

# The nature and costliness of our barley supply chains – why all the fuss?

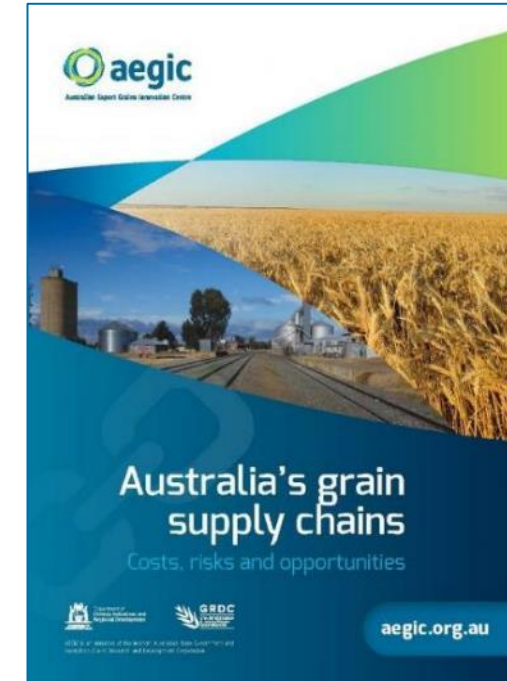
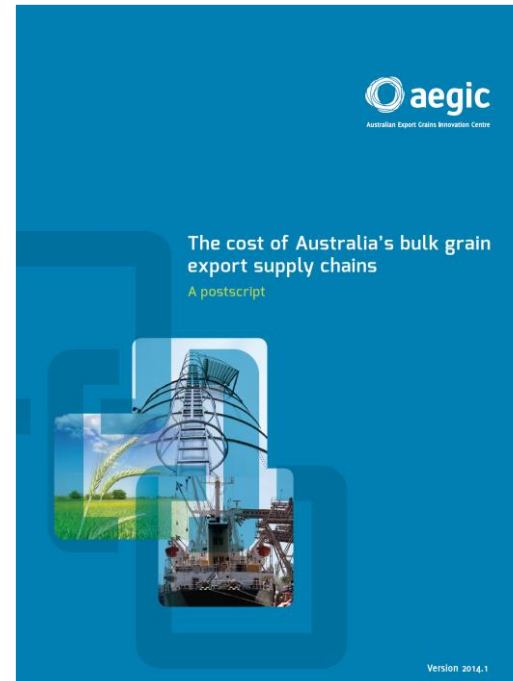
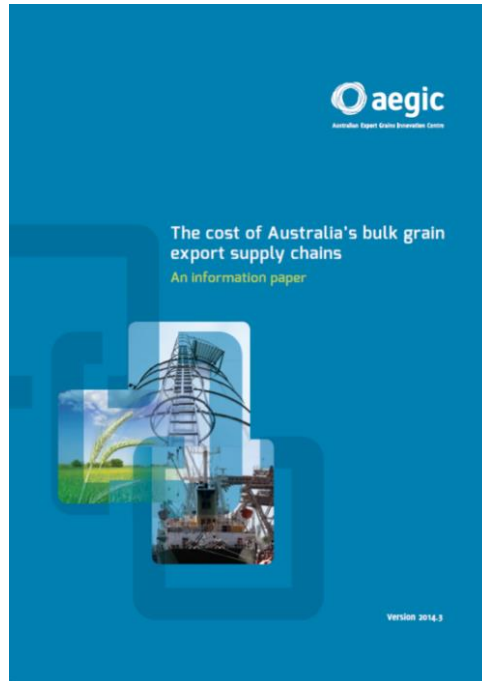
Prof Ross Kingwell

10 September 2019

# Why does the costliness of our barley supply chains matter?

- We are in the business of selling barley, where the price and quality of the barley matter to our customers.
- Export prices are affected by many things; some outside our control BUT some within our control.
- Farm costs of production and the nature and costliness of our grain supply chains are within our combined control.

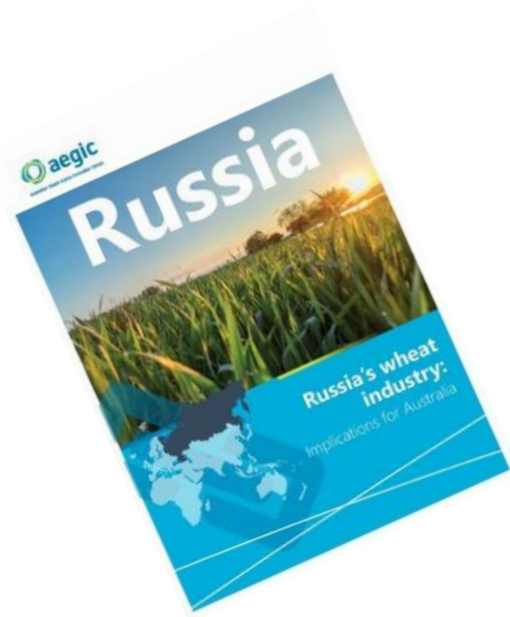
# AEGLC's grain supply chain research



Available at: [https://www.aegic.org.au/wp-content/uploads/2019/01/FULL-REPORT-Australias-grain-supply-chains-DIGITAL\\_\\_.pdf](https://www.aegic.org.au/wp-content/uploads/2019/01/FULL-REPORT-Australias-grain-supply-chains-DIGITAL__.pdf)



# AEGLIC's export competitors research



# What do we learn from this research?



All these publications are available on the AEGIC website

# Competition everywhere

- Australia faces competitive challenges on farm and beyond the farm-gate, in our supply chains.
- We face direct and indirect competition.
- We face organisational competition.

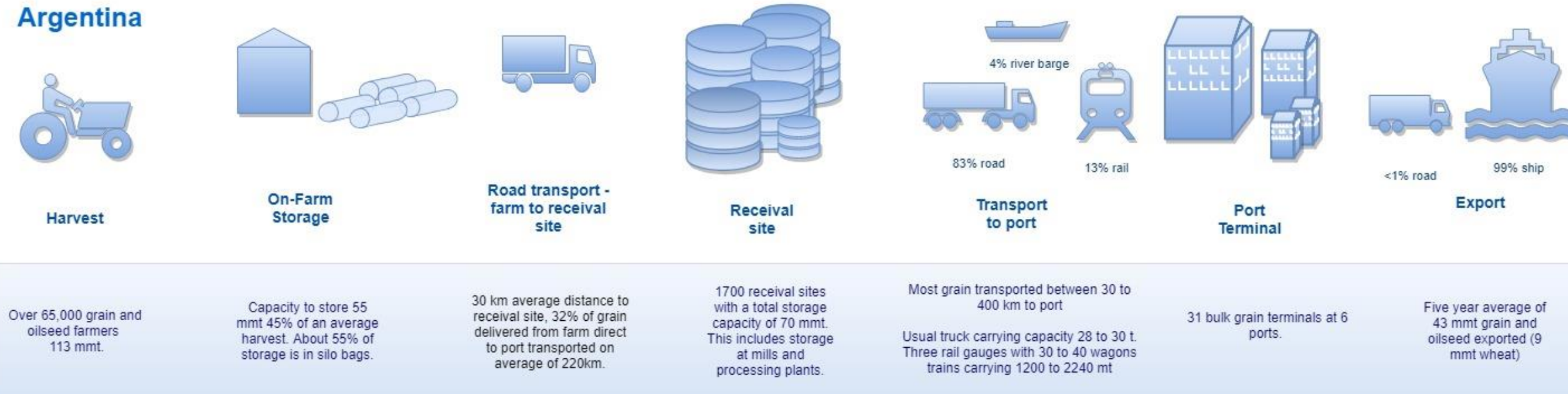


Australia



Aegic has studied the entire supply chain

Argentina



# Supply chain costs

	2014	
Costs (\$/t)	Canada	Australia
Cartage farm-site	10.7 (10%)	8.9 (11%)
Upcountry handling	15.2 (14%)	14.4 (17%)
Storage	17.7 (16%)	8.9 (11%)
Transport upcountry to port	46.8 (44%)	27.8 (33%)
Port charges	13.9 (13%)	21 (25%)
Levies and check-offs	3.0 (3%)	2.8 (3%)
<b>Total supply chain cost</b>	<b>107.3</b>	<b>83.8</b>
Production cost	139.1	157.1
Supply chain proportion	0.44	0.35





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# Supply chain costs

	2016	
Costs (\$/t)	Russia	Australia
Cartage farm-site	3.5 (6%)	7.8 (9%)
Upcountry handling	9.2 (16%)	18.4 (22%)
Storage	5.1 (9%)	9.0 (11%)
Transport upcountry to port	15.5 (28%)	26.7 (32%)
Port charges	22.4 (40%)	19.9 (24%)
Levies and check-offs	0.10 (<1%)	2.8 (3%)
Total supply chain cost	55.8	84.6
Production cost	121.1	148.3
Supply chain proportion	0.32	0.36





# Supply chain costs

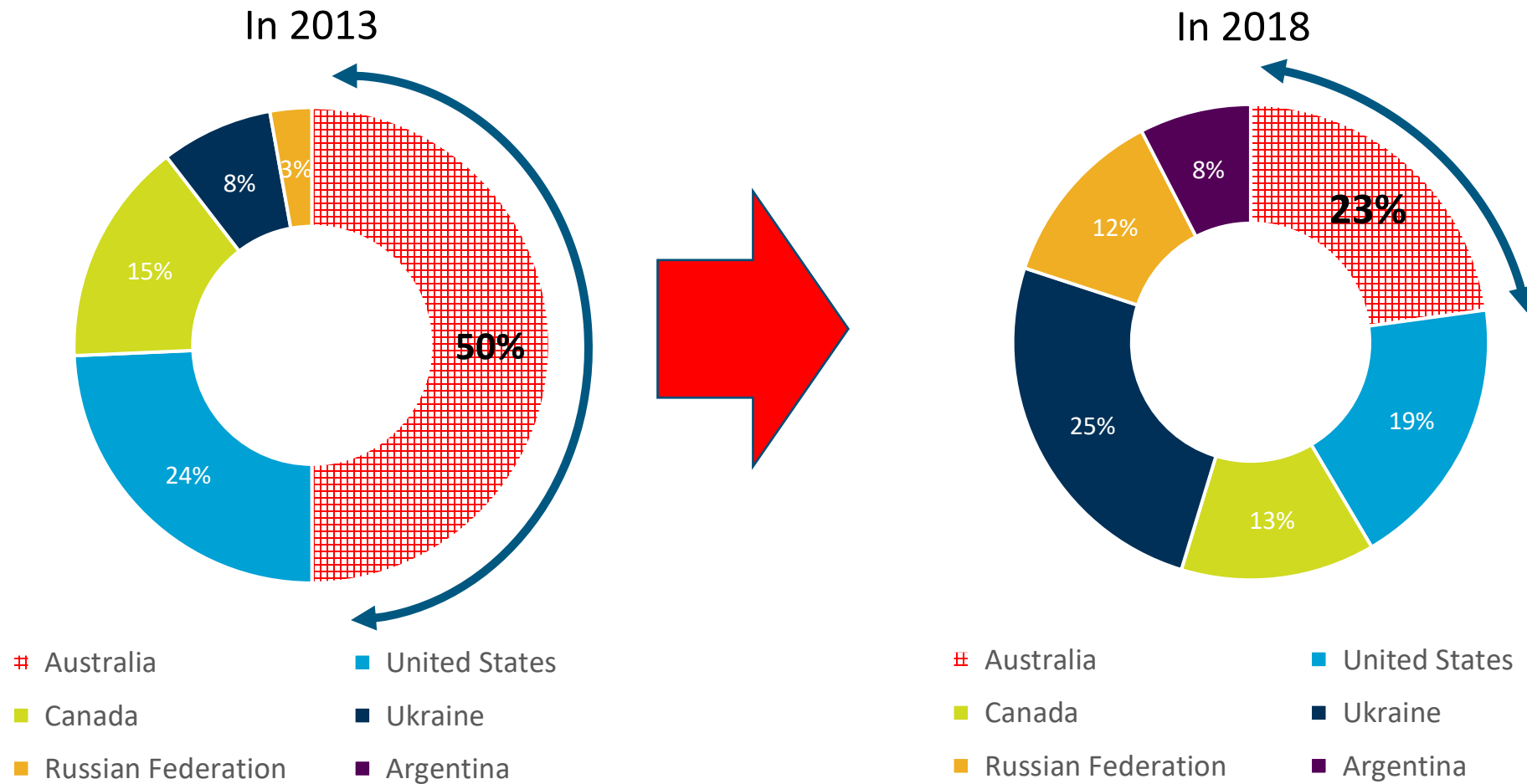
	2017	
Costs (\$/t)	Argentina	Australia
Cartage farm-site	2.9 (5%)	7.8 (11%)
Upcountry handling	13.2 (21%)	10.4 (15%)
Storage	1.4 (2%)	5.0 (7%)
Transport upcountry to port	29.5 (47%)	23.6 (33%)
Port charges	15.5 (25%)	21.7 (30%)
Levies and check-offs	nd <sup>b</sup>	2.8 (4%)
Total supply chain cost	62.5	71.3
Production cost	140.0	148.8
Supply chain proportion	0.31	0.32



# What's the impact of this competition?

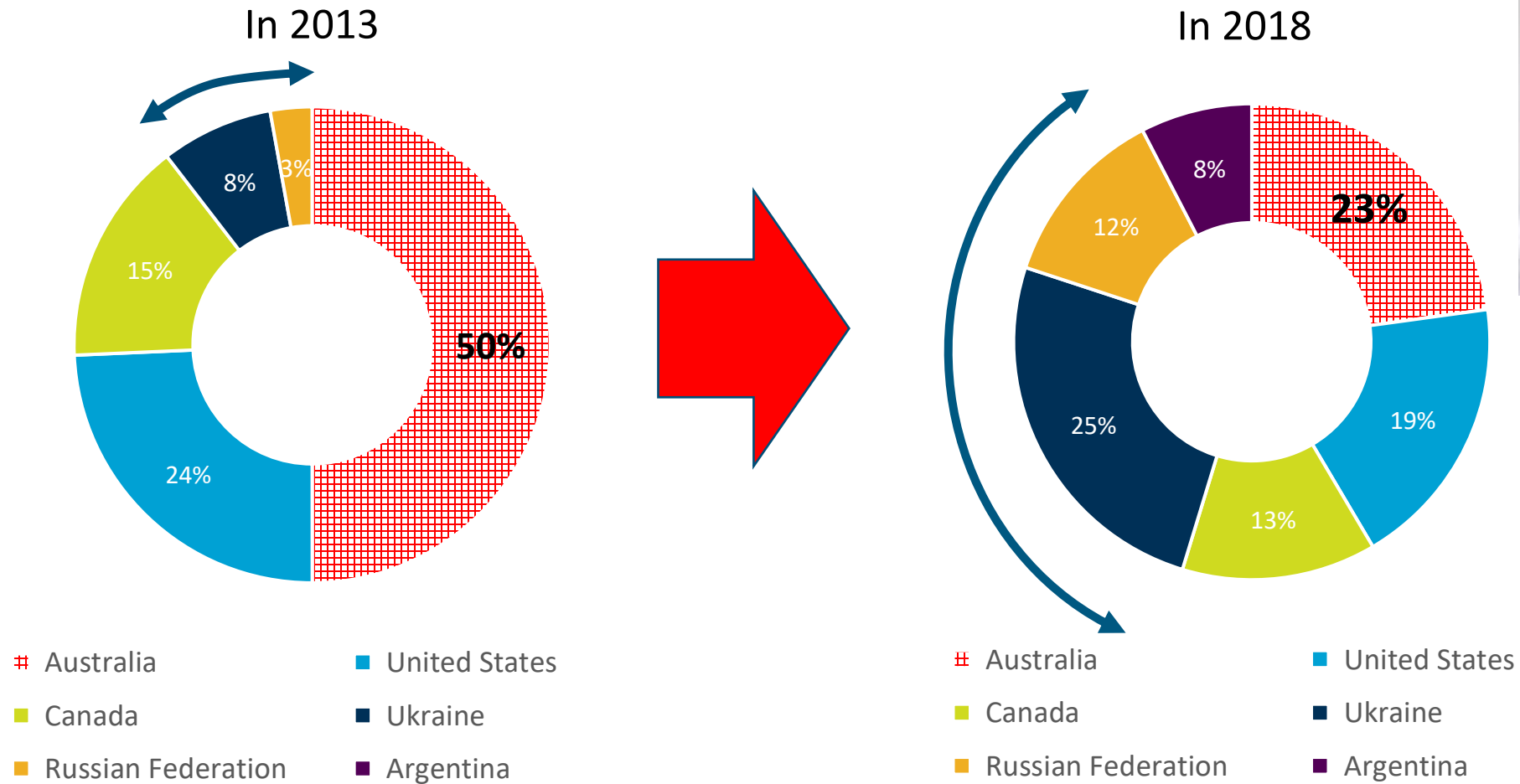


# SEA wheat imports for food





# SEA wheat imports for food



# Why logistics & marketing are so important

A current example (\$/t)	Base case \$/t	Reduce supply chain costs 1%		Increase price by 1%	
Revenue	290	290	-	293*	1%
Less:					
Farm gate costs	182	182	-	182	-
Farm to ship costs	63	62*	-1%	63	-
Debt finance costs	20	20	-	20	-
Total costs	265	264*	-0.4%	265	-
Profit	25	26*	~4% ↑	28*	12% ↑

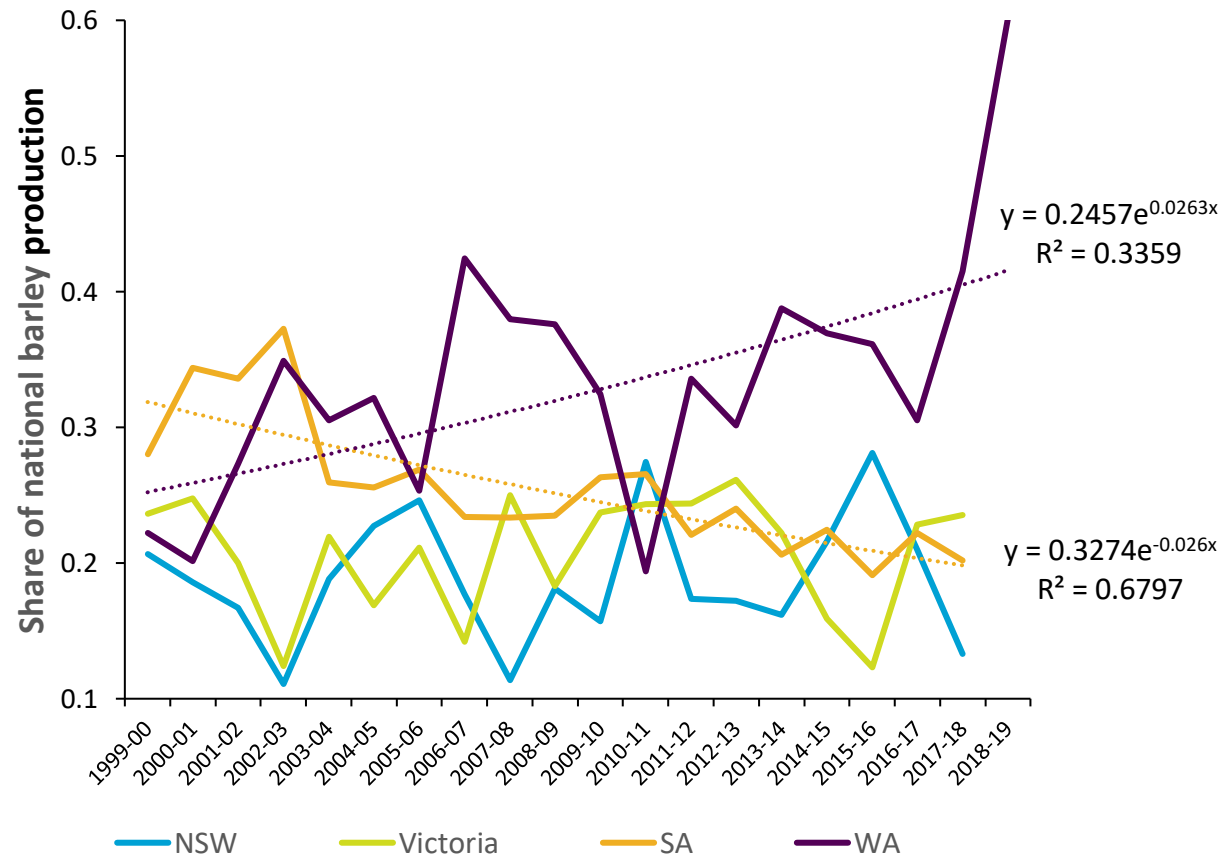
# CBH Rebates

Year	Rebate (\$m)	Rebate (\$/t)
2013	4.8	0.53
2014	53.6	4.55
2015	16.9	1.05
2016	62.7	4.20
2017	156.3	12.75
2018	94.5	10.50

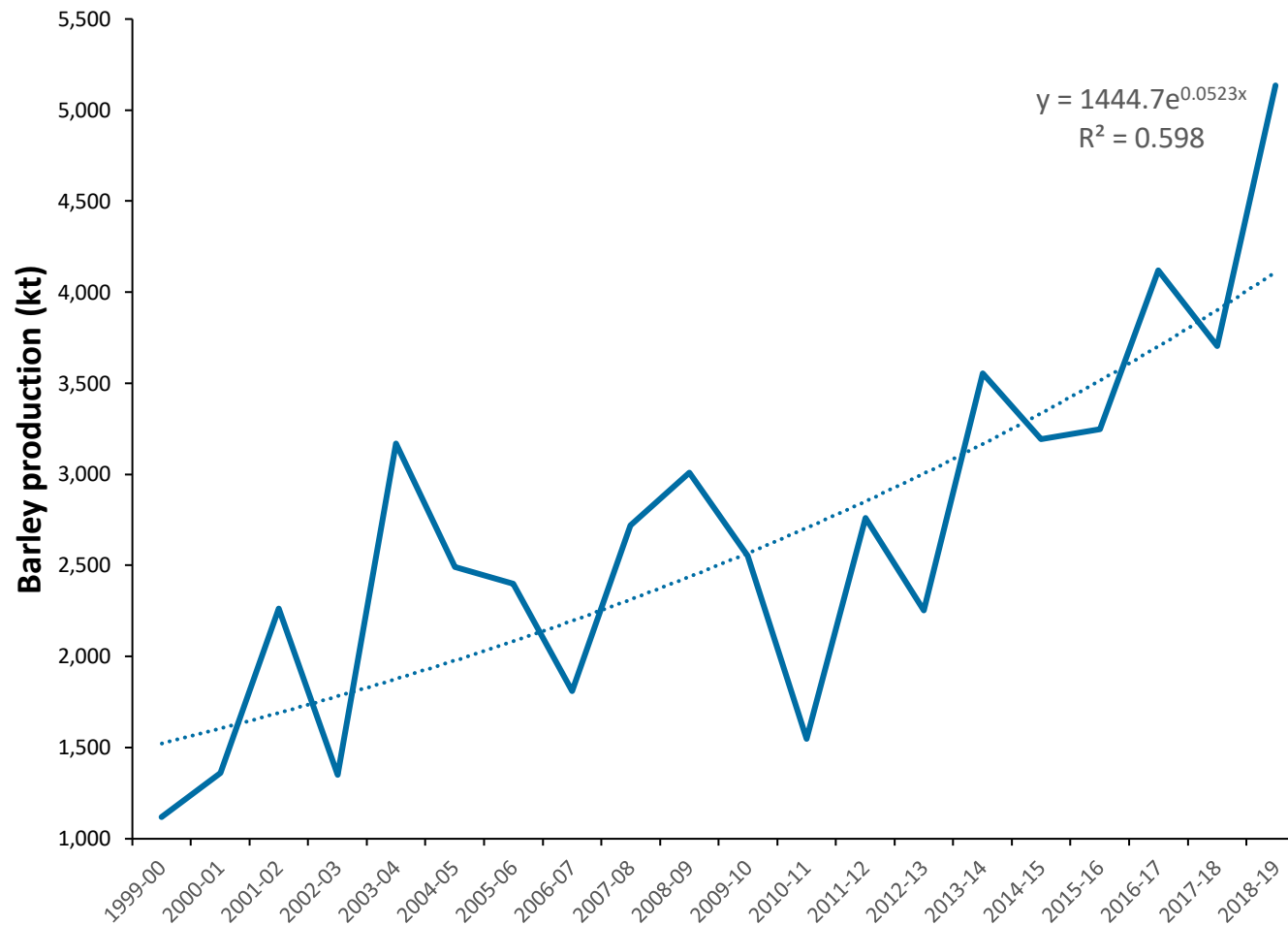
Rebates are based on grain deliveries to CBH and grain volumes sold by CBH. E.g. in 2017 the \$12.75/t rebate comprised \$6.25/t from the Marketing and Trading division, plus \$6/t from Operations and plus \$0.5/t from Investments.



# Increasing role for WA Barley



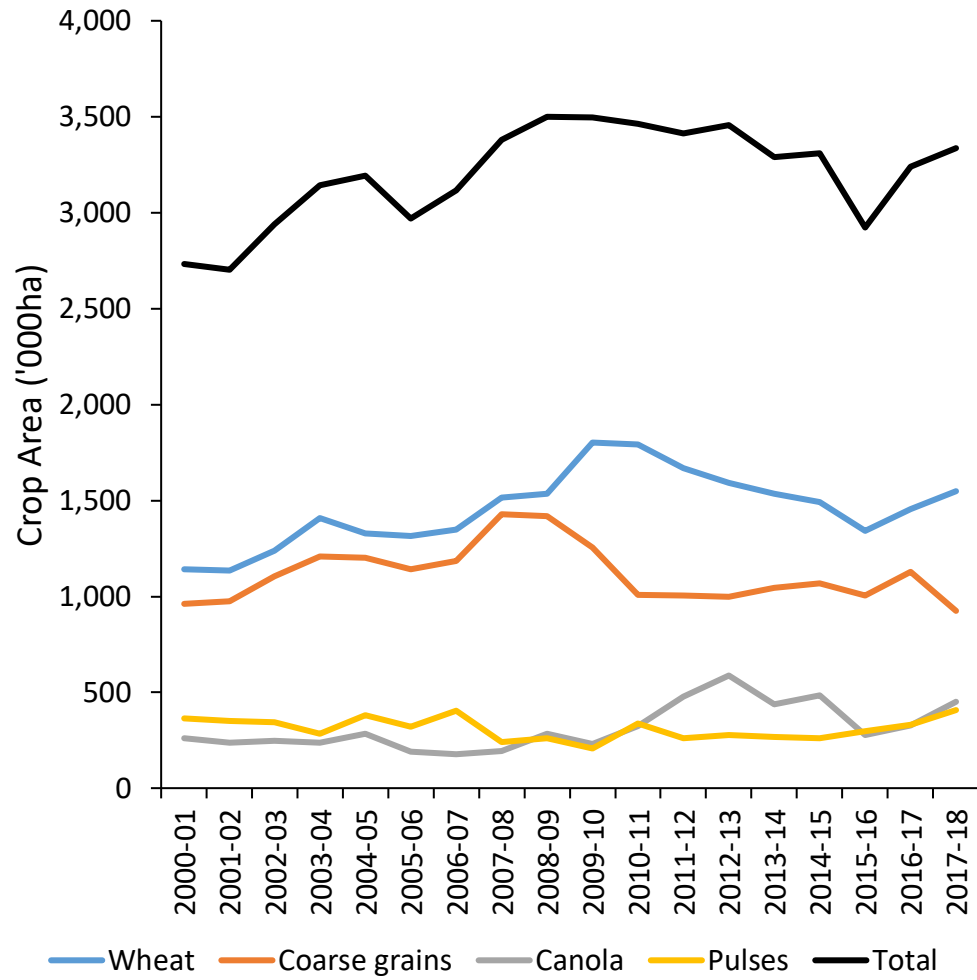
## WA Barley Production



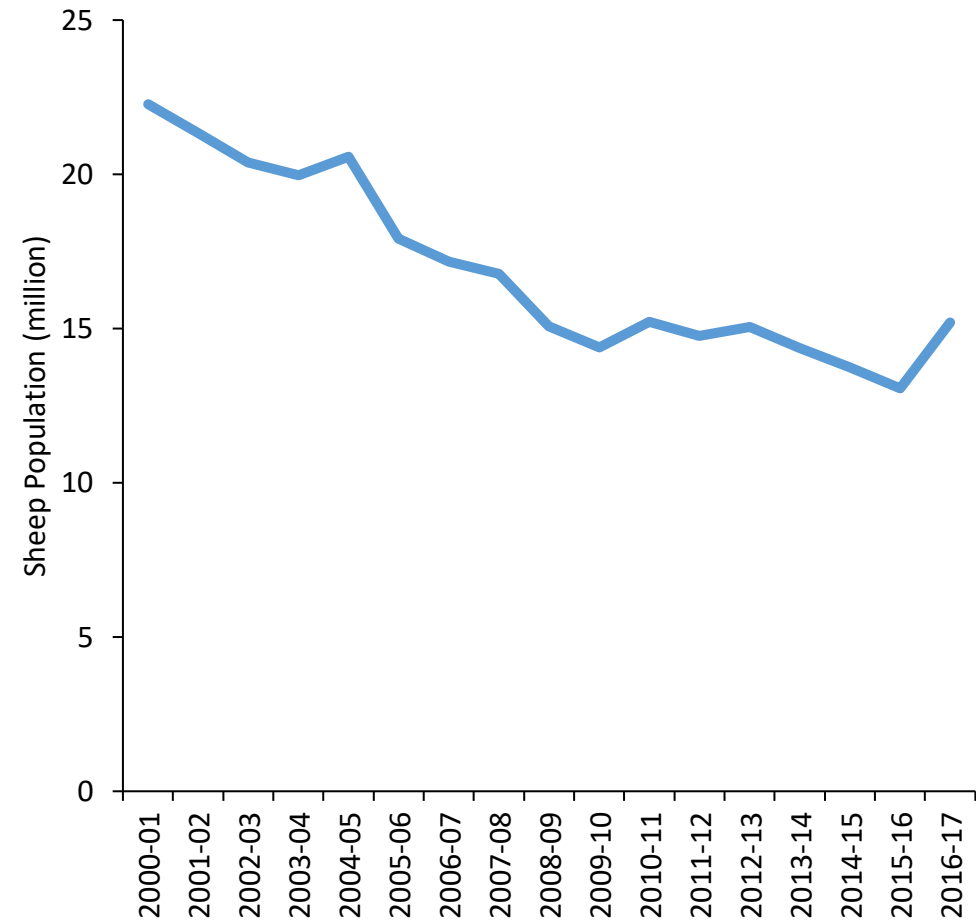
Australia's mixed enterprise farms are very dependent on profits from grain production.



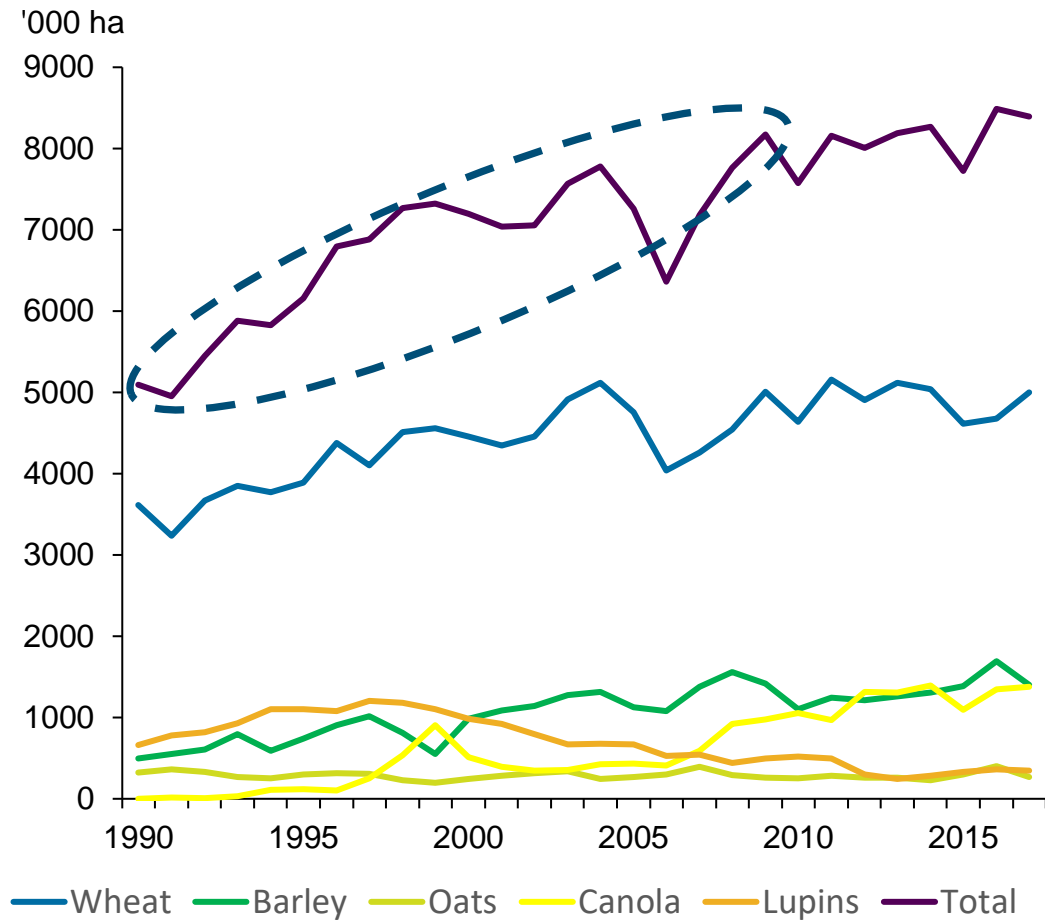
# Vic Crop Areas



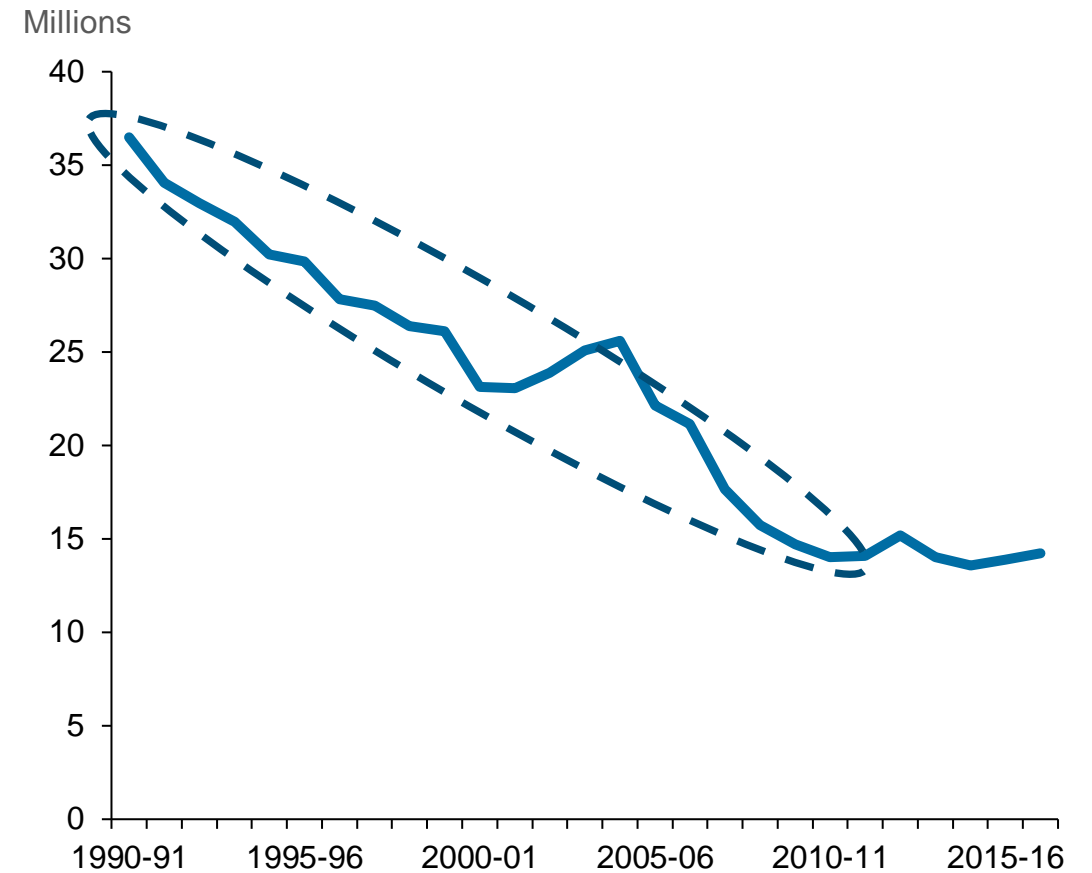
# Vic Sheep Population



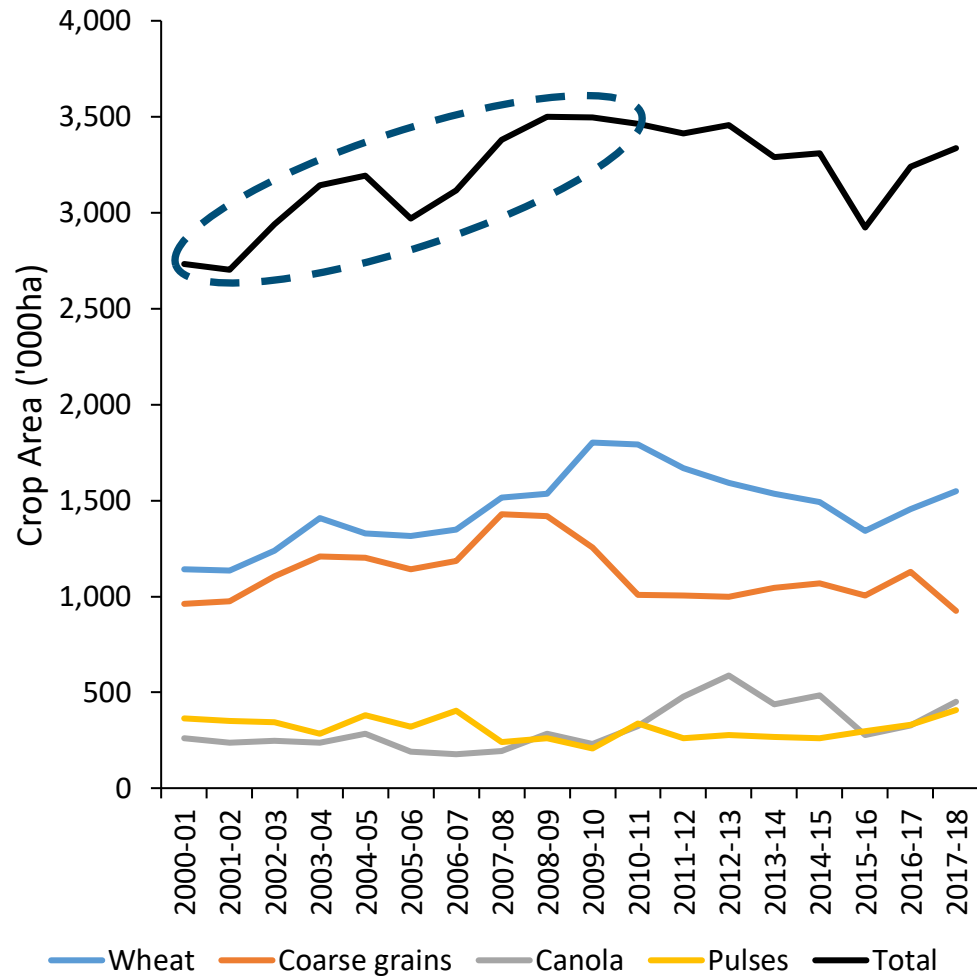
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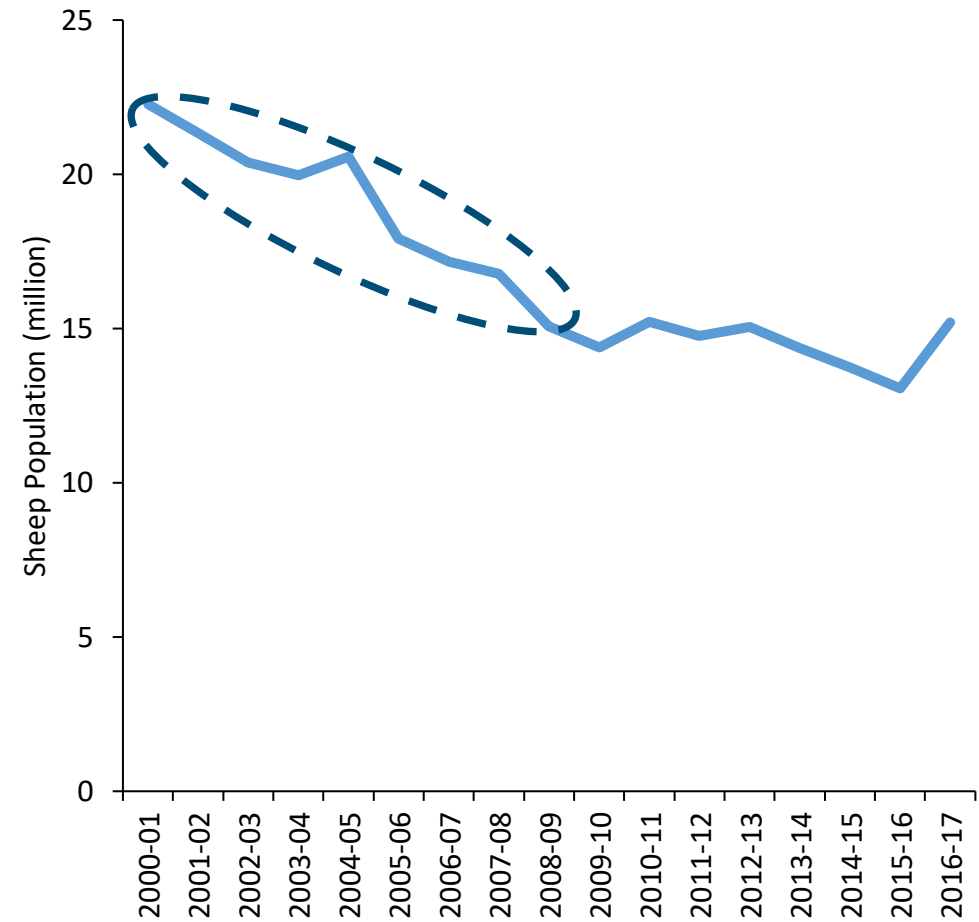
# WA Sheep Population



# Vic Crop Areas



# Vic Sheep Population



# Two challenges for barley production and supply chains

- Climate change and volatility
- Competitor investments in their supply chains





Based on rainfall data 2000-2015



# Yield volatility

State	Coefficient of variation of detrended barley yields 1999 to 2017 (%)
NSW	27
Victoria	29
Qld	21
SA	20
WA	15



# Yield advancement

Country	Annual rate of yield increase since 2000 (%)
Argentina	2.6
Ukraine	2.4
Australia	2.3
Canada	1.9
Russia	1.2
Russia since 2010	3.3



Our competitors are undertaking major investments in their supply chains - industry and government are making those investments



# Competitor Investments: Canada

- In 2018 the government announced \$10.1 billion for trade and transport infrastructure -  
*“Stronger trade corridors help the natural resource and agricultural sectors move products to market more efficiently”*
- Opening in 2020
  - 180 kt of port storage, 6mmt export potential
  - Rail track loops holding up to three trains with 134 wagons each, supporting trains up to 2.7 km long
  - A partnership of SALIC (Saudi Arabia) and Bunge Ltd



G3 grain terminal Port of Vancouver



# Competitor Investments: Ukraine

- In 2017 government funded restoration of 2,177 km of public roads. A new State Road Fund established.
- 2,721 new freight wagons
- This year, a 10-year public-private contract to purchase 180 locomotives and supply a further 195 locomotives

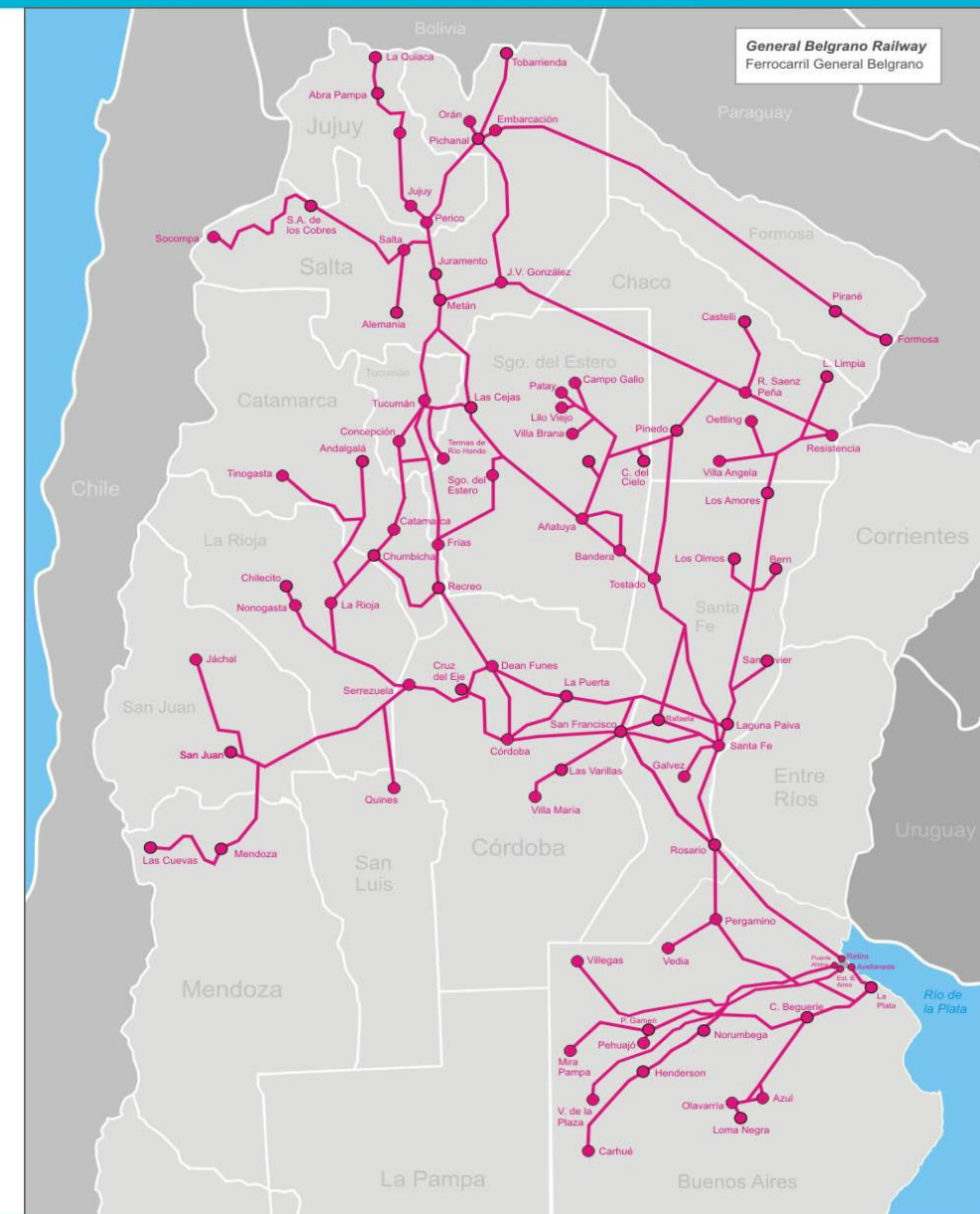
# Plus investments and practice change are underway at the farm-level



# Competitor Investments: Argentina

In 2018

- 97 new locomotives
- 3,500 new Chinese-made rail cars
- 580 kilometres of renovated rail track
- \$US2.8 billion investment from Chinese sources







# Key Messages

- Our barley industry faces challenges from lower cost origins.
- The challenges will persist due to major supply chain investments and farm-level practice change in these competitor countries.
- Our grain supply chains must serve the interests of local and export customers and growers' needs. They must be cost-efficient and fit-for-purpose. Otherwise grain revenues and the reach of our grain exports will be unnecessarily limited.



# Thank you

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