AAAC Professional Development Programme
Update on Global Nitrogen Fertiliser Market

May 2022

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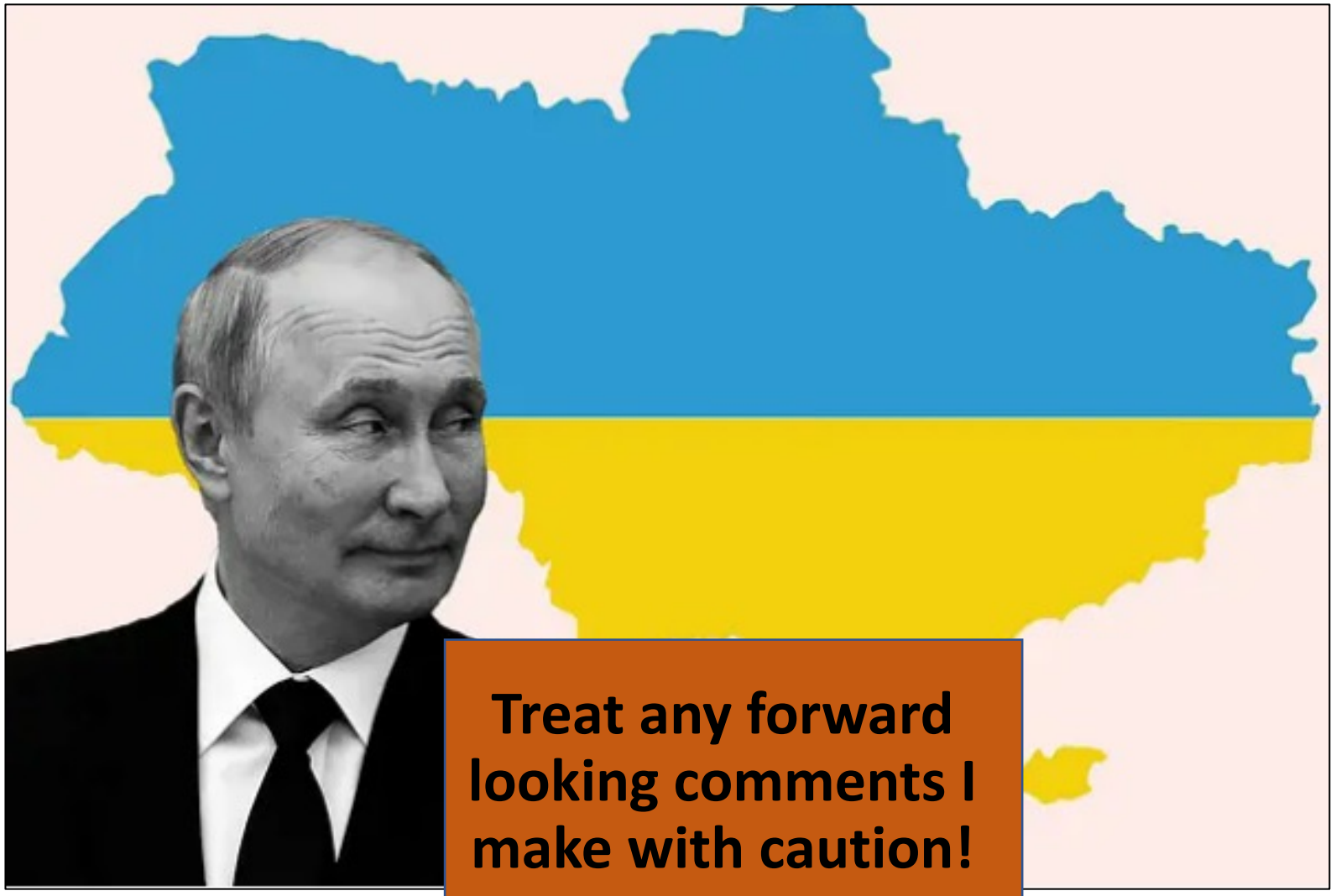
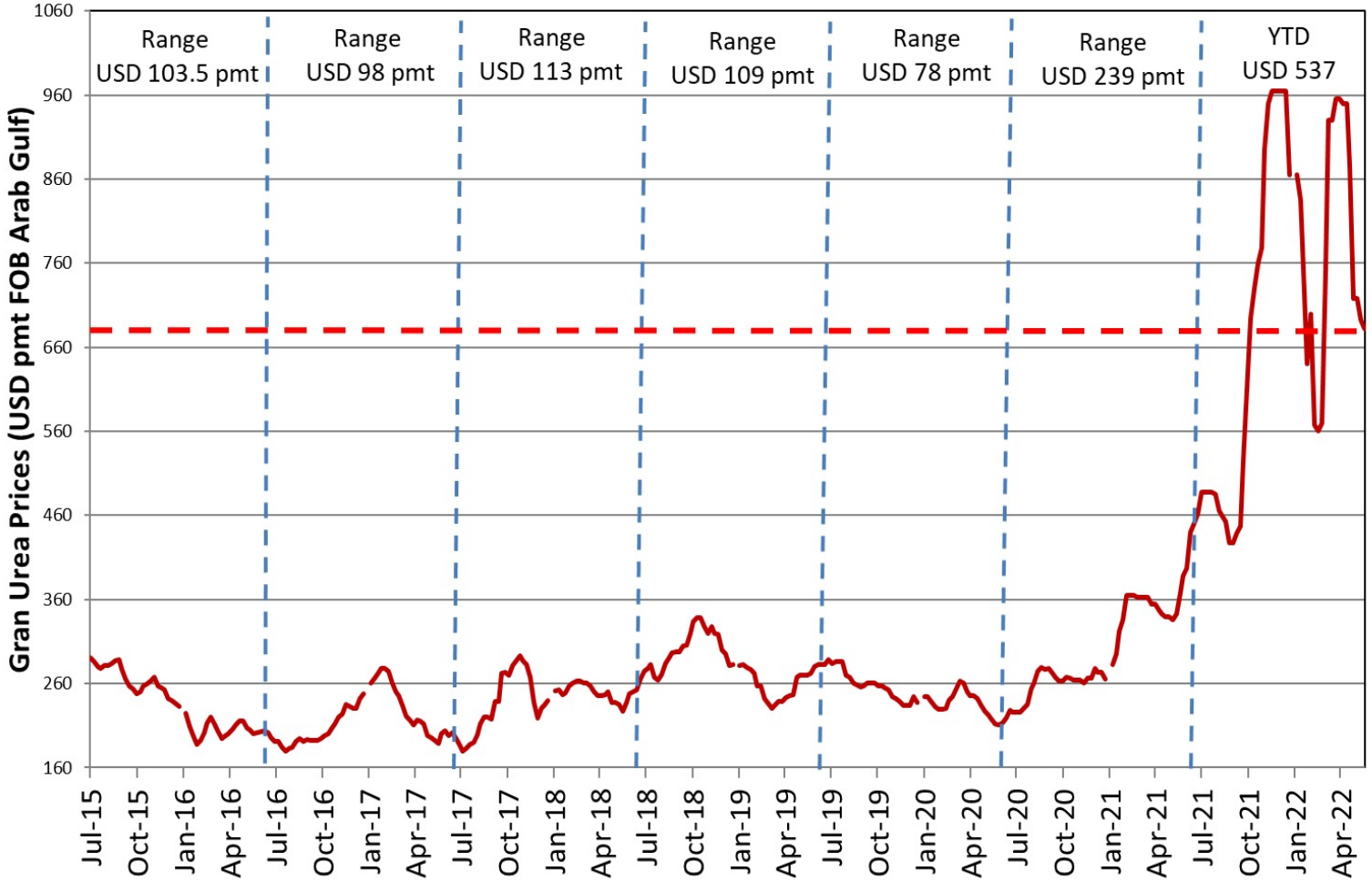


Treat any forward looking comments I make with caution!

Ref: Swarajya

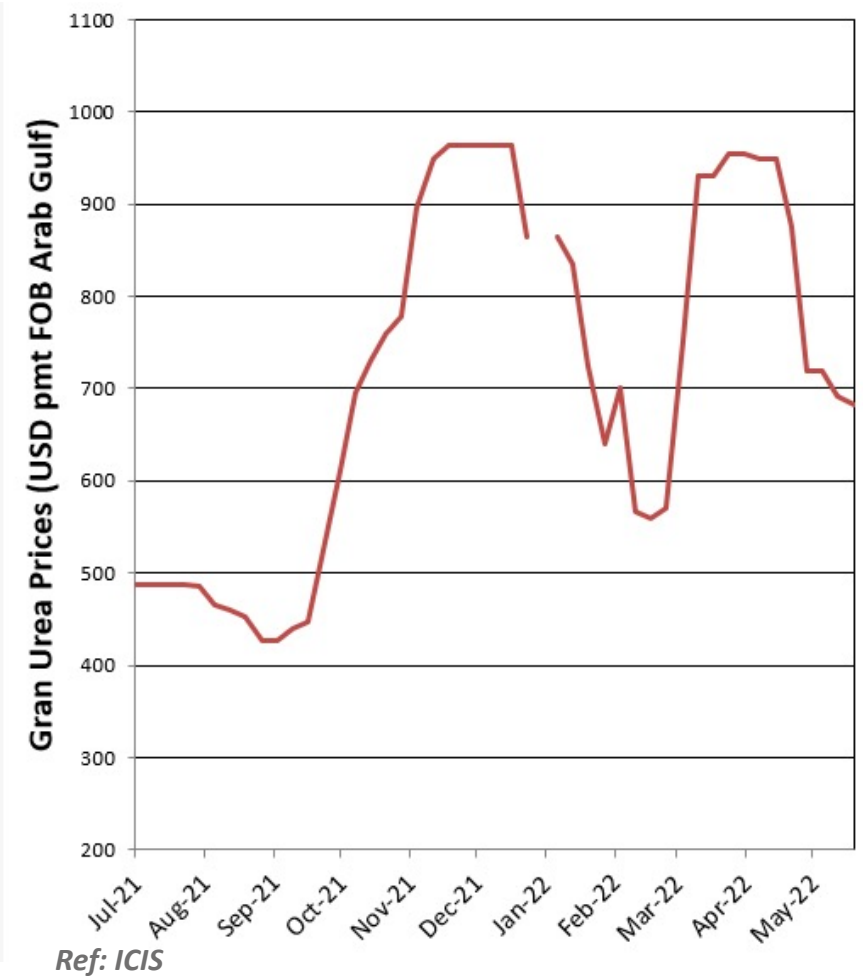
Urea … What do the graphs tell us?

Where is urea relative to historical prices?



Ref: ICIS

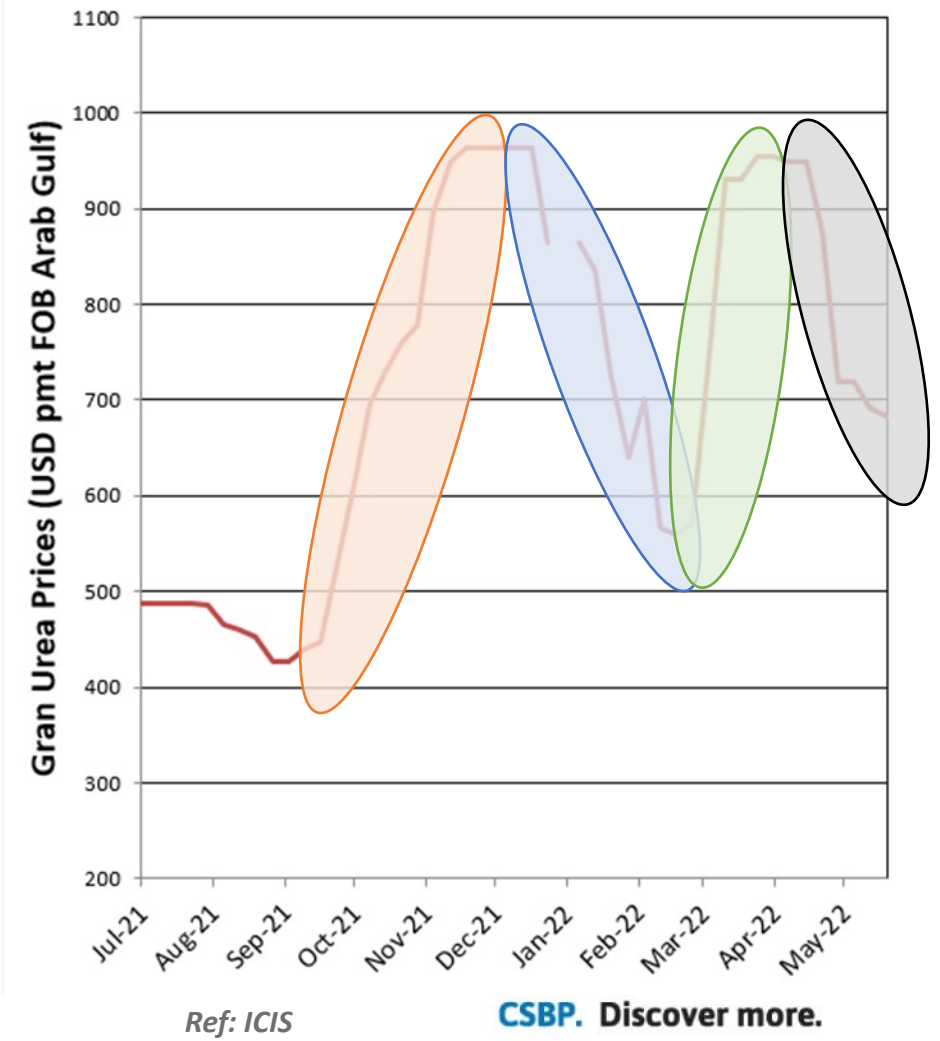
What has happened this FY?



Ref: ICIS

Urea … Why the volatility?

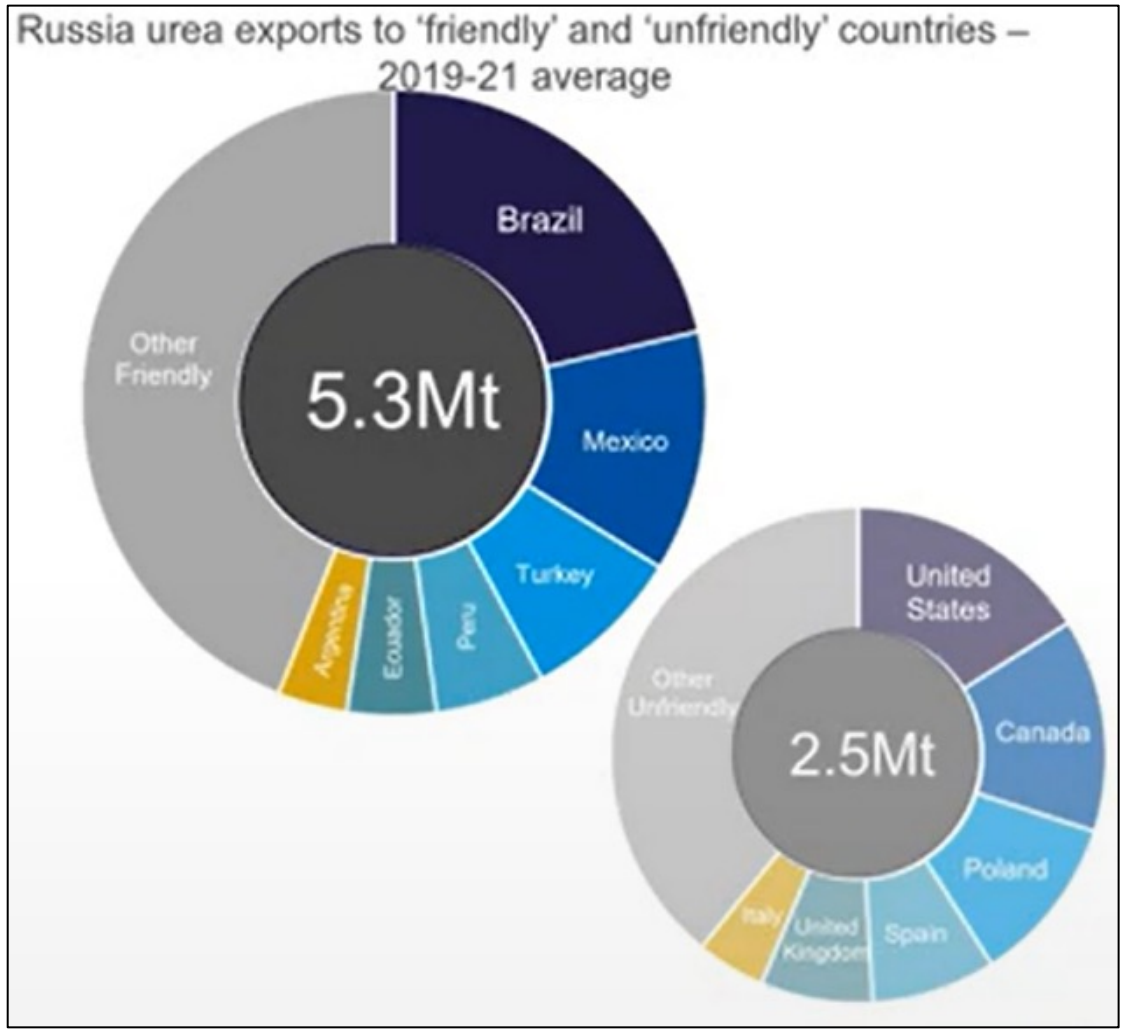
- **Sept to mid Dec 2021 – Initial upward surge**
  - Supply side constraints - Chinese & Russian export restrictions
  - Demand side driven by large Indian tenders
  - Power sat with the producers and traders
- **Mid Dec 2021 to Late Feb 2022 – Rapid price decline**
  - Lull in global demand - global producers & traders worried about where they would sell their next cargo
  - Indian tender triggered a price war
  - Power switched to the buyers
- **Late Feb 2022 to mid April – Price rebound**
  - Russian invasion of Ukraine – direct reduction of Russian supply plus flow on impacts on energy costs
  - Why didn't the swing players increase production?
  - Power sat with producers and traders
- **Mid April 2022 to present – Rapid price decline**
  - Delayed Indian tender + lull in global demand



Ref: ICIS

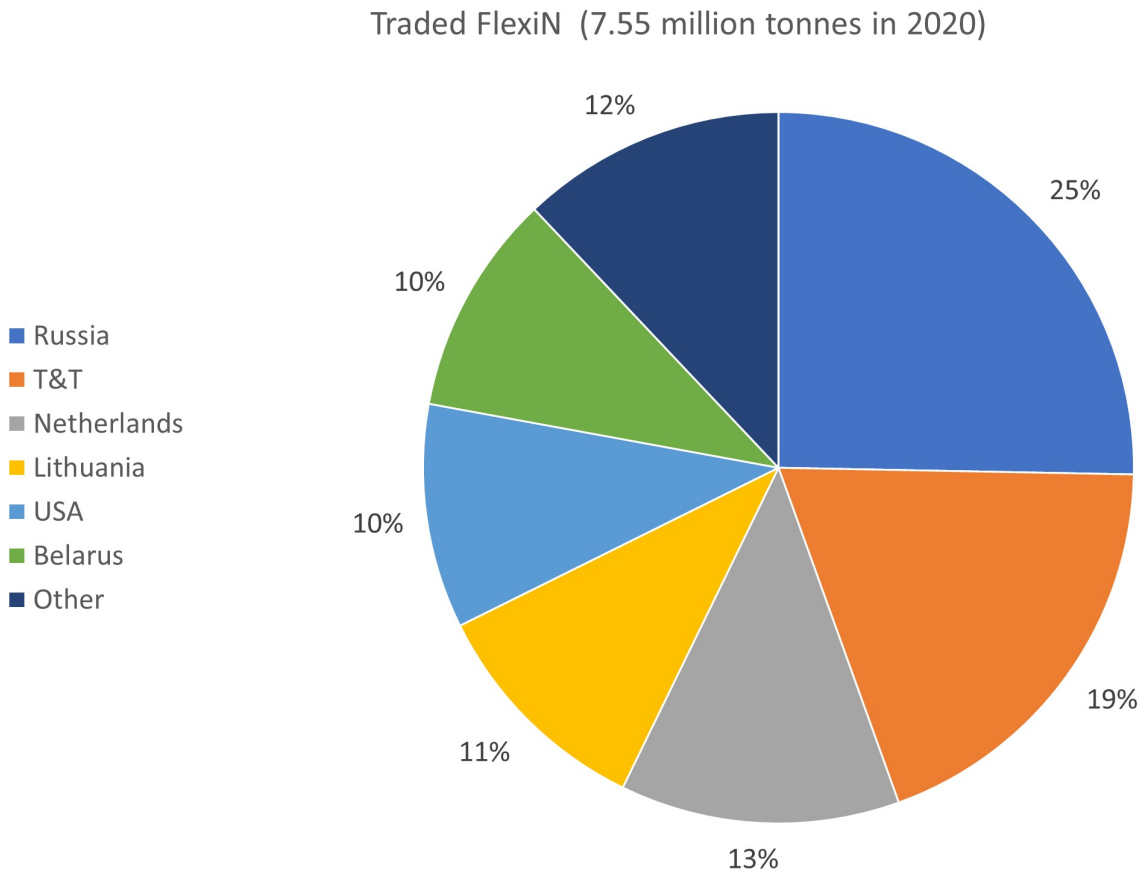
Urea … What to watch?

- Chinese exports
- Progression of restrictions on Russia
  - Further sanctions?
- Development of alternative export channels from Russia
  - How quickly can the likes of India and Brazil find their way through the restrictions to buy Russian fertiliser



Ref: CRU

FlexiN … Why is it different to urea?



- Of the global UAN production 71% is used domestically
- The traded market amounts to 7.6 million tpa (small relative to urea)
- It is not a ‘pure’ market with few exporters and specific regional tariffs causing inefficiencies
- Of the globally traded FlexiN, largest exporter is Russia, then Trinidad & Tobago
- In recent years all imported FlexiN into Aus has come from Russia

Ref: IFA

FlexiN … What has changed in FlexiN market recently?

- Global restrictions on Russia and Belarus have left little opportunity for FlexiN imports into Australia
  - The major owners of the 2 large Russian exporting companies (Eurochem and Acron) were individually sanctioned by the UK and EU for close ties with Putin
  - The practicalities of buying from Russia or Belarus are complicated by finance, insurance and shipping constraints
  - Australia has introduced 35% tariffs on all imports from Russia and Belarus
- The French FlexiN market, which after the US market is the largest global importer, is driving demand and hence global prices are elevated
- Most FlexiN buyers have been forced from contract buying to spot purchases

FlexiN … What is the FlexiN position for the coming season?

- Global sourcing for WA more challenging than ever before
- Spot import purchases likely to replace contracts
- CSBP runs a mixed model of FlexiN importing and local manufacturing FlexiN based on CSBP ammonium nitrate and imported urea
- Manufacturing plants at Geraldton, Kwinana and Esperance
- Where commercially viable, aiming to meet majority of the liquid nitrogen market needs
- Last option will be urea substitution

CSBP. Discover more.

Ref: IFA

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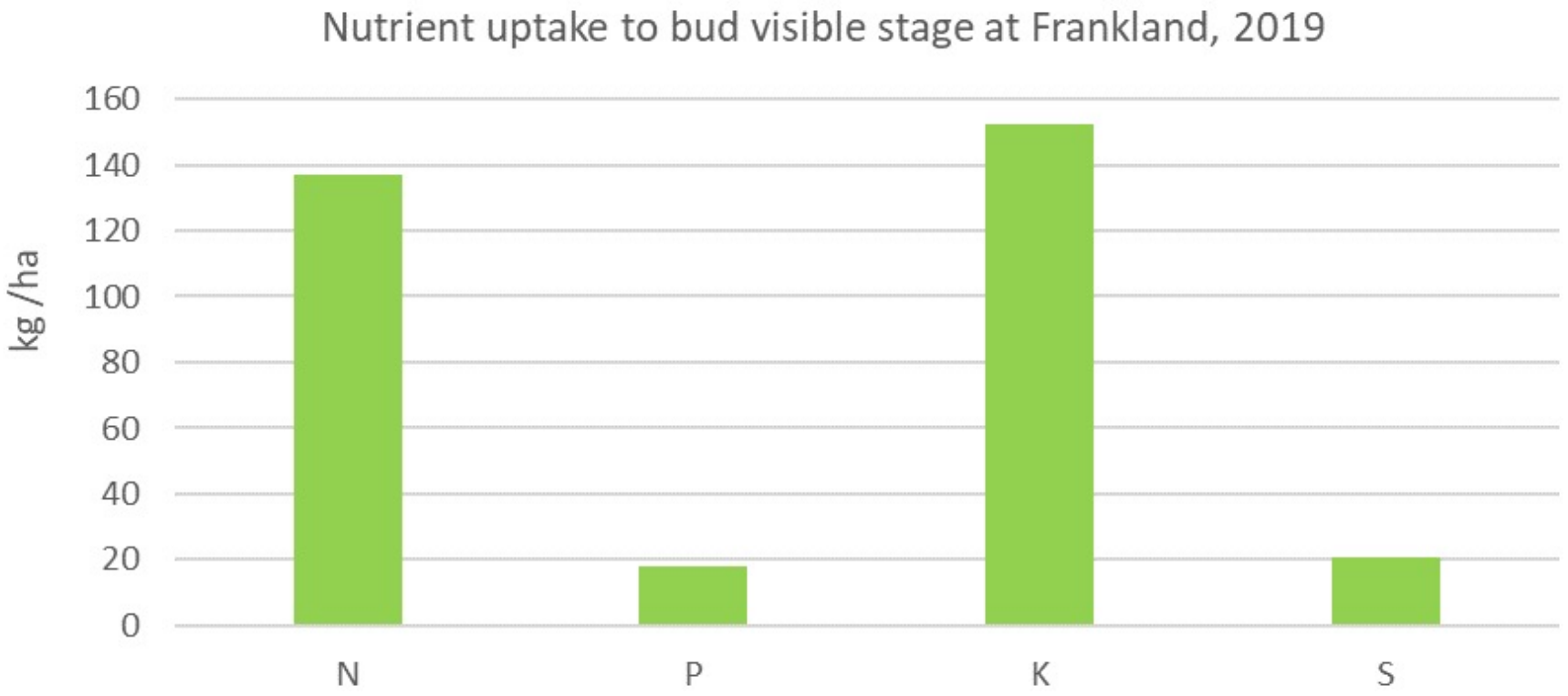
Nitrogen demand in 2022

Relative uptake of N, P, K and S in canola



Key points

Potential for very high returns from N this year

Increased risk of financial losses from poorly targeted N

Increased incentive to make better informed N decisions

N recommendations should consider..

Crop demand and soil supply

Likely return on investment

Risk

N demand depends on…

Yield potential

- Soil constraints
- Soil moisture
- Crop species and variety
- Crop emergence date
- Availability of other nutrients

N supply depends on…

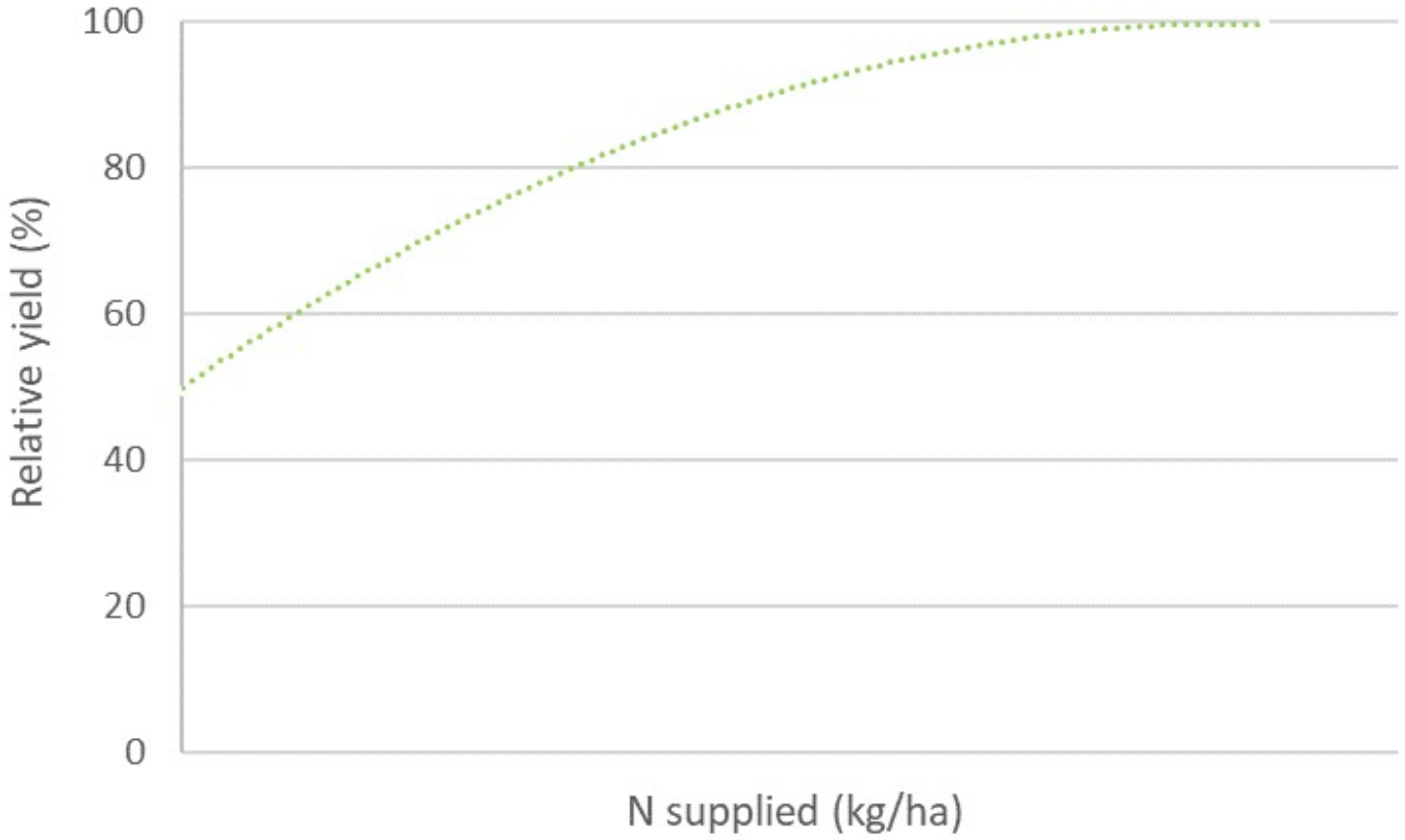
- Supply
  - Soil reserves – organic and mineral
  - Paddock rotation
  - Fertiliser applied
  - Environmental losses

Rules of thumb

Wheat – needs 50 kg N/ha to grow 1 t/ha

Canola – needs 80 kg N/ha to grow 1 t/ha

Where are we on the N response curve?



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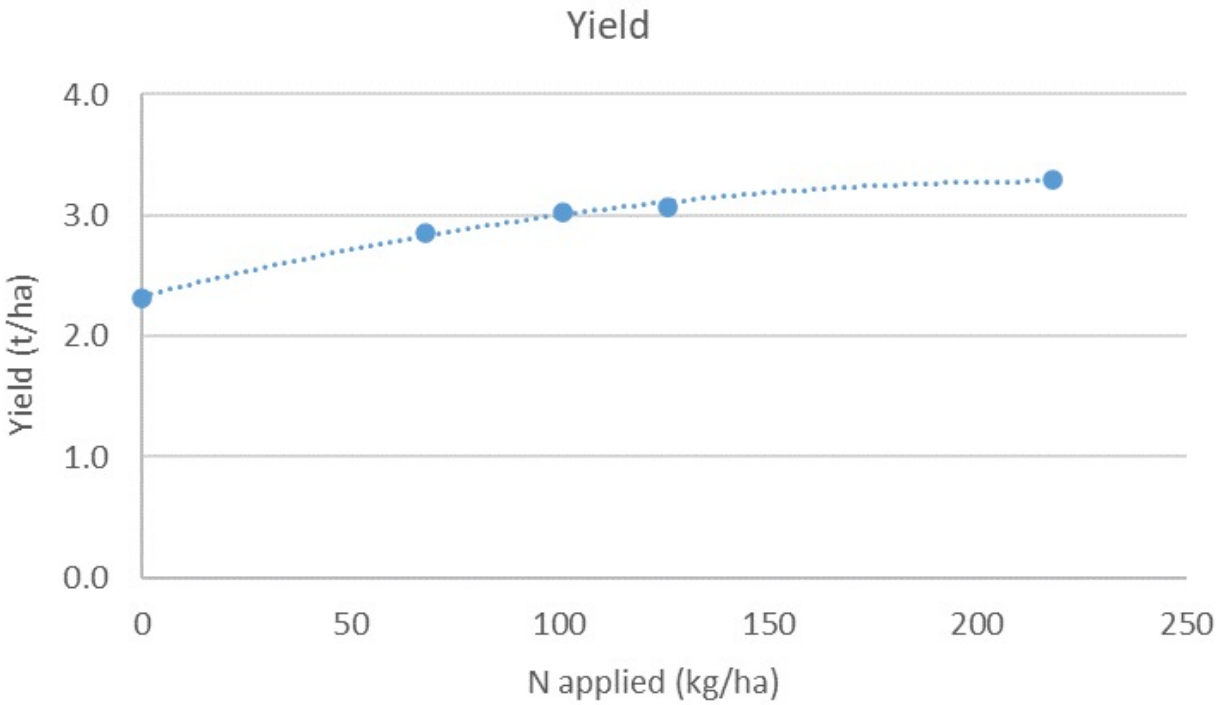

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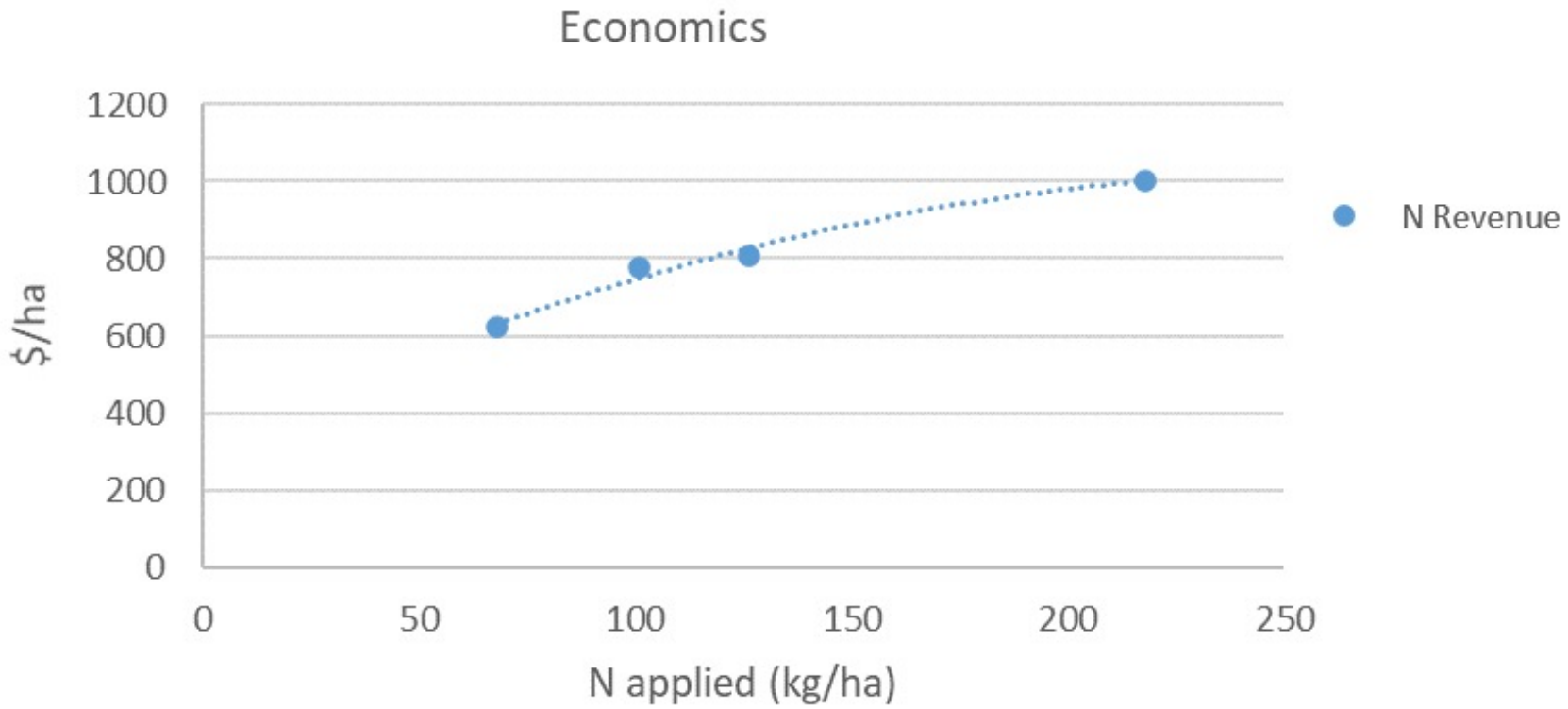

Canola @ $1100/t

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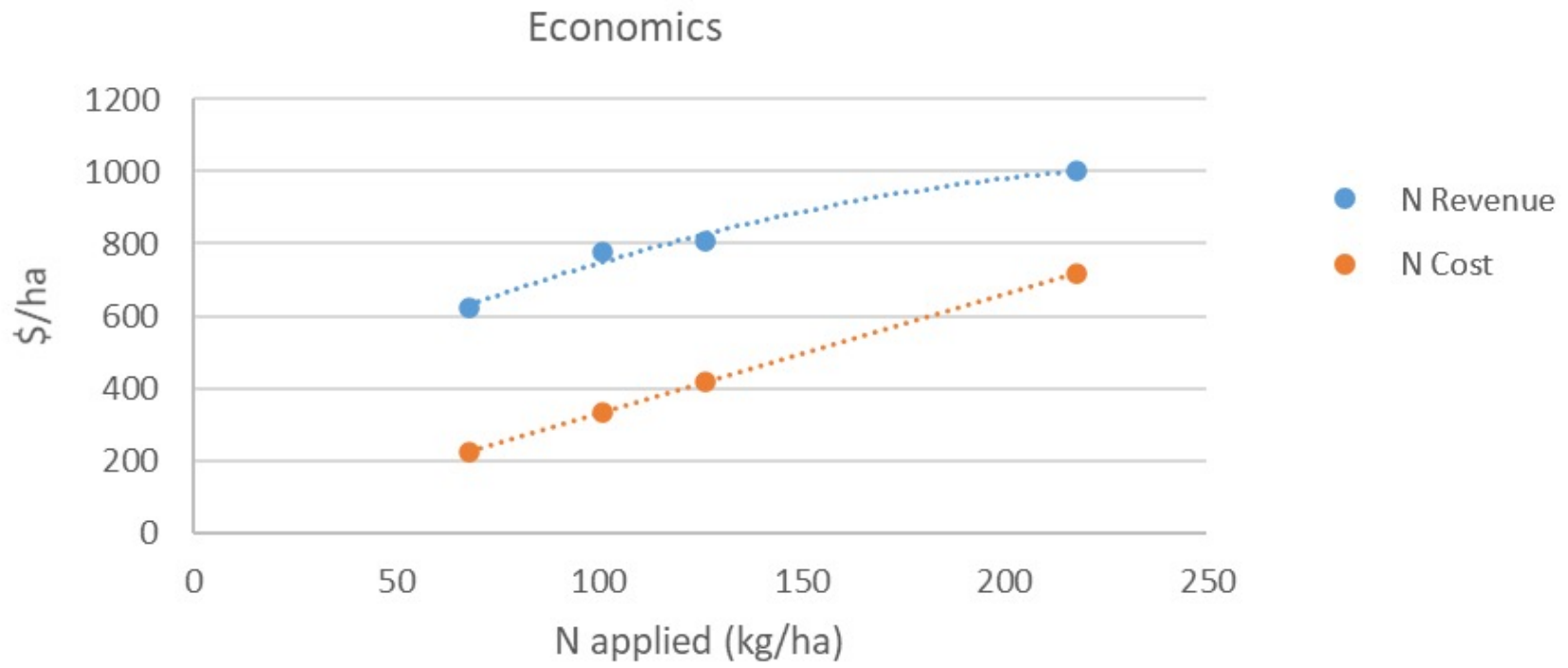

Canola @ $1100/t; N @ $3.30/kg

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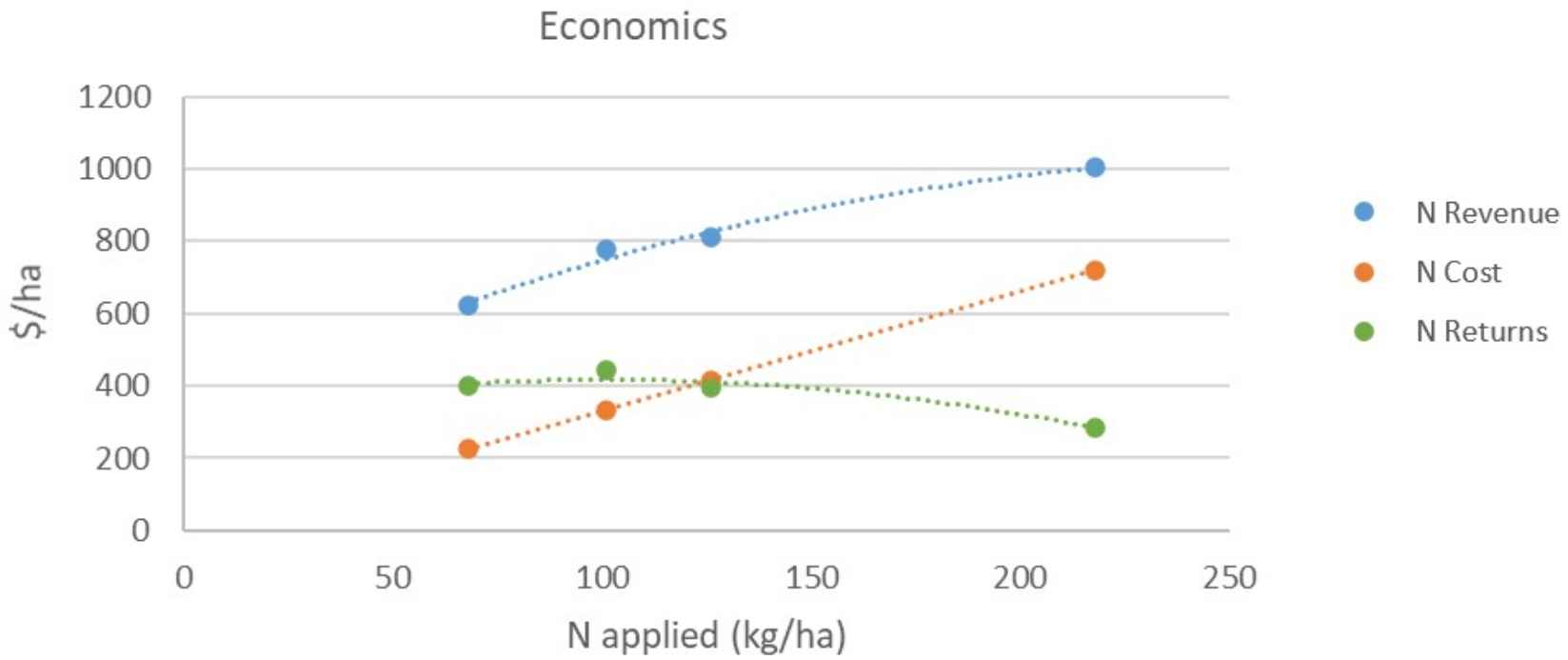

Canola @ $1100/t; N @ $3.30/kg

Effect of prices on economics

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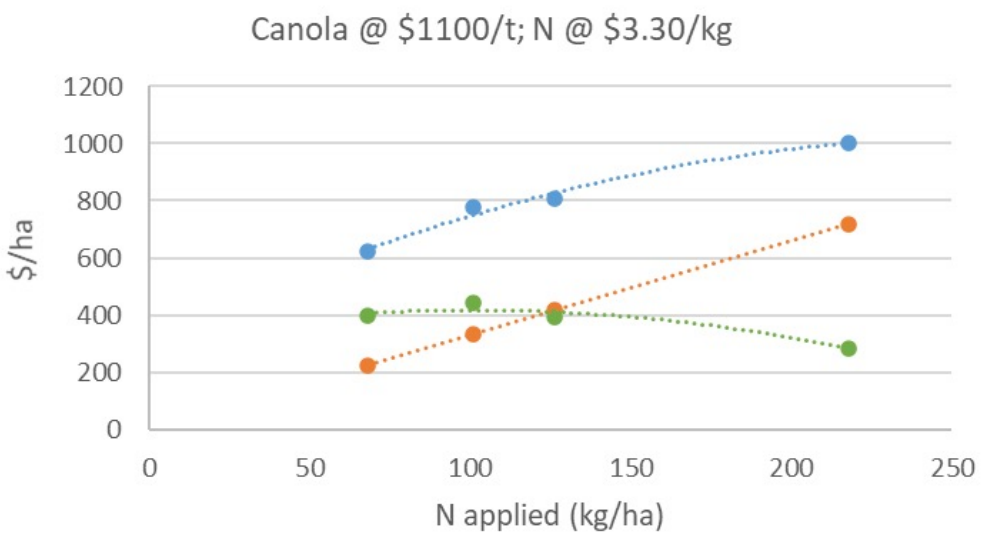

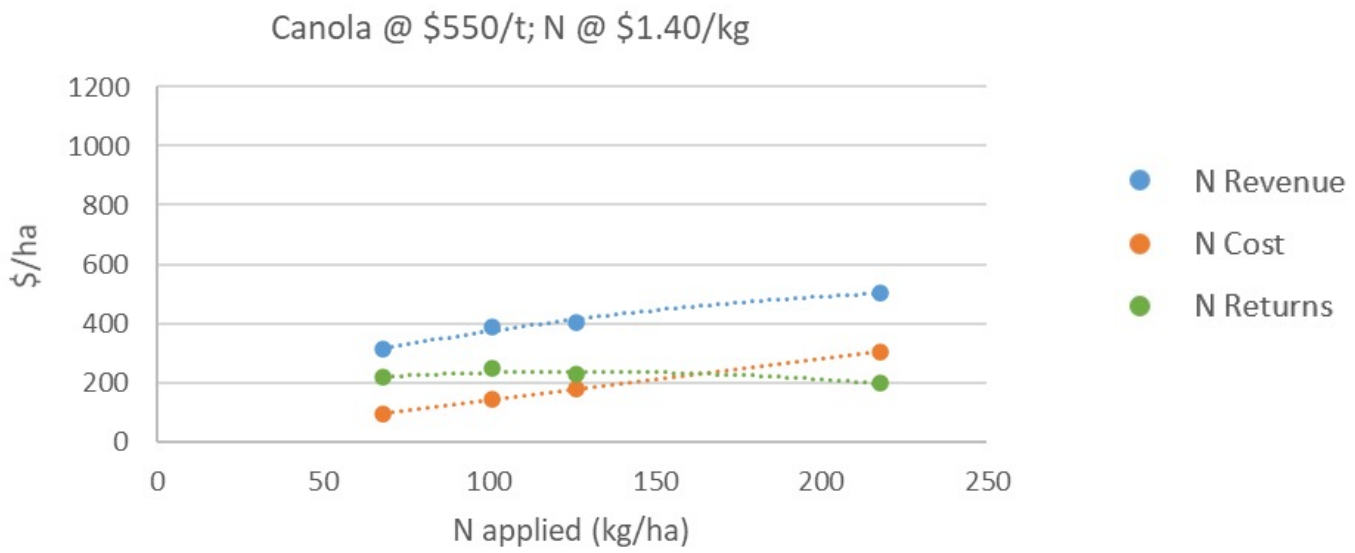

Effect of prices on economics

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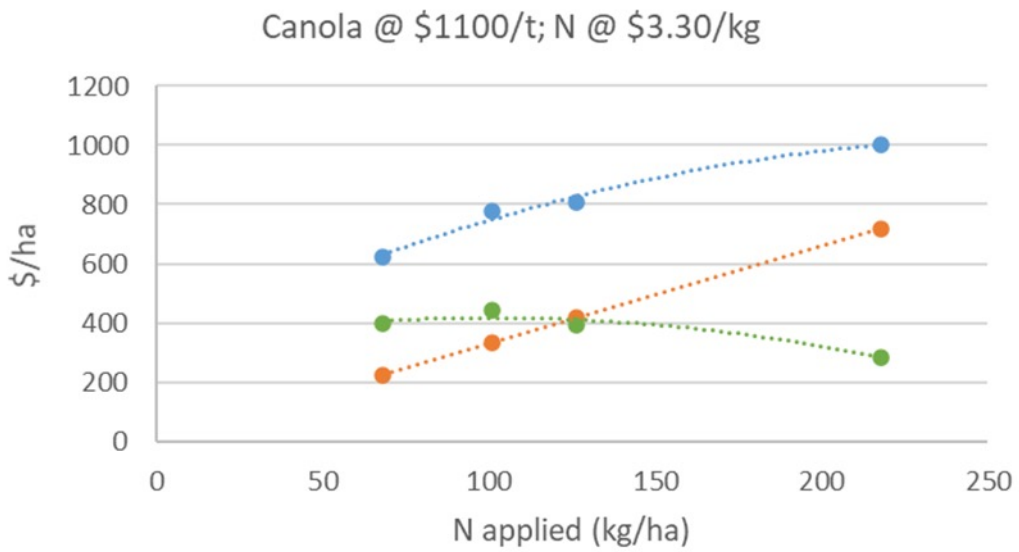
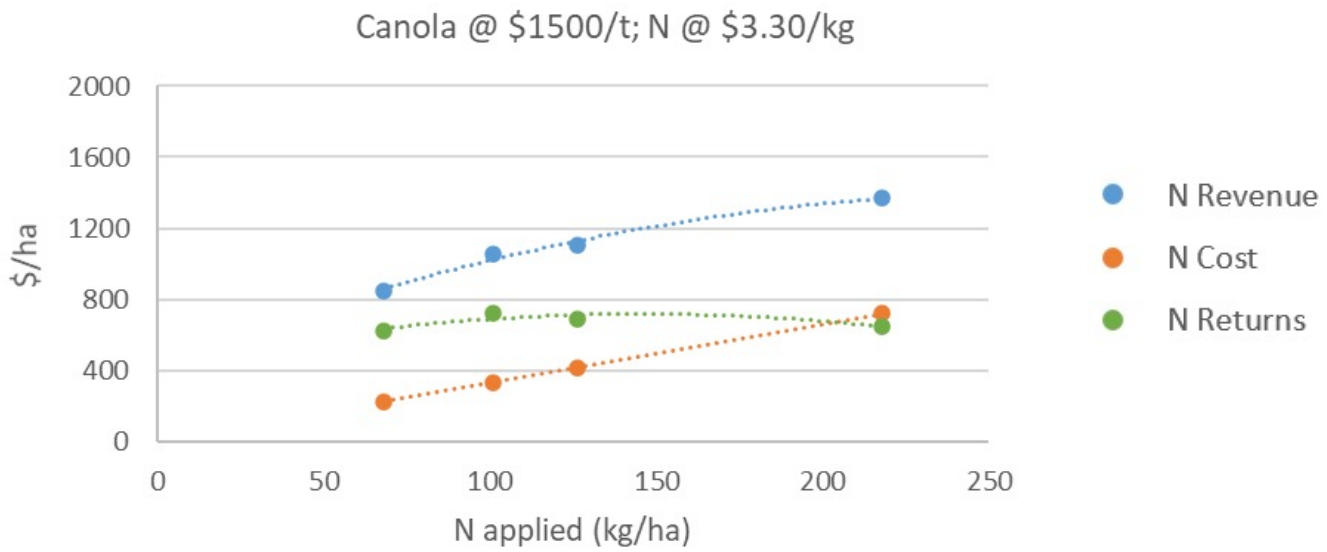
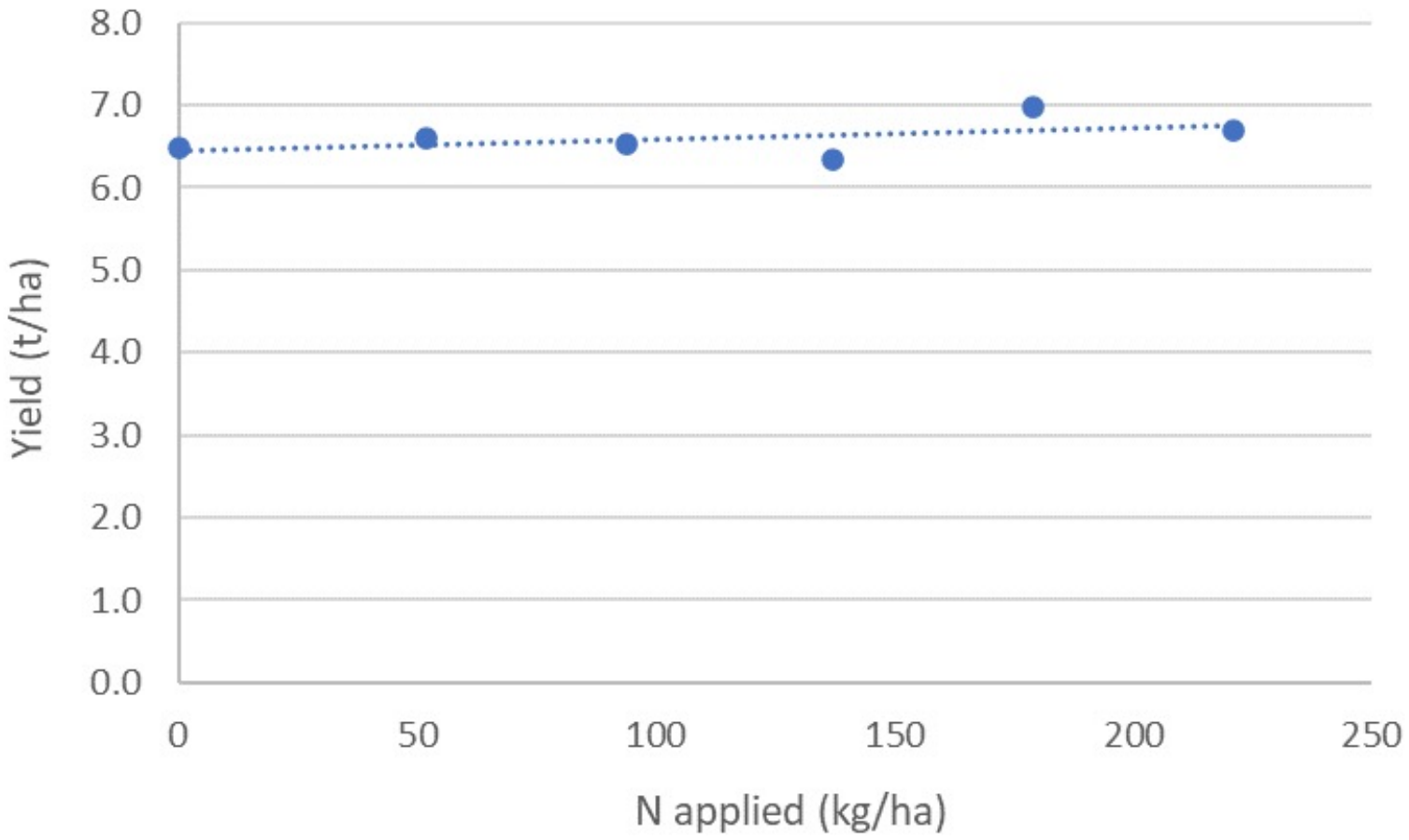




Arthur River 2021

Arthur River 2021 – grain yield

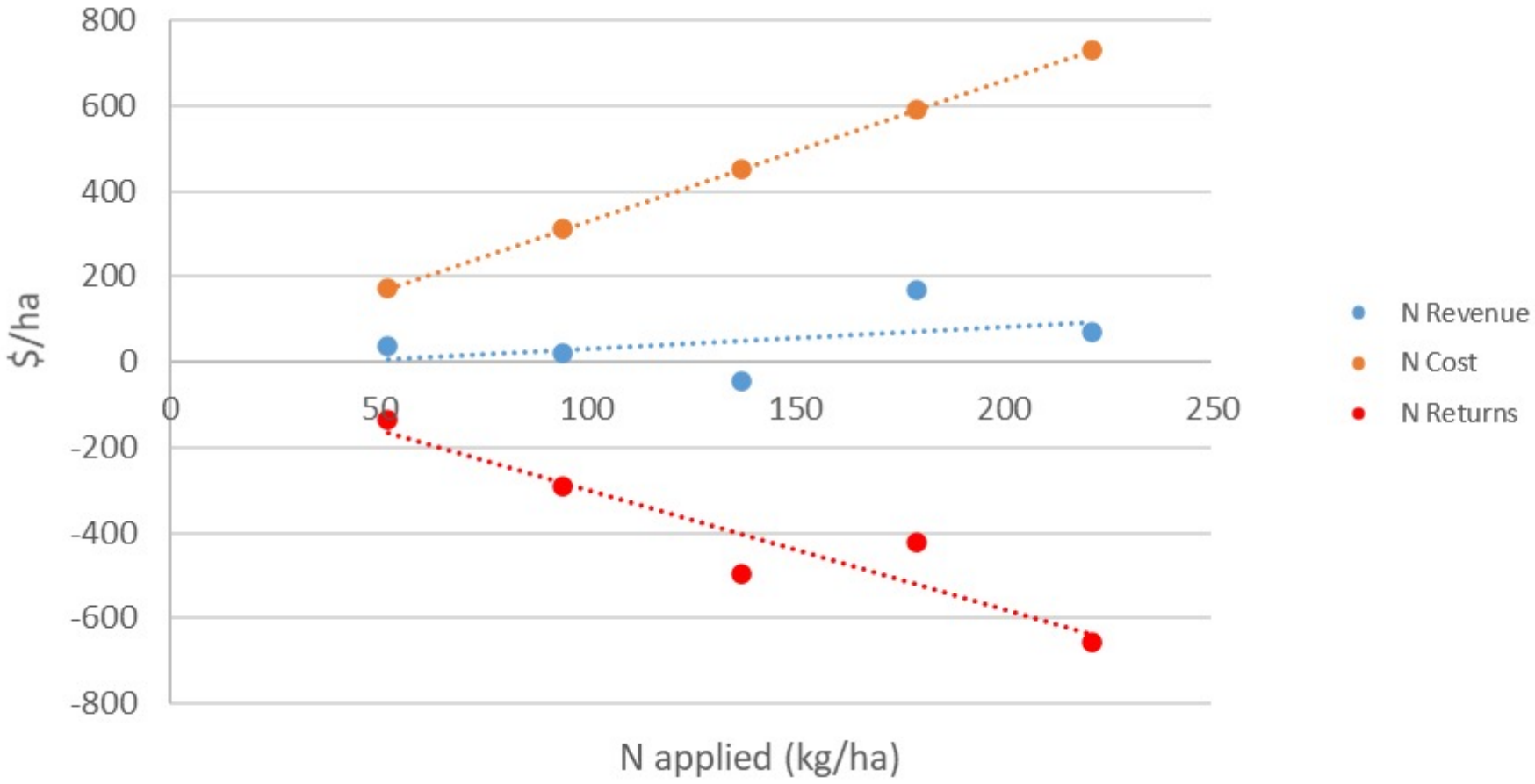


Plant test results – nitrogen highly unlikely to be limiting

Arthur River, 2021

N	Plant Wt (g)	N (%)	Nit N (mg/kg)
0	0.4	5.0	2080
52	0.5	4.9	2490
94	0.4	5.7	4072
137	0.5	5.8	4430

Arthur River 2021 - economics



Wheat @ $340/t; N @ $3.30/kg

Canola - break-even responses to 100 L/ha Flexi-N (42N)

	Flexi-N		
Canola	**900**	**1100**	**1300**
900	0.13	0.16	0.19
1100	0.11	0.13	0.16
1300	0.09	0.12	0.13

100 L/ha Flexi-N can produce responses of up to 0.5 t/ha in canola

Wheat – break-even responses to 60 L/ha Flexi-N (25N)

Wheat	Flexi-N		
	900	**1100**	**1300**
300	0.39	0.29	0.34
350	0.20	0.25	0.29
400	0.18	0.22	0.26

60 L/ha Flexi-N can produce responses of up to 0.5 t/ha in wheat

Key points

Potential for very high returns from N this year

Increased risk of financial losses from poorly targeted N

Increased incentive to make better informed N decisions