

Trade implications from consumer attitudes to NZ food attributes in key export countries

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Vision for the research programme

New Zealand's land-based exports should be marketed to international consumers as more valuable than basic **commodities**.

This means selling to our international markets that New Zealand products offer more to consumers than being a cheap source of nutrition, fabrics or wood.



Credence attributes

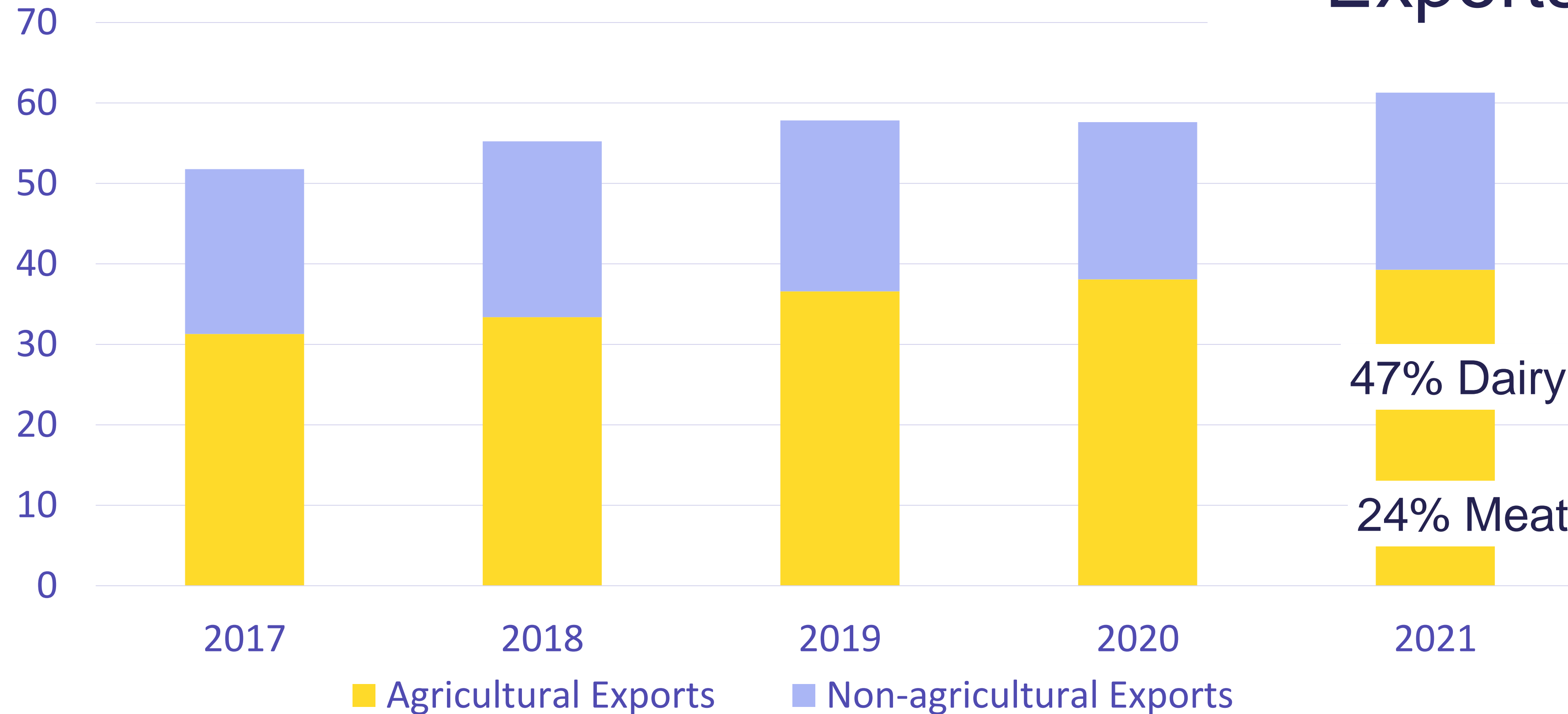
A credence attribute is something consumers are willing to pay for, but have to **trust** that it is present because they can't see, taste or feel it for themselves.

Examples for **credence attributes** are animal welfare, environmental quality, food safety.

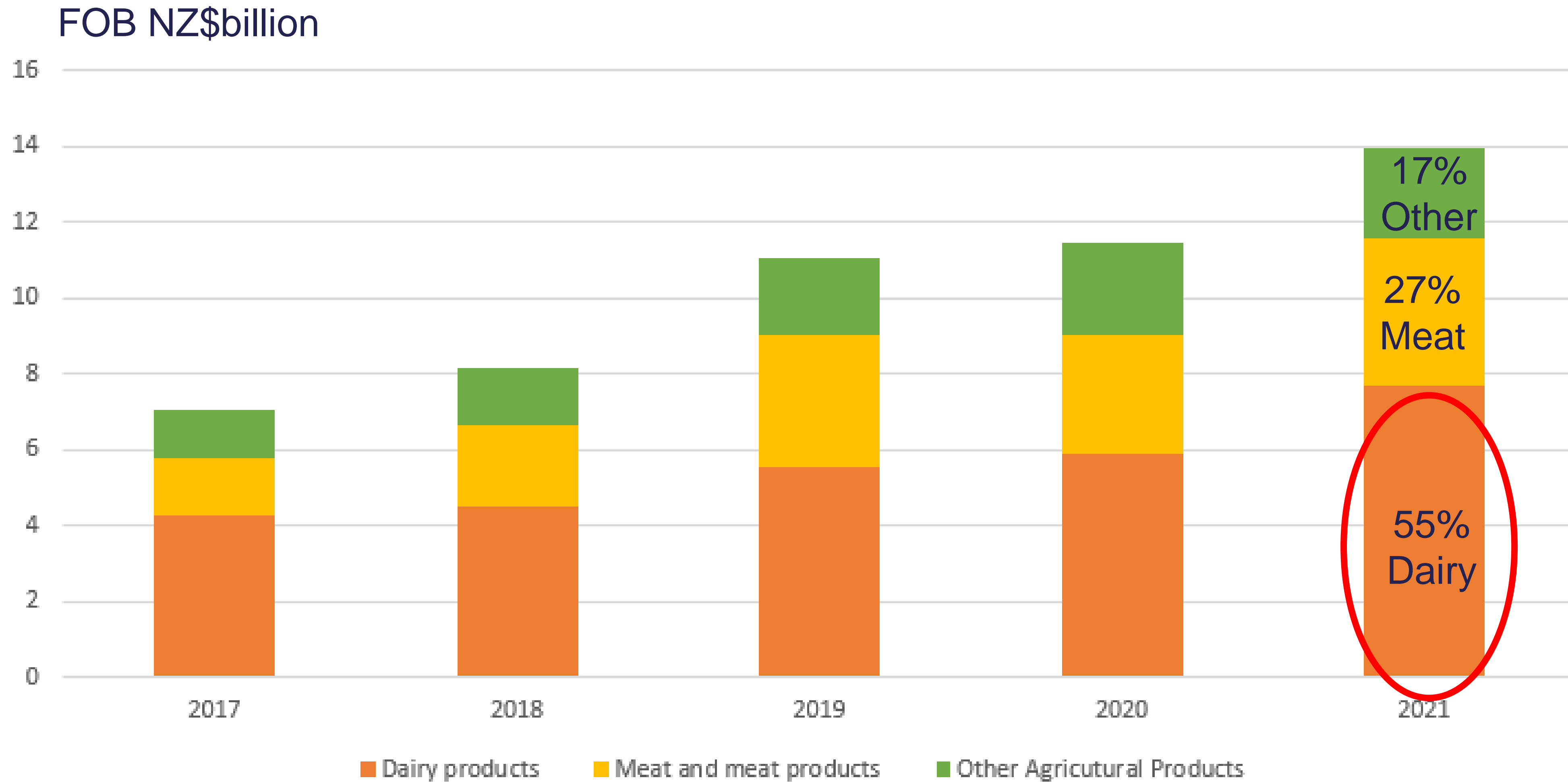


Total NZ Exports

FOB \$billion

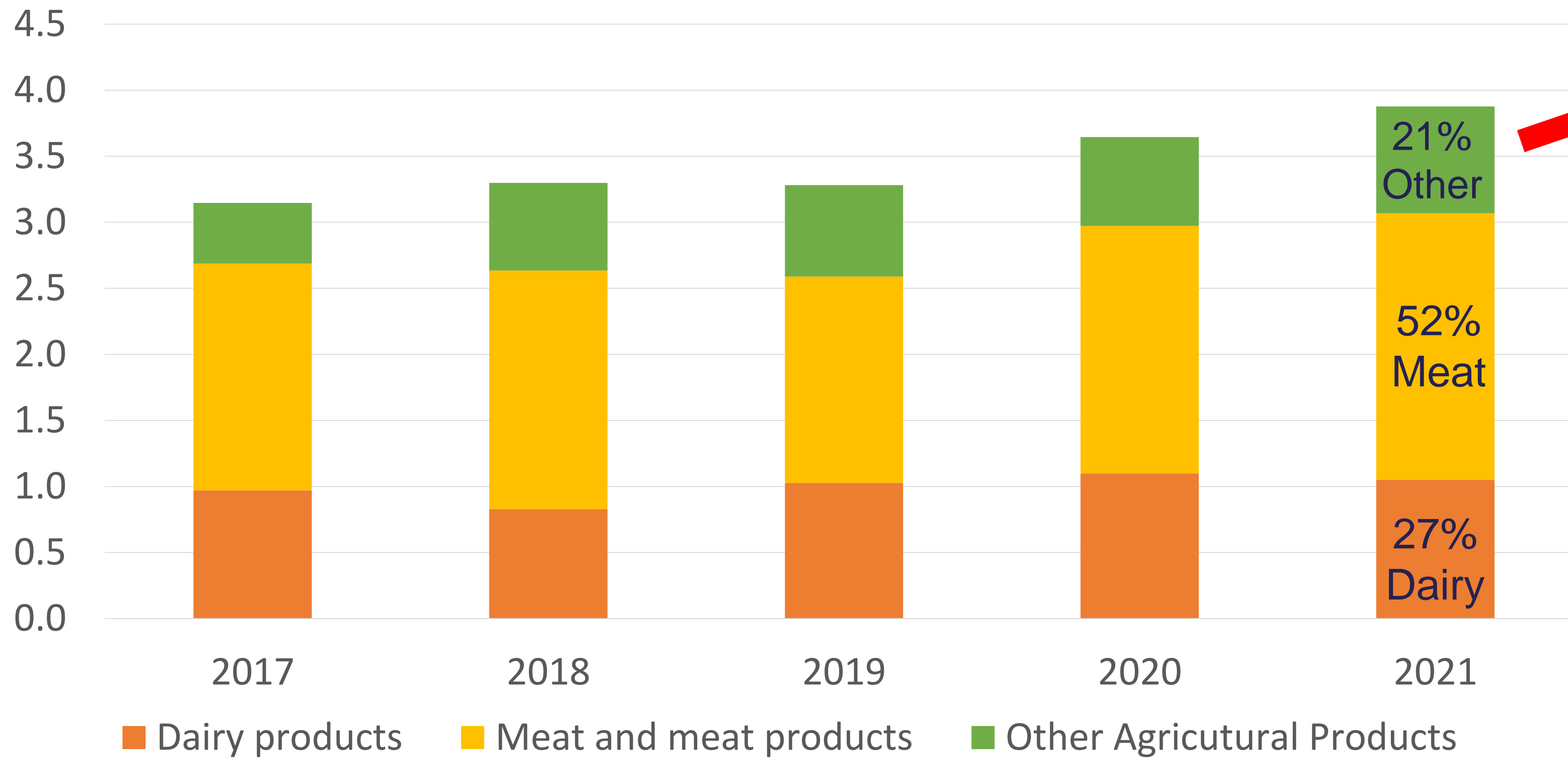


NZ agricultural exports to China

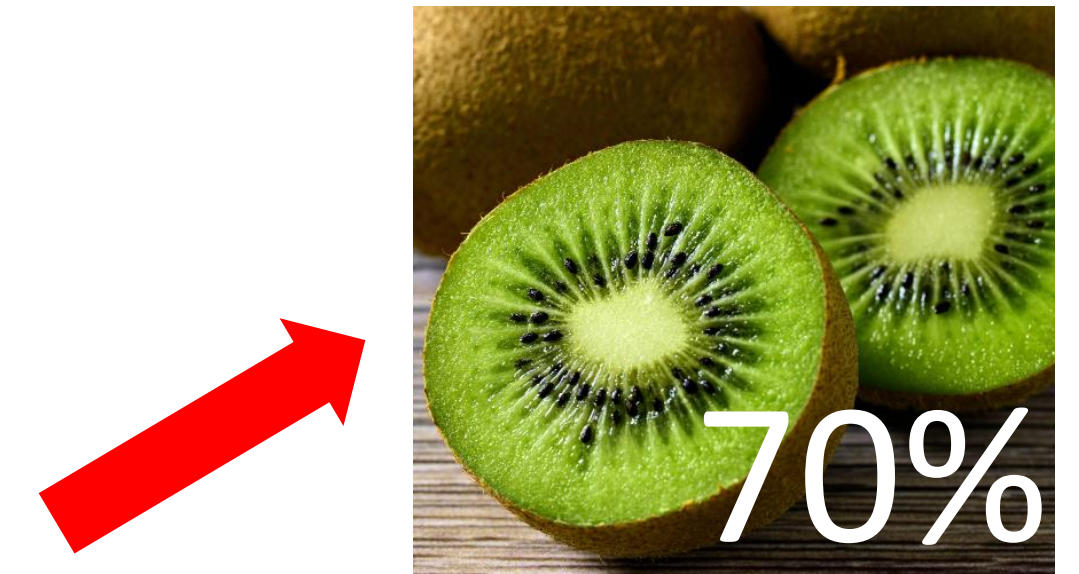
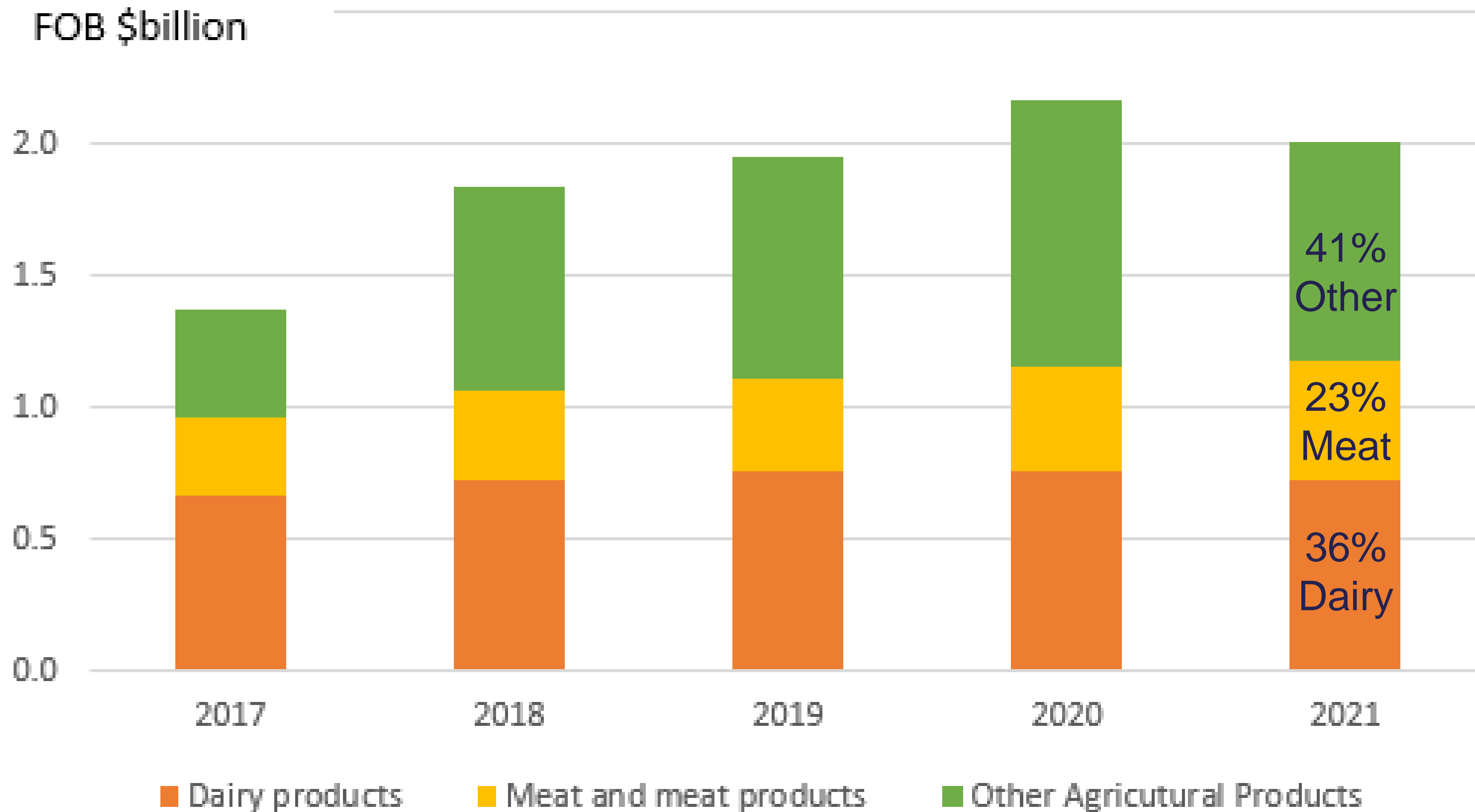


NZ agricultural exports to USA

FOB NZ\$billion



NZ agricultural exports to Japan



Studies have shown ...

- Consumers in NZ export markets would be willing to pay premiums for credence attributes in food products.
- However, the level of these premiums differ between countries and products.
- Tait et al (2016) showed that WTP for credence attributes in lamb products in India and China ranked high for food safety, water management and GHG minimisation, while in the UK WTP was high for animal welfare.
- Yang & Renwick (2019) found higher WTP for beef product attributes than for lamb, with the *organic* attribute valued the most and *environment-friendly* the lowest.

The Lincoln Trade and Environment Model (LTEM)

- Partial equilibrium international trade model.
- Focus on the agricultural sector.
- Non-spatial.
- Data from FAO, OECD, WTO and Worldbank.
- Base year 2014; projecting out to 2030.
- It covers 23 countries (including Rest of the World)
- It analyses 24 commodities, including four meat commodities (beef, pig, sheepmeat, poultry) and six dairy products (liquid milk, butter, cheese, fresh dairy, whole milk powder and skim milk powder).



Modelling assumptions

- Four scenarios were developed assuming different premiums for various credence attributes and commodities.
- Premiums (WTP values) were derived from choice experiments undertaken by Tait et al., 2020 a-f.
- Commodities and credence attributes were country-specific.
- Attributes with highest potential for impact and interest for NZ were selected.
- Only individual commodities from individual country receive premiums.

Scenarios

Sc	Country	Product	Credence attribute			
1	Japan	Kiwifruit	Social responsibility	Carbon Neutral	Water Quality	
2	NY, TX (USA)	Wine	NZ made	GHG management	Biodiversity	
3	China (Urban)	Beef	Raised in New Zealand	Carbon Neutral	Water Quality	100% Pasture Raised
4	China (Urban)	Fresh Dairy	Enhanced Animal Welfare	Carbon Neutral	Water Quality Protection	100% Pasture Raised

Modelling results

- New Zealand
- Percentage changes and values for **producer returns** from baseline to scenario in 2030 for selected commodities and countries.
- Producer returns refer to the total returns earned by the producers.

Results: Japan Kiwifruit

Attribute ↓	WTP (%) by 2030 ↓
Carbon Neutral	83.3
Social Responsibility	26.5
Water Quality	23.7

NZ Producer Returns change by 2030	
%	NZD (mil)
75	76
24	26
21	23

Results: USA (NY, TX) Wine

Attribute	WTP (%) by 2030	NZ Producer Returns change by 2030	
		%	NZD (mil)
NZ Made	17.7	13	19
GHG Management	2.6	2	3
Biodiversity	2.0	2	2

Results: Urban China Beef

Attribute	WTP (%) by 2030	NZ Producer Returns change by 2030	
		%	NZD (mil)
Raised in NZ	50.9	86	1,150
Carbon Neutral	25.9	41	546
100% Pasture Raised	17.7	27	363
Water Quality	6.6	10	130

Results: Urban China Fresh Dairy

Attribute	WTP (%) by 2030	NZ Producer Returns change by 2030	
		%	NZD (mil)
Carbon Neutral	5.3	3	1
Enhanced Animal Welfare	4.3	2	1
100% Pasture Raised	2.6	1	0.3
Water Quality Protection	1.6	1	0.1

TOP 10

Rank	Country	Product	Attribute	Change in Producer returns, NZD (mil) by 2030
1	Urban China	Beef	Raised in NZ	1,150
2	Urban China	Beef	Carbon Neutral	546
3	Urban China	Beef	100% Pasture Raised	363
4	Urban China	Beef	Water Quality	130
5	Japan	Kiwifruit	Carbon Neutral	76
6	Japan	Kiwifruit	Social Responsibility	26
7	Japan	Kiwifruit	Water Quality	23
8	USA	Wine	NZ made	19
9	USA	Wine	GHG Management	3
10	USA	Wine	Biodiversity	2

Key messages

- Overall, different premiums for credence attributes in food in the countries of interest were projected to increase NZ producer returns for selected commodities by up to \$1.2 billion by 2030.
- Impacts on New Zealand producer returns differ for each attribute, product and country.
- Largest increases of producer returns were projected for ‘NZ raised’ beef sent to China.
- Smallest increases projected for credence attributes in fresh dairy sent to China
- Interestingly, ‘carbon neutral’ attribute received high returns from Asian countries.

THANK YOU!

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