

Consumer Trends & Environmental Impacts

Shaping the Poultry Sector

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**POULTRY
SERVICE
INDUSTRY
WORKSHOP**

Poultry Service



UNIVERSITY OF ALBERTA
DEPARTMENT OF RESOURCE ECONOMICS
AND ENVIRONMENTAL SOCIOLOGY

My messages to you

Growing awareness of link between environment & food system starts to show impacts

Concerns for sustainability now find more dedicated choice options

What our research investigates:

- 1) Would concerned consumer buy chicken fed with insect or algae as protein substitutes for soy?**
- 2) What does Western Canadian farmers' environmental risk management look like?**

“Cost of living” effects - 51% reduce non-essential purchases

“For each of the following grocery categories, which statements reflect your typical approach to shopping? Please select all that apply per category.”

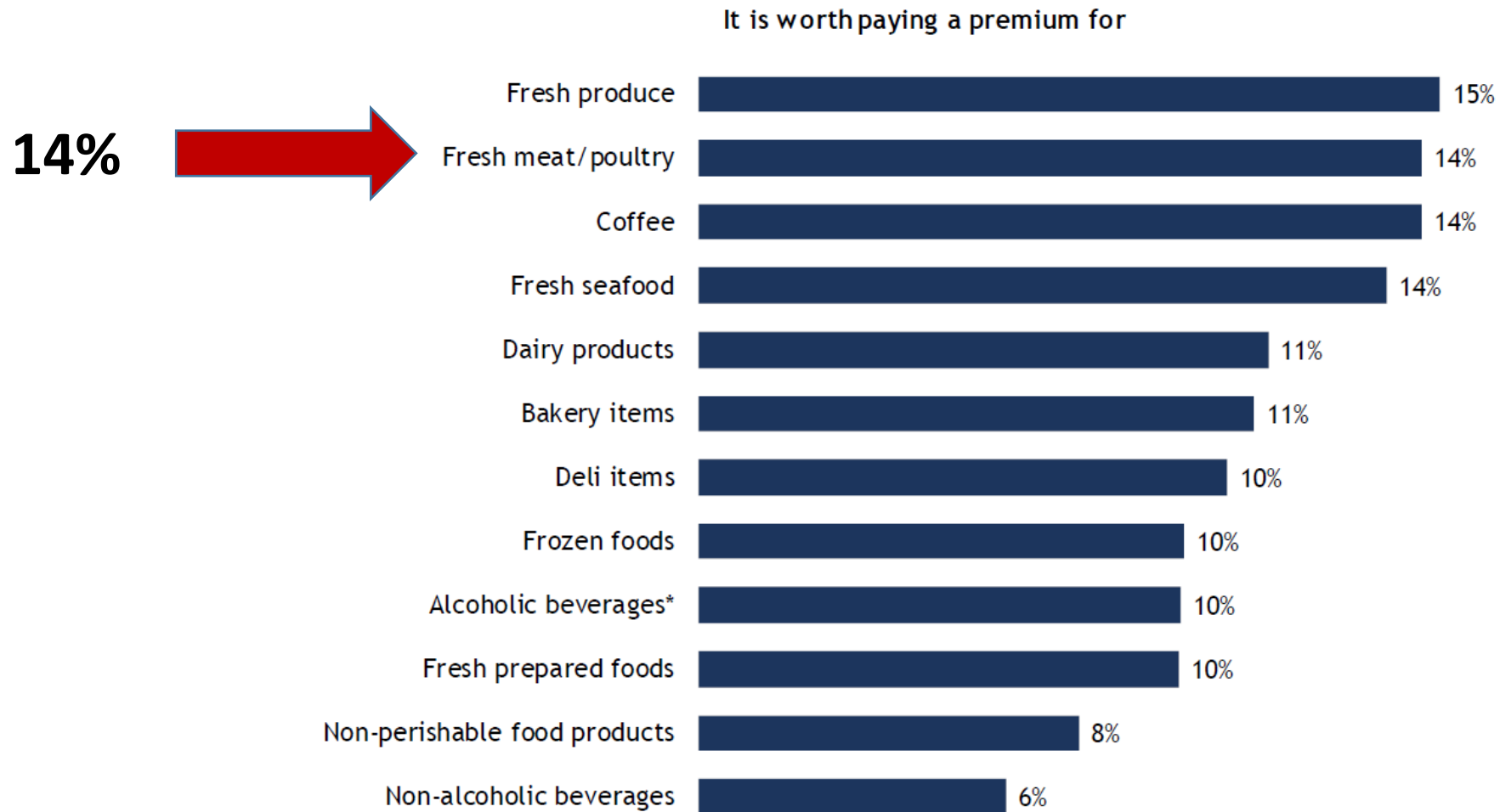


Base: 1,873 internet users aged 18+ who are responsible for household grocery shopping/*1,824 internet users aged 20+ who are responsible for household grocery shopping

Source: Kantar Profiles/Mintel, August 2022

BUT - Fresh meat and seafood is worth paying a premium for!

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Canadians eat less meat & watch environment/climate

- 10% indicate eating more over 2021. 24% say less.
- Younger adults (18-34) more likely to be vegetarian.
- Older Canadians represent challenge. Just 1% of over-55s claim eating more meat in 2023.

59% of Canadians agree “producing meat and/or dairy substantially contributes to climate change”.

- Weather extremes are noticed -> sustainability becomes greater concern.
- “Sustainable” product options come onto market.
- Poultry & protein-based category needs credible strategies & relevant messaging around tackling environment & climate.
- Societal & policy priorities on the issue likely gain more traction.

Young Canadians more likely to try innovative proteins

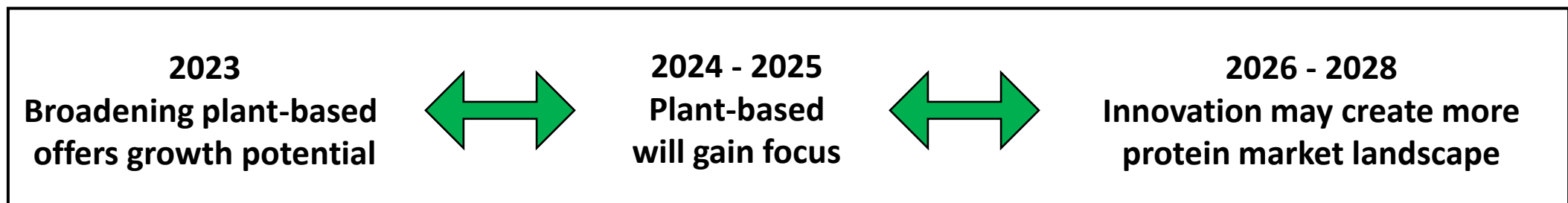
Younger consumers are more open to alternative sources of protein

- Greater willingness to try & change eating habits!
- 60% of 18-34y olds interested in “more plant-based alternatives on restaurant menus”
- 18-44 y olds agree they “can get enough protein in their diet without eating animal-based meat or dairy”

Meat and milk in plant-based foods have lead the way for other protein alternatives

- Plant-based alternatives (e.g., Beyond Burger) have been vanguards
- “Tried & approved” opens door for other innovations including poultry! Will they catch on?

Protein vs Alt Protein



Research - Are Consumers ready for Chicken fed with alternative Feedstuffs?

Sustainable feed ingredients may help ease pressure on feed production -> environment

1 Broiler Feeding Trail

- Standard diet Soy protein
- Alternative 1 – Spirulina
- Alternative 2 - Black Soldier Fly

2 Processing & Packaging

- Slaughter & package breast meat to retail standards
- Take high-resolution pictures (1 lb. packages)

3 Consumer Experiment Study

Online survey with 1,000 representative consumers

Choice experiment

- Price (low ,medium, high)
- Feedstuff (Soy, Spiru, Fly)
- Consumer labeling (ProEnviro, Omega-3)

Information Treatment

- 500 received info about feedstuffs. 500 controls.

Please make a Choice



Fed with insect meal

A



Fed with Spirulina

B

No Purchase

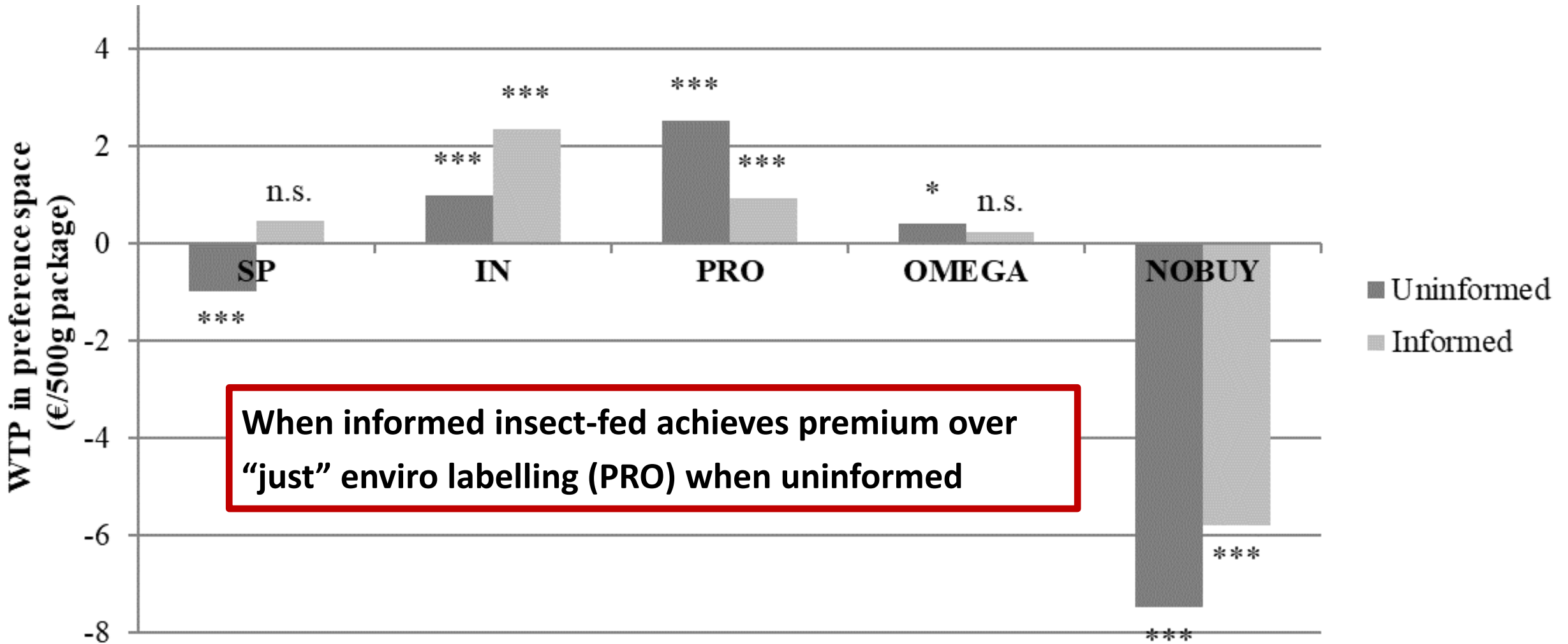


I buy...

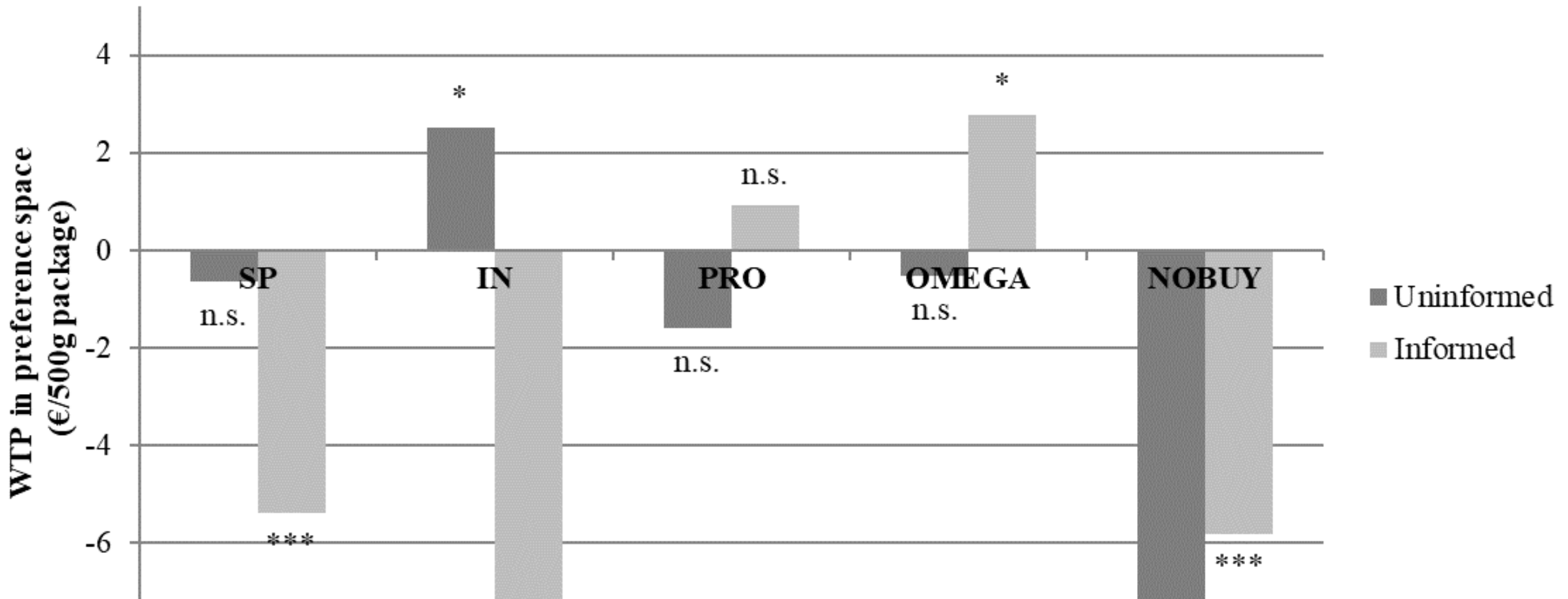
1,000 participants each made 9 choices among pairs of chicken products

Researchers use data from choices + survey + socio-demographics to measure demand

Are consumers ready? No they are not yet!



What about consumers motivated by environmental issues?



Information about feed is a double-edged sword.

- Environmentally conscious consumers use info to seek insect fed chicken.
- **BUT** mainstream consumers react negatively to unfamiliar colour effects.

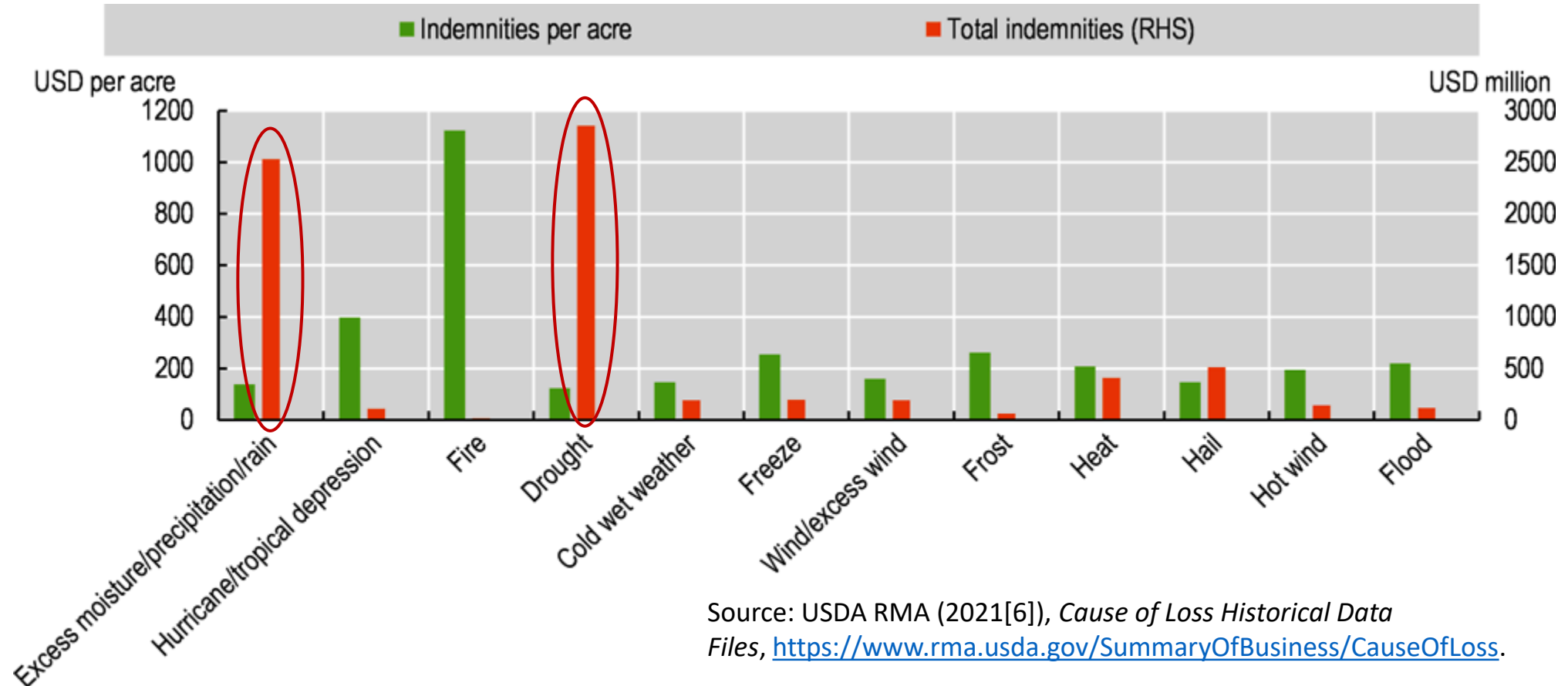
What we learn from consumer studies

1. Consumer environmental concern is not yet translating into accepting “out of the box” innovation, yet.
2. Changing acceptance of unfamiliar meat colour of chicken meat needs lots of education.
1. Making use of innovative (food waste) feed ingredients needs careful evaluation & consumer testing.

Changing consumers alone won't save the farm

On-farm risk management ranks high these days. Indemnities skyrocket!

Crop insurance indemnities and indemnities per acre, average for 2010-2020



Source: USDA RMA (2021[6]), *Cause of Loss Historical Data Files*, <https://www.rma.usda.gov/SummaryOfBusiness/CauseOfLoss>.

Are producers adoption risk management practices?

AB Environmentally Sustainable Agriculture Tracking Survey

= measures adoption of agri-environmental Best Management Practices (BMP) since 1997

- BMPs key to risk prevention & mitigation
- AAFC Emergency Management Framework for Agriculture
- Environmental Farm Plan essential to accessing Prov. & Fed. BMP program \$\$\$

Best Management Practices Adoption (2021)

Water quality (7), Air quality (4), Soil health (5), Biodiversity (5)

- 500 representative farms across AB

Survey: Owner, farm structure, production system, existing BMPs, gov. program experience, info tools usage, etc.

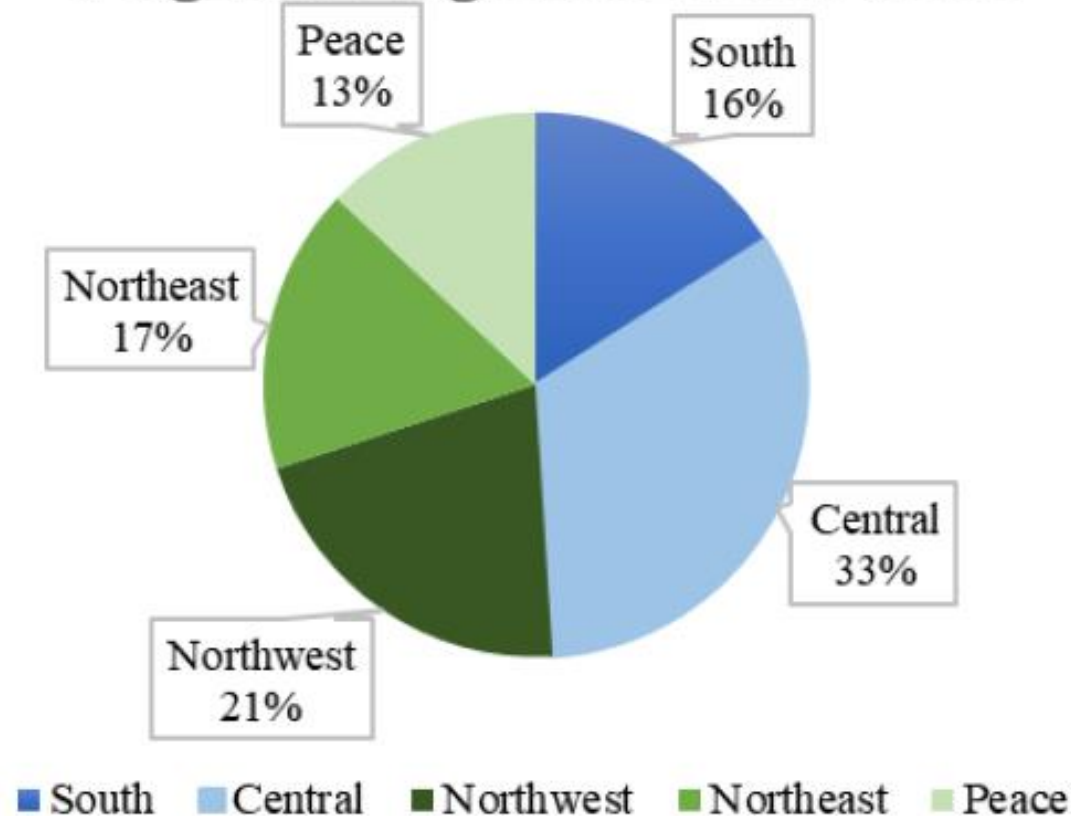
AB on-farm adoption of BMPs

Livestock

Did you have any....?	
Beef Cattle	
Dairy Cattle	
Pigs	
Broilers	
Layers	
Turkeys	
Sheep/Lamb	
Horses	

Base: All responde

Weighted Regional Distribution

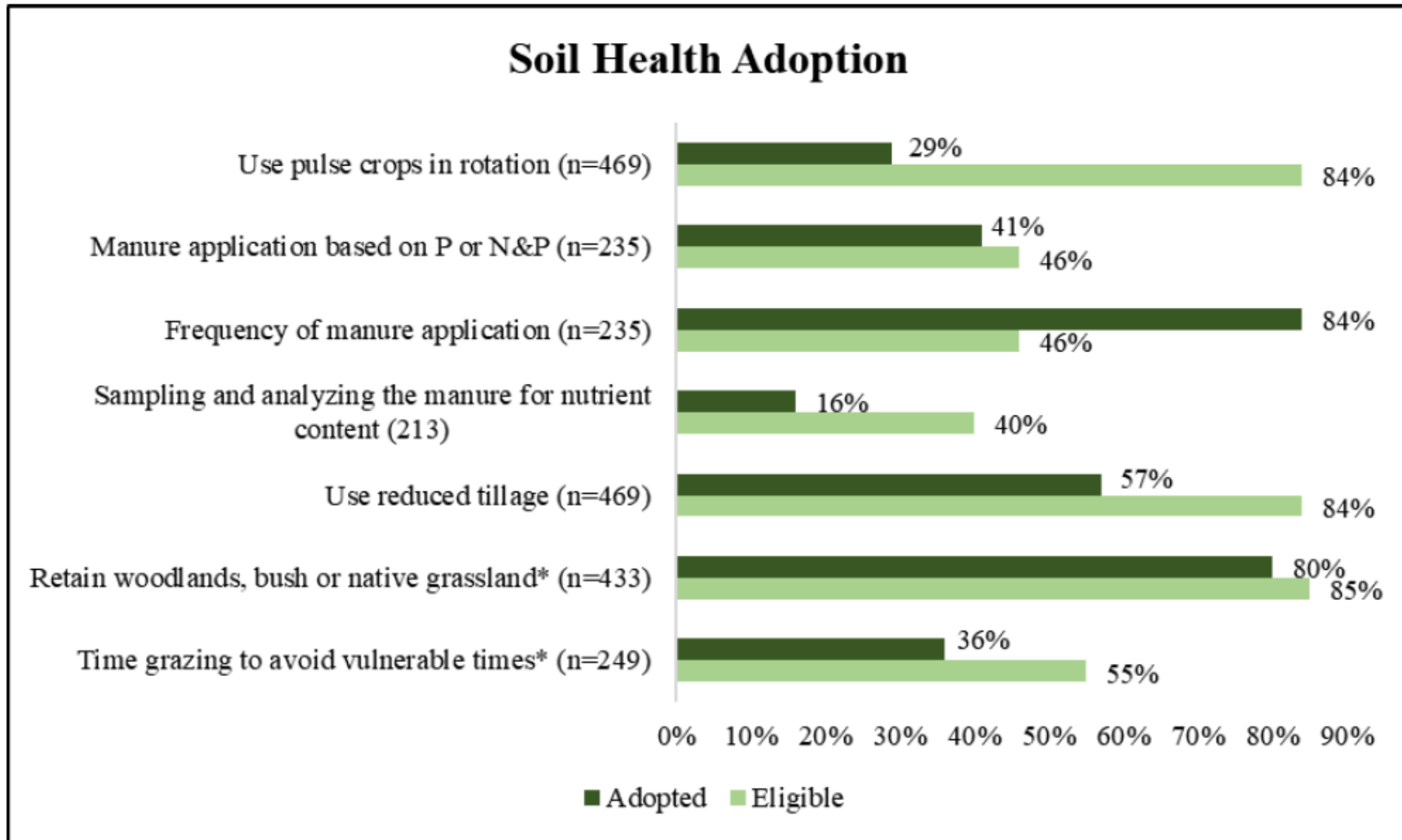


Applied to Land

...?	Yes (%)
	81%
	37%
	6%
	12%
is	7%
	6%

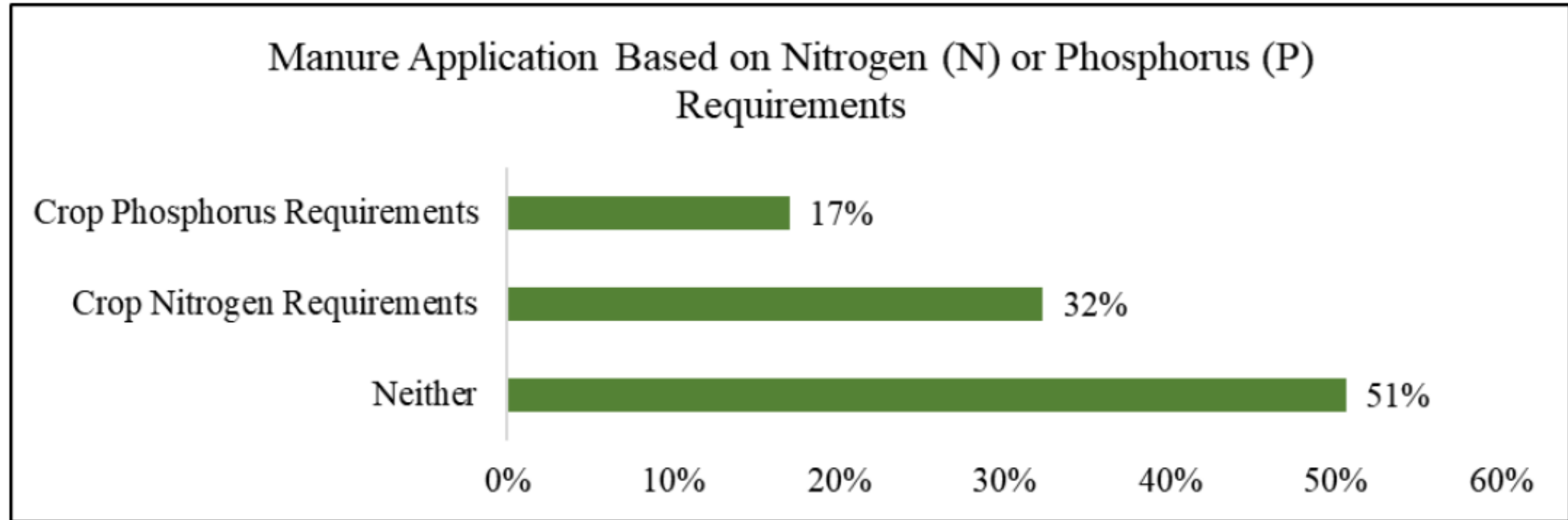
respondents (n=501)

Adoption of *SOIL* BMPs



*This was not included as a performance measure.

Adoption of *SOIL* BMPs

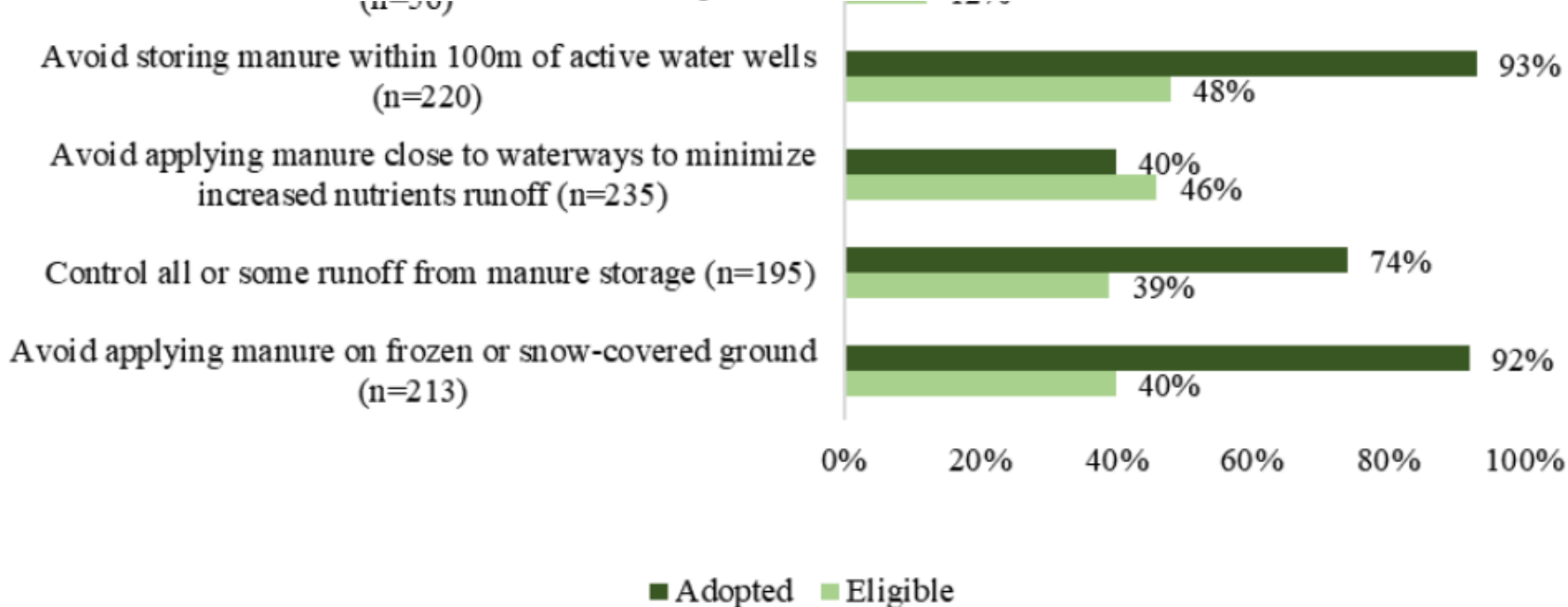
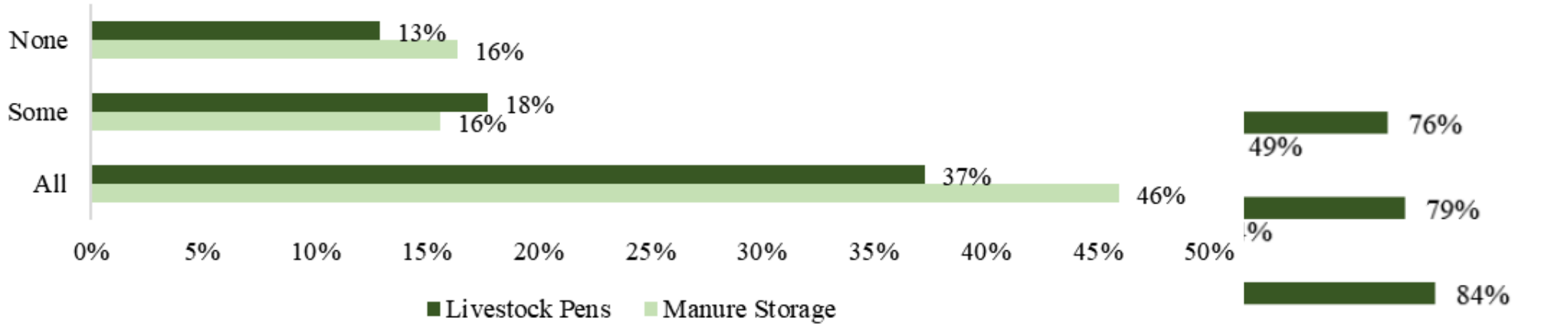


Manure Sample and/or Analysis Adoption

2012	2014	2016	2018	2020
48%	35%	35%	30%	16%↓

Adoption of *Water* BMPs

Control Runoff

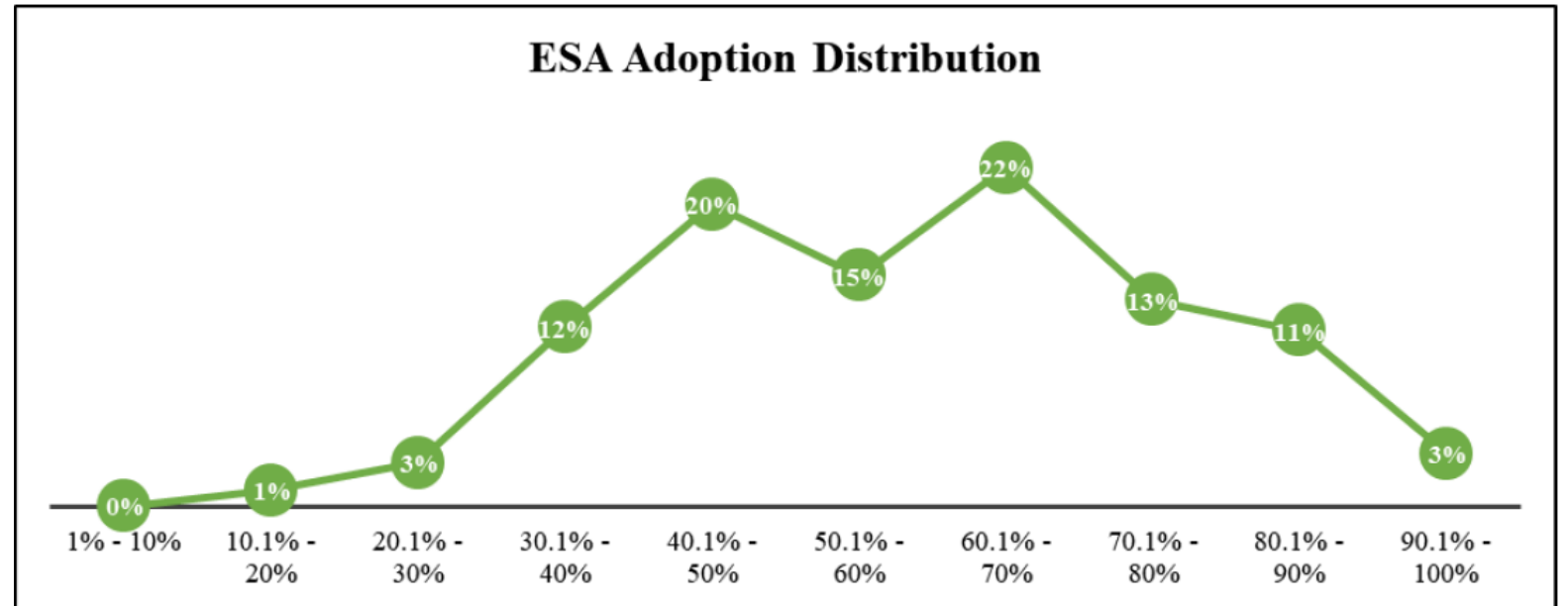


water wells

2020
93%↑

AB producer adoption of eligible BMPs

57% of eligible BMPs adopted in 2021



- **Conservation training** (past 2 years) ↑ BMP scores 67%
- **Environmental Farm Plan** ↑ score 63% (no EFP 51%)
- **Gross farm revenue & education** ↑ score 62-64%

- **Water Quality risks** 76%
- **Biodiversity risks** 68%
- **Soil Health** 44%
- **Air Quality risks** 37%

Thank you

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