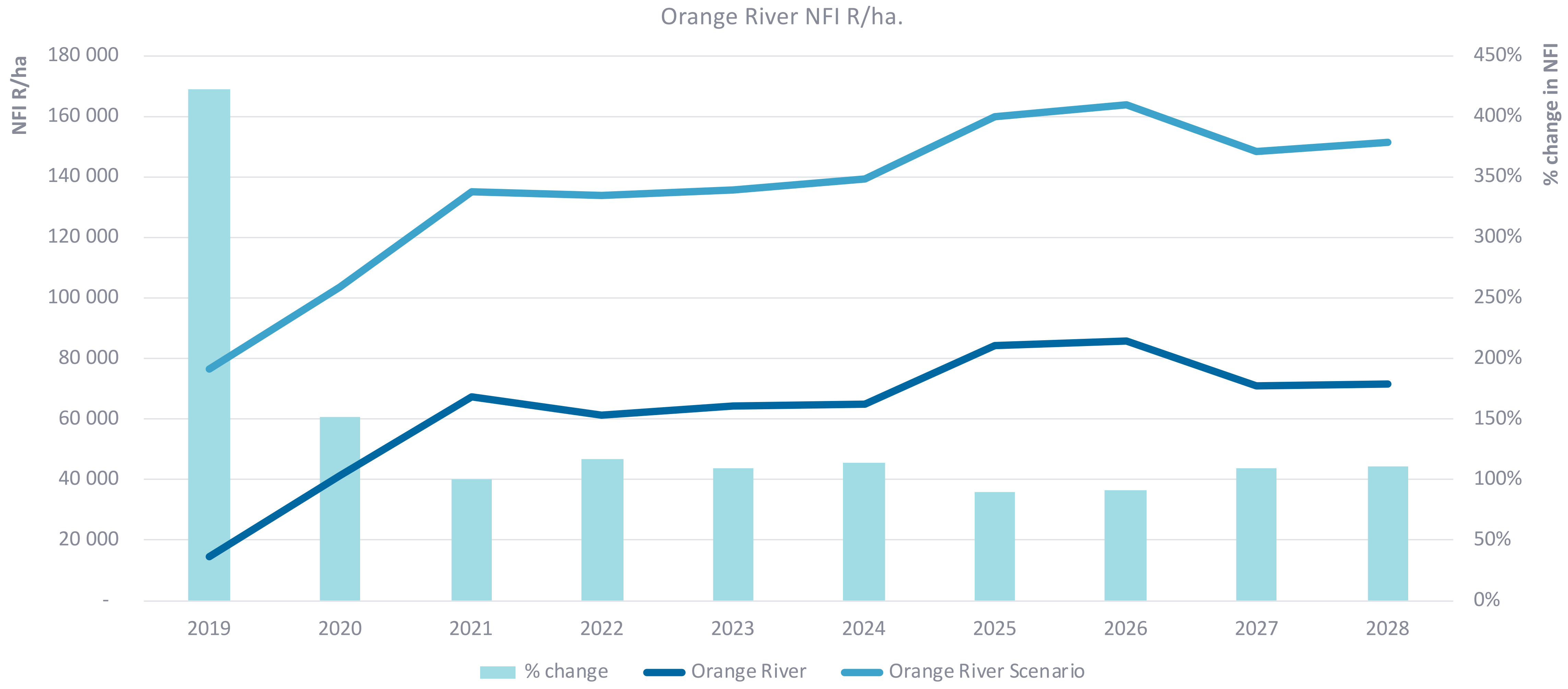


Exchange rate scenario: Export Prices



- Baseline Exchange Rate 2019: R14.24 (annual avg.)
- Scenario Exchange Rate in 2019: R15.50 (annual avg.)
- Depreciation Scenario vs. Baseline of 8.8% - retained for entire outlook

Scenario results at farm-level



Scenario results at farm-level

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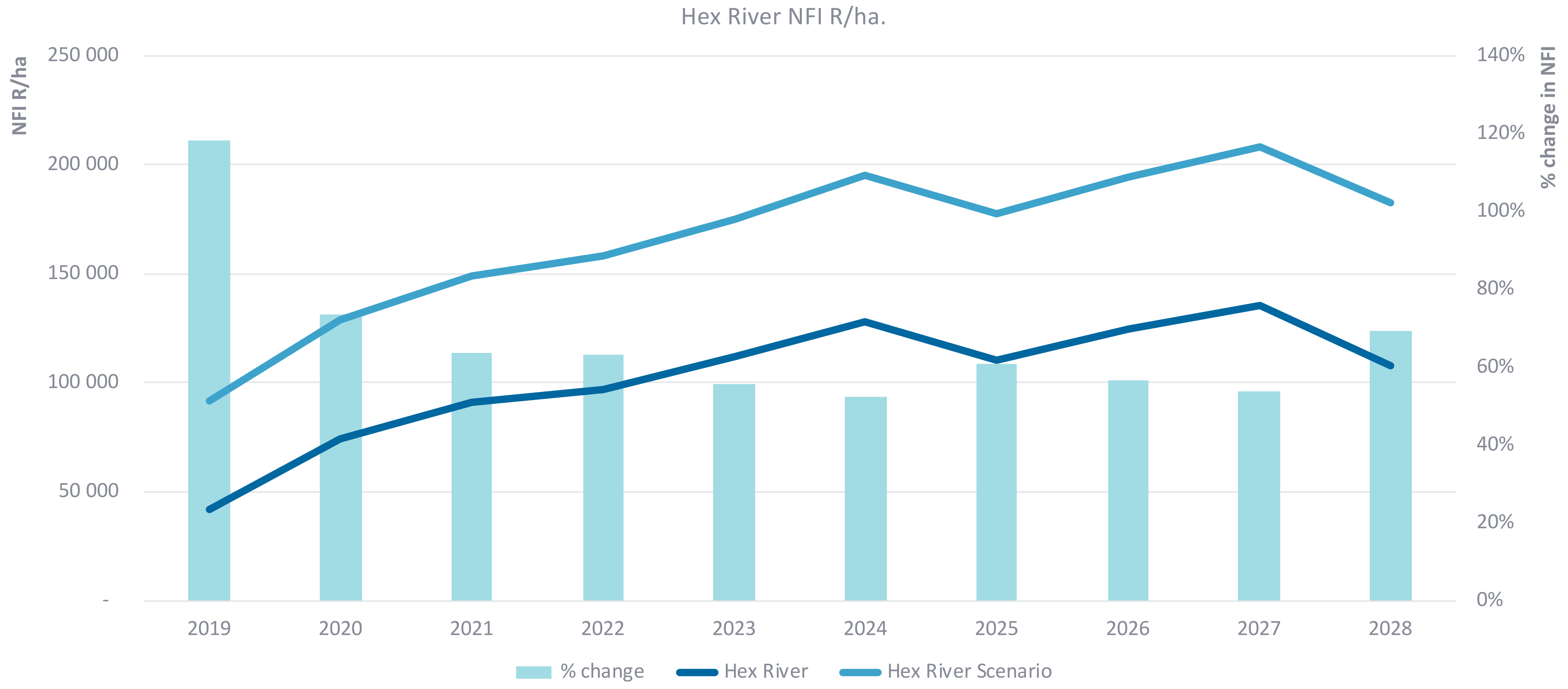
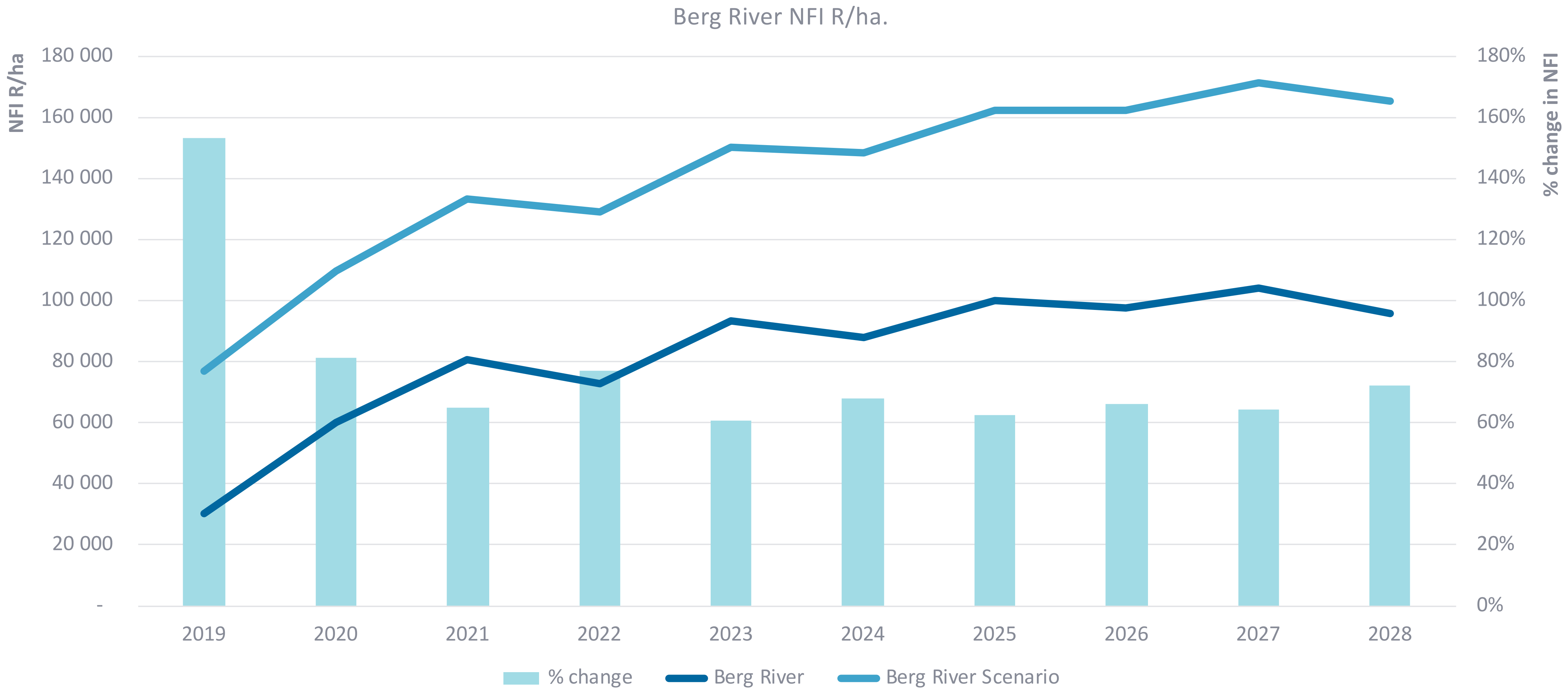


Scenario results at farm-level



Scenario results at Orange River farm-level

The what: farm level testing of quality orientated production

The why: with packaging and labour being major cost drivers, how can we restructure ourselves to use less of it without negatively impacting NFI/ha.

The how: what will the testing change from the baseline

- Reduced overall quantity per hectare: 7% reduction
- Reduced overall labour per hectare: 7% reduction
- Higher pack-outs at packhouse level: 3% increase in exports and 3% less cellar/raisons
- Higher price per carton in export market: 3% increase in export price for higher quality/less claims

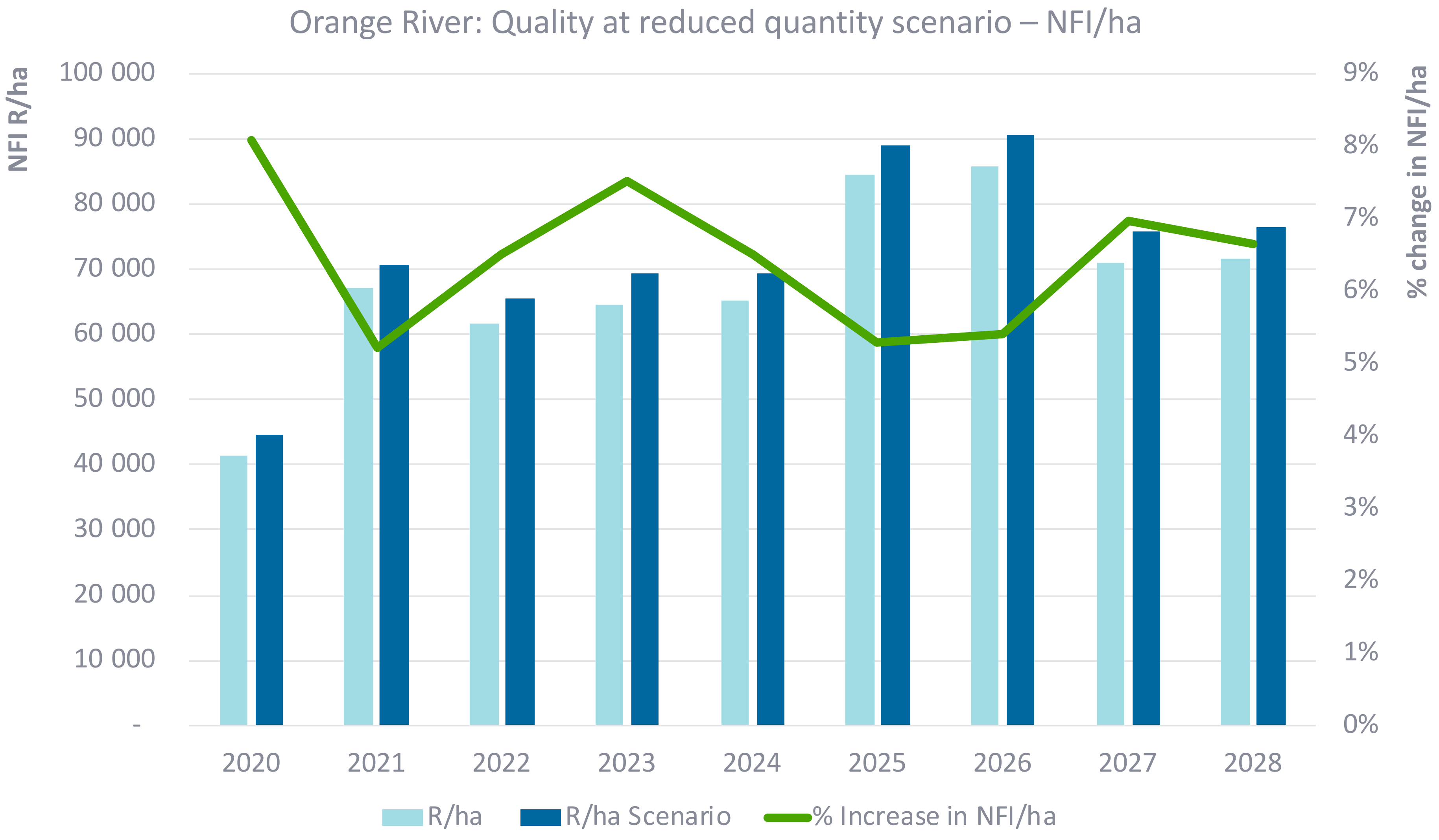
The effect on NFI/ha over the outlook period

Orange: R4700/ha increase with 3.95% less cartons exported per annum

Berg: R5100/ha increase with 3.87% less cartons exported per annum

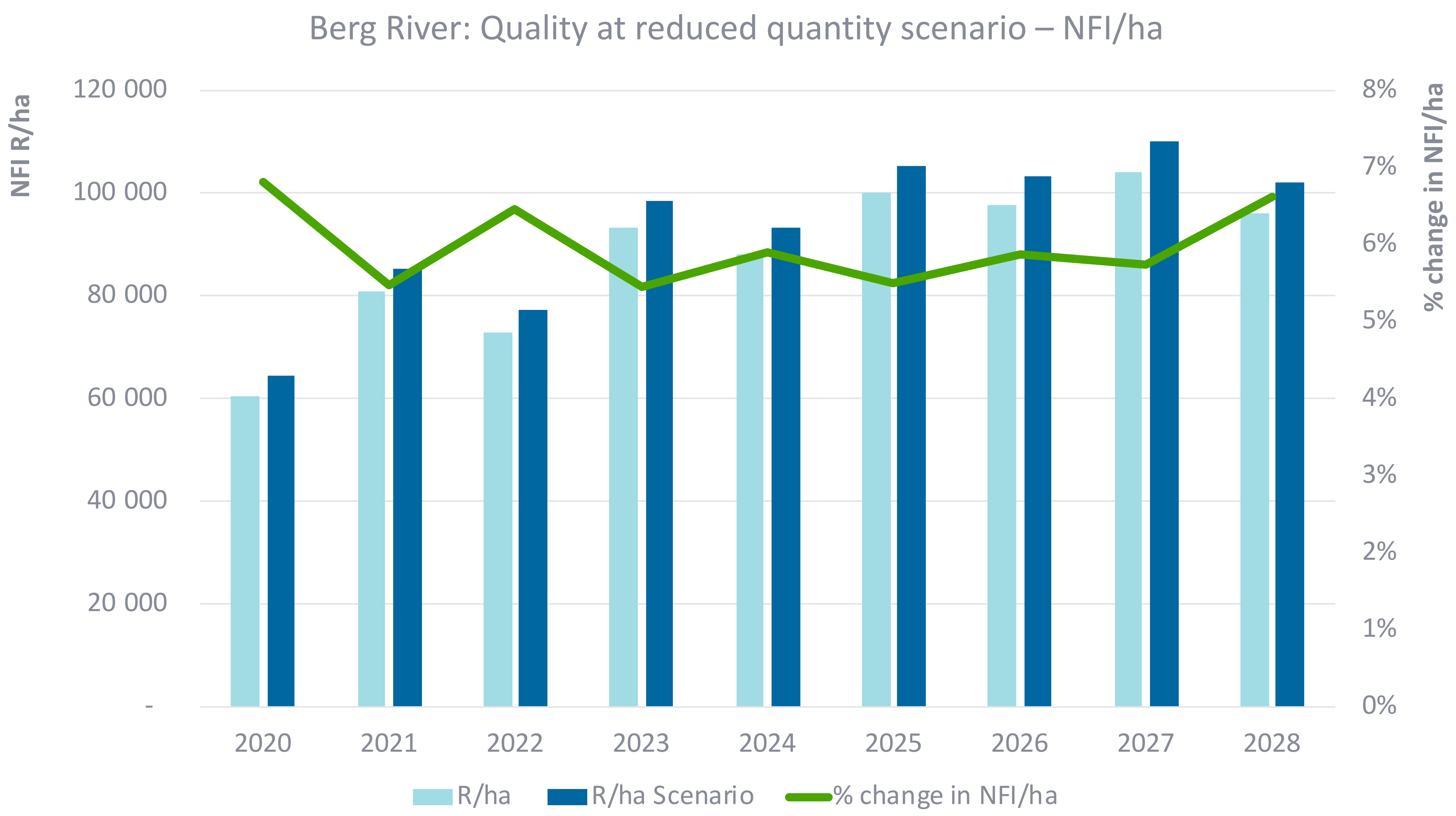
Hex: R5800/ha increase with 3.64% less cartons exported per annum

Scenario results at Orange River farm-level



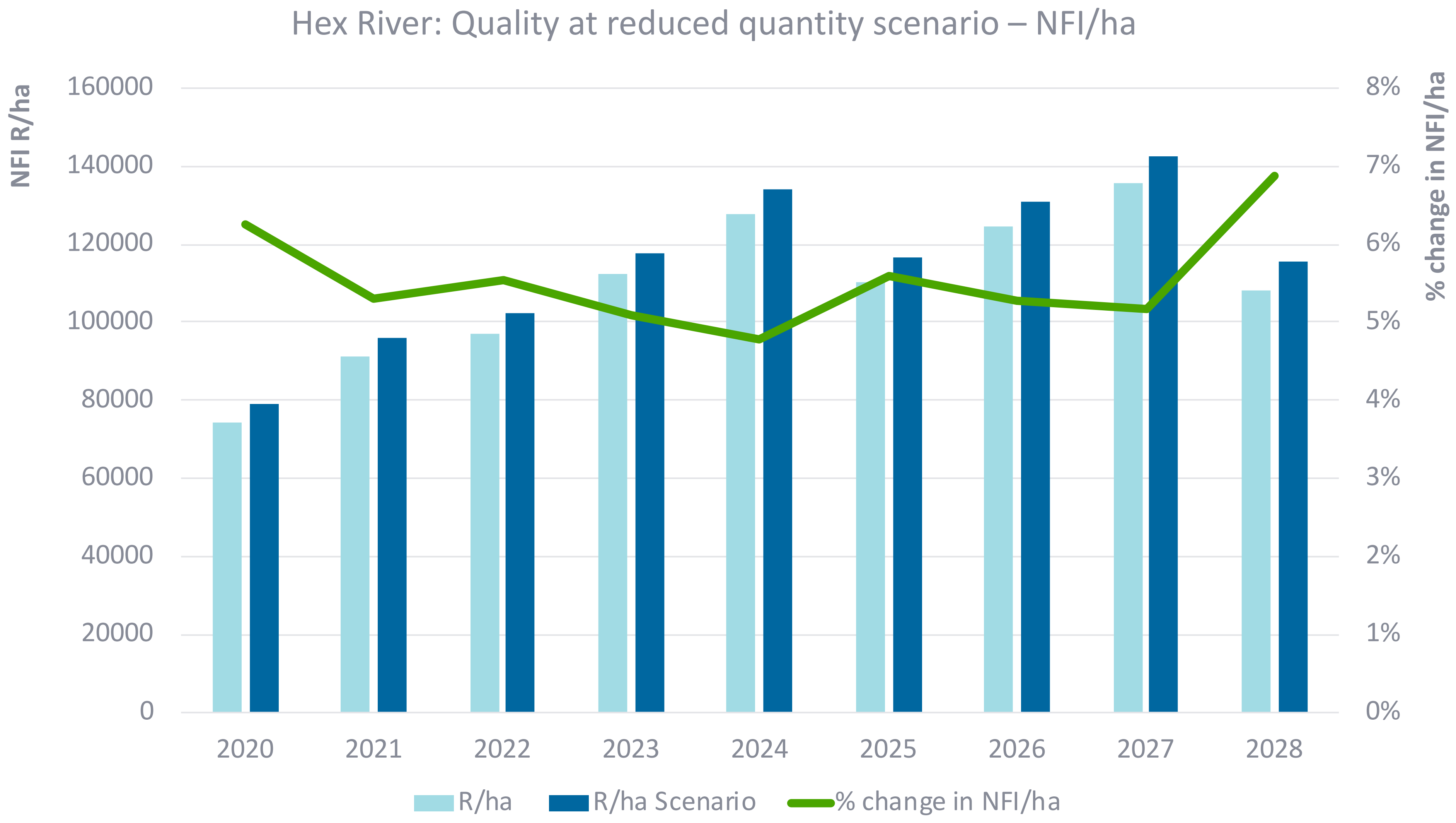
- In low profit years, the % change in NFI is higher
- Almost always at least giving you an additional return equivalent to the bank savings interest rate

Scenario results at Berg River farm-level



- In low profit years, the % change in NFI is higher
- Almost always at least giving you an additional return equivalent to the bank savings interest rate
- Slightly smaller impact than Orange River in percentage terms, because of smaller transport component in cost structure

Scenario results at Hex River farm-level



- In low profit years, the % change in NFI is higher
- Almost always at least giving you an additional return equivalent to the bank savings interest rate

Application of BFAP including Table Grapes

- 2011 - National Development Plan 2030
- 2012 - De Doorns (Minimum wage)
- 2013 - Thailand (Market access closure)
- 2016 - Phakisa
- 2017 - Agricultural Workstream
- 2018 - Land Reform – expropriation without compensation

NDP matrix

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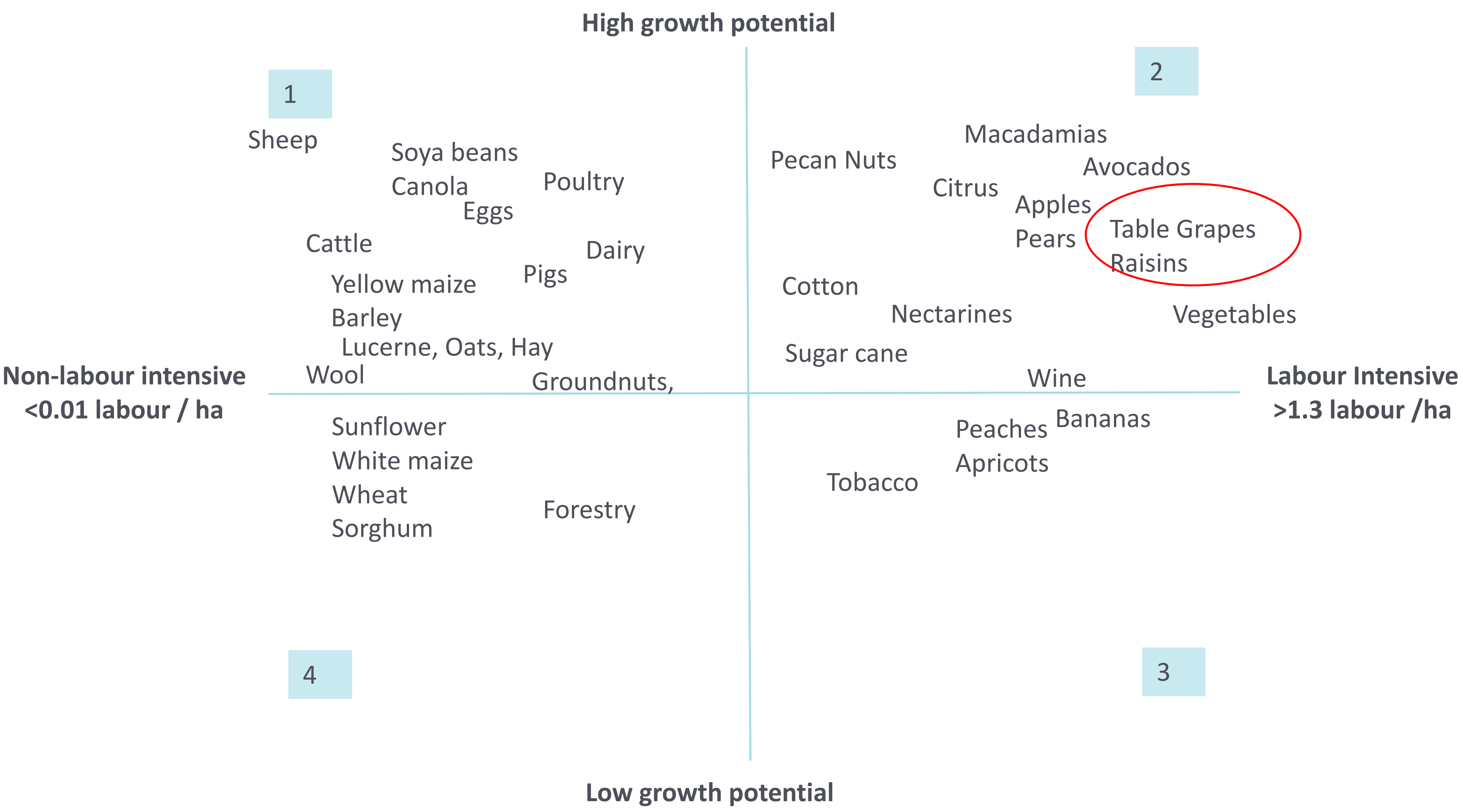

Our vision: NDP's score sheet

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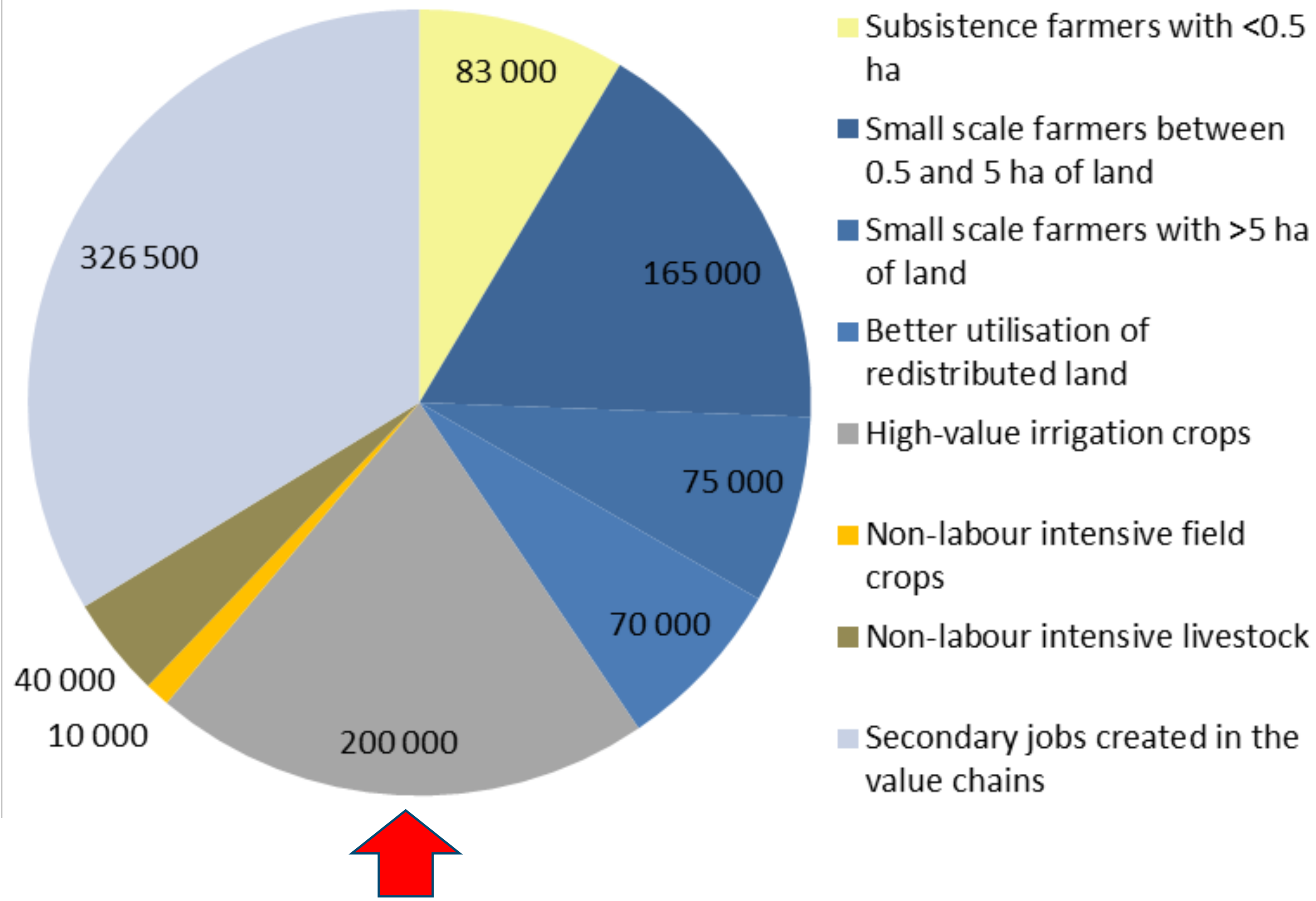
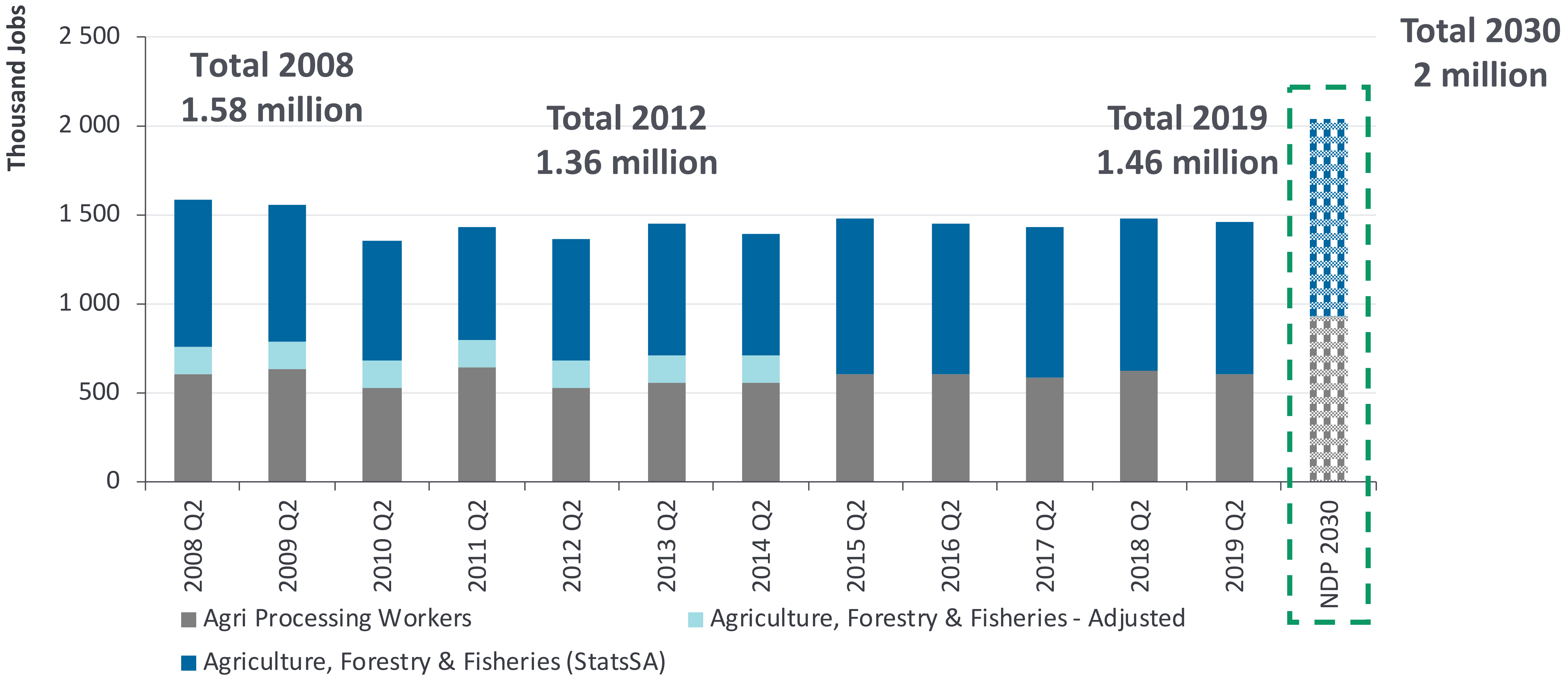


Irrigation expansion of 142 000 ha NOT 500 000 ha

NDP Target	Indicator
Land reform	No
Jobs & growth: High-value & field crops, livestock	Yes
Jobs & growth: Under-utilised land, homelands etc.	No
Jobs & growth Agro –processing	Yes?

Employment in agriculture

Still a significant gap to NDP target



Source: Stats SA, 2019

Application of BFAP system – agri workstream (2016)

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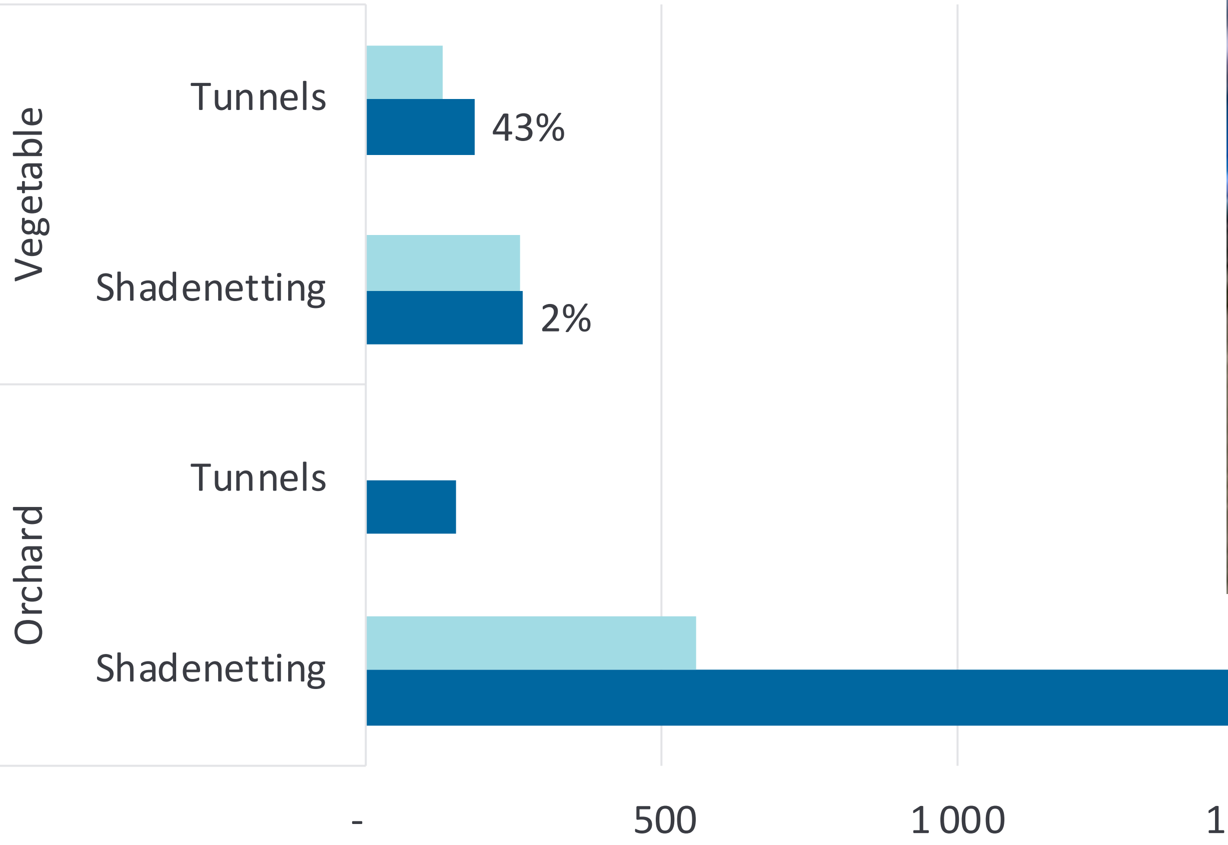
	Hectare Expansion							Total
	Apples	Table Grapes	White Wine	Citrus	Avocados	Macade mias	Pecans	
WAS savings	3,000			9,000	3,000	4,700	7,300	27,000
Brandvlei		1,000	500	2,000				3,500
ClanWilliam		1,000	500	2,500				4,000
Total expansion	**3,000**	**2,000**	**1,000**	**13,500**	**3,000**	**4,700**	**7,300**	**34,500**

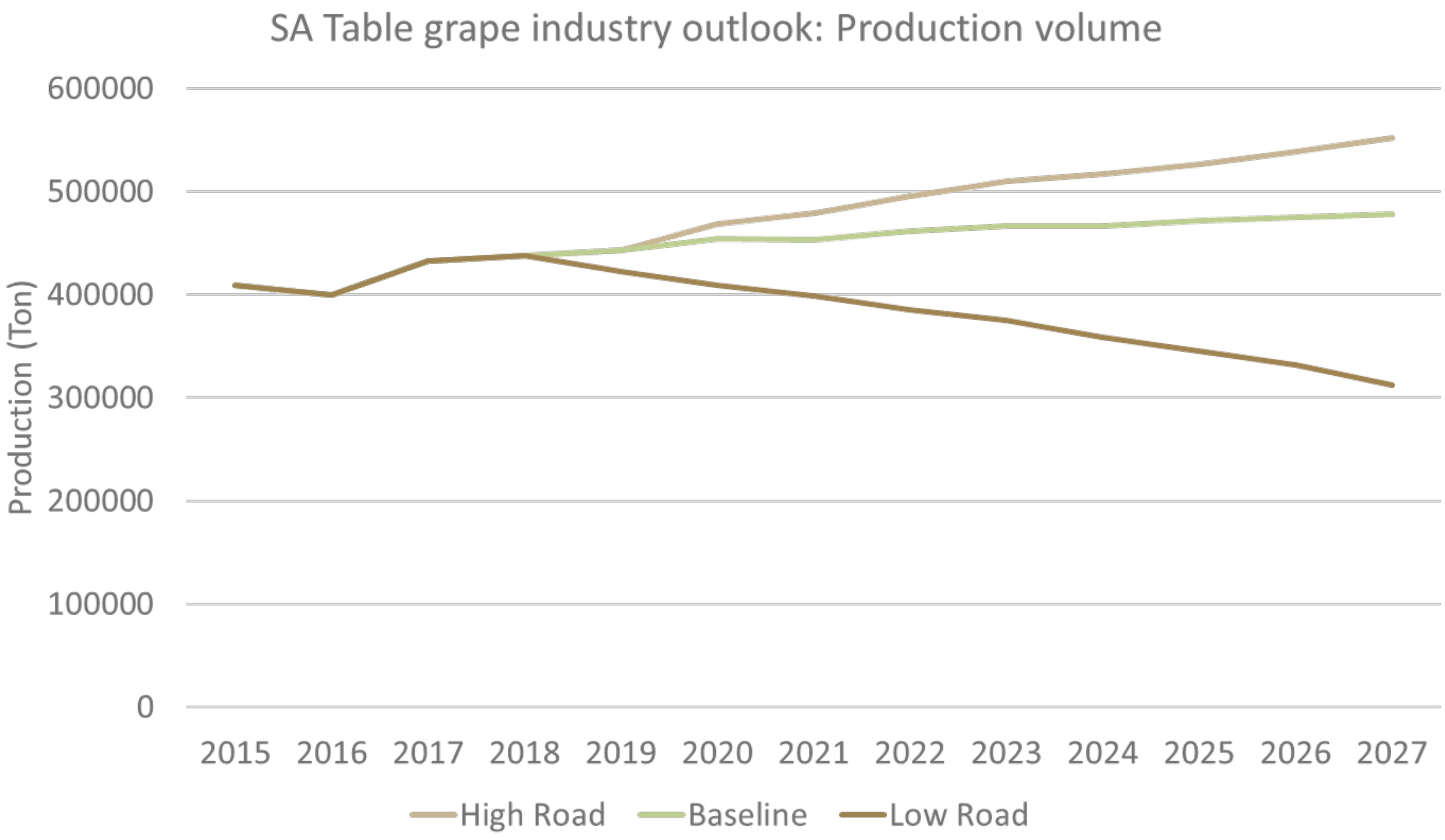
Irrigation efficiency (WC)



	Orchard		Vegetable	
	Shadenetting	Tunnels	Shadenetting	Tunnels
2013	559		261	130
2017	2 185	153,26	267	186

Source: WCDoA 2013 & 2017 Flyover data

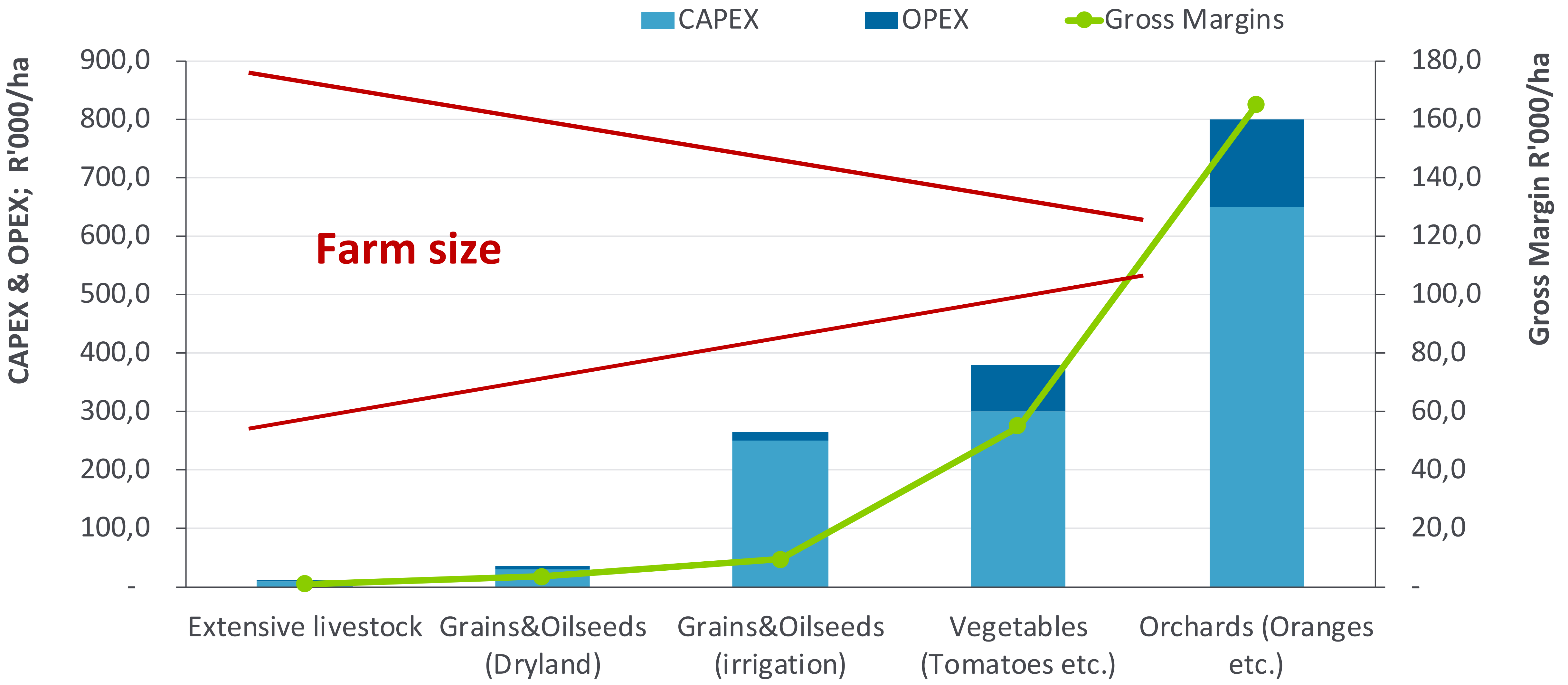
Application of BFAP system Land Reform (May 2018)



- Decrease of 34.72% with Low Road (non-transparent land reform policies)
- Economic and political uncertainty
- Business and industry confidence

One size does NOT fit all!

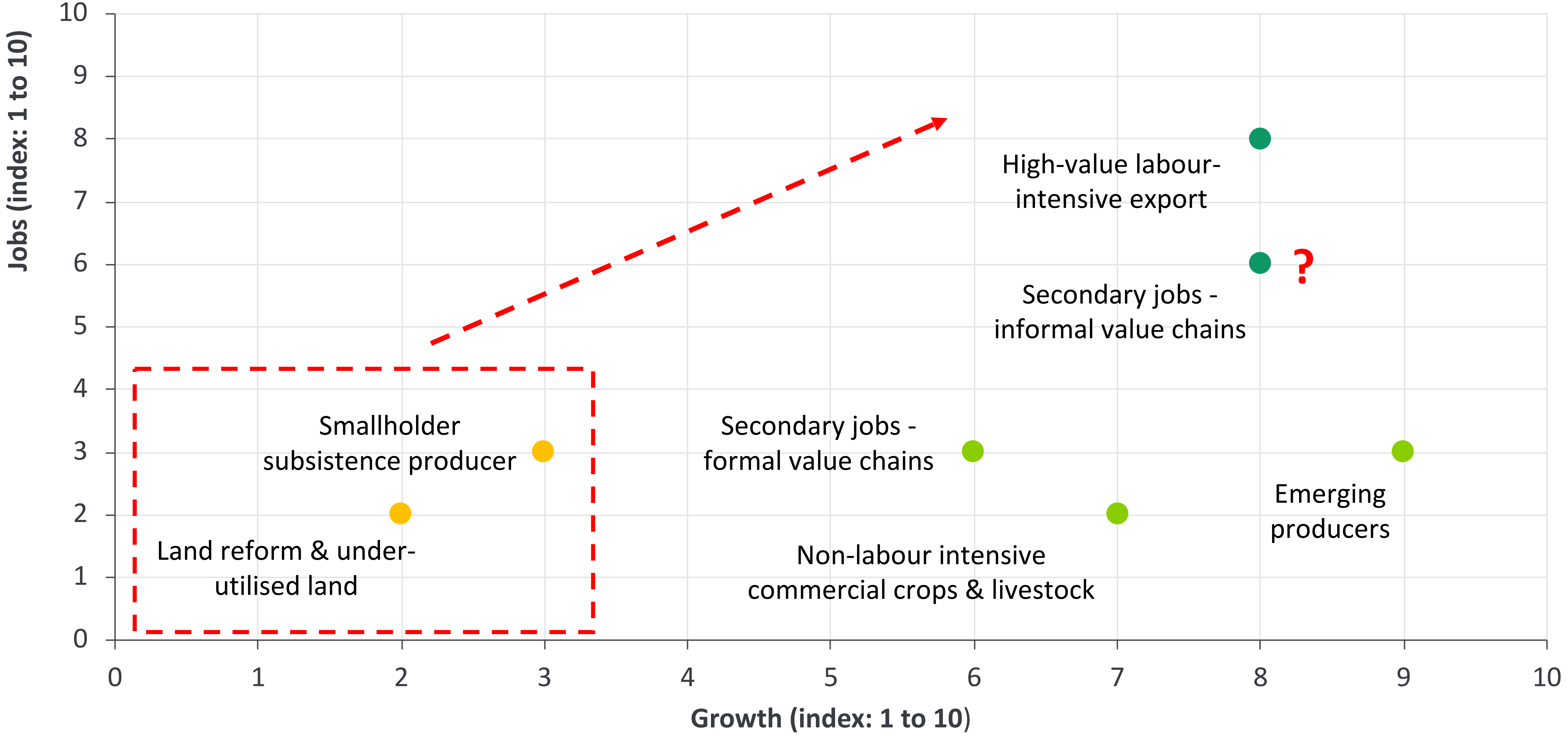
Net revenue per hectare (National 5-year averages)



Land panel report

- Overview of complex nature of land reform & clear description of failures, corruption, lack of clear plan etc. over past 2 decades
- Mixed tenure model: a continuum of rights from freehold and communal as well as multilevel ownership arrangements……. the report acknowledges the importance of property rights.
- Various tenure systems, description of beneficiaries (acknowledging categories ranging from household, small scale to large-scale farmers) and the variety of demand for land, urban land reform etc.
- Acknowledgement of lack of accurate data and the desperate need for a comprehensive land audit.
- Proactive and targeted commodity and area-based approaches with production capacity informed by agro ecological and land use analysis and the establishment of a land reform fund.
- Challenges with EWC, Land Ceilings and lack of clear strategy on under-utilised resources

Our future: NDP Performance (2012-2019)



Land value contrast: R1000 / ha vs. R1 mil / ha

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Thank you

Acknowledge SATI financial support

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