



Have animal products got a future in human nutrition?

16th March 2023

Source: Jude L. Capper, 2023

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COM

When I was 15, I was a vegan

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Source: Created by Dr. Jude L. Capper, 2021.



COM

Guilt is a primary motivator for people considering going vegetarian or vegan

"I sometimes feel guilty when consuming meat and dairy products"

66% of meat-eaters and flexitarians thinking of giving up meat said "yes" compared to 25% of national population

**No guilt
34%**

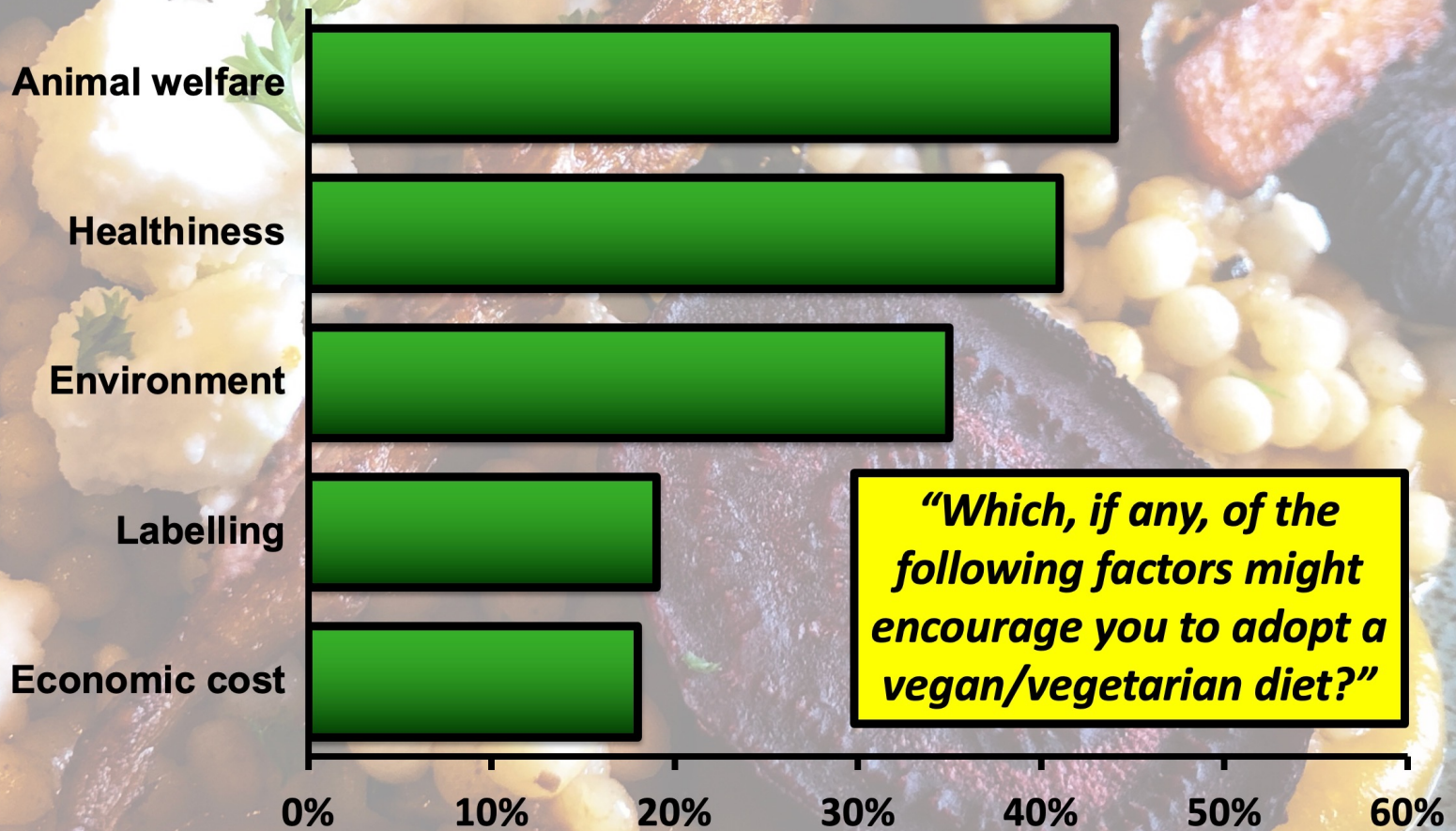
**Feel guilty
66%**

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Animal welfare and human health are major concerns for people giving up animal products



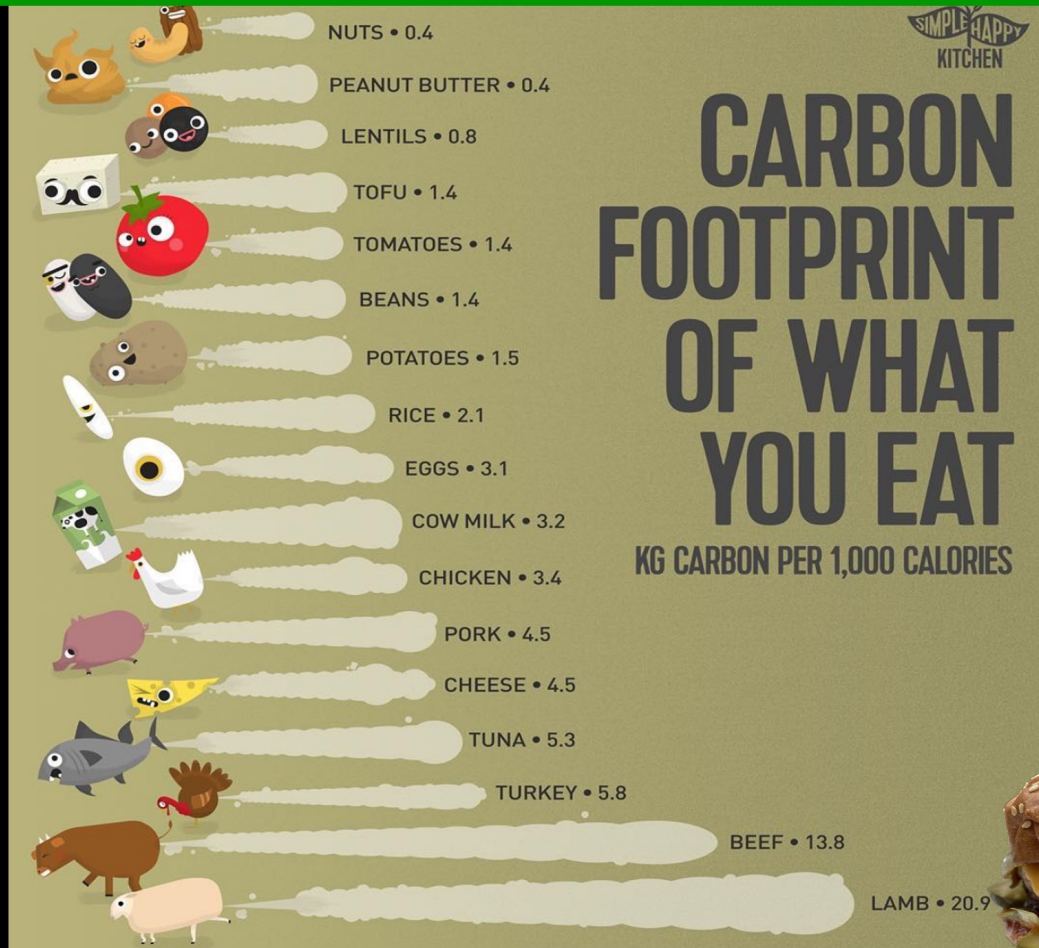
"Which, if any, of the following factors might encourage you to adopt a vegan/vegetarian diet?"

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B

Global averages are meaningless

The carbon footprints of the foods we eat vary considerably – global average figures are inappropriate when food production is regional



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Source: Created by Dr. Jude L. Capper, 2020, infographic from: https://www.instagram.com/simple_happy_kitchen/



D

Drinks vary in nutrient density and greenhouse gas emissions

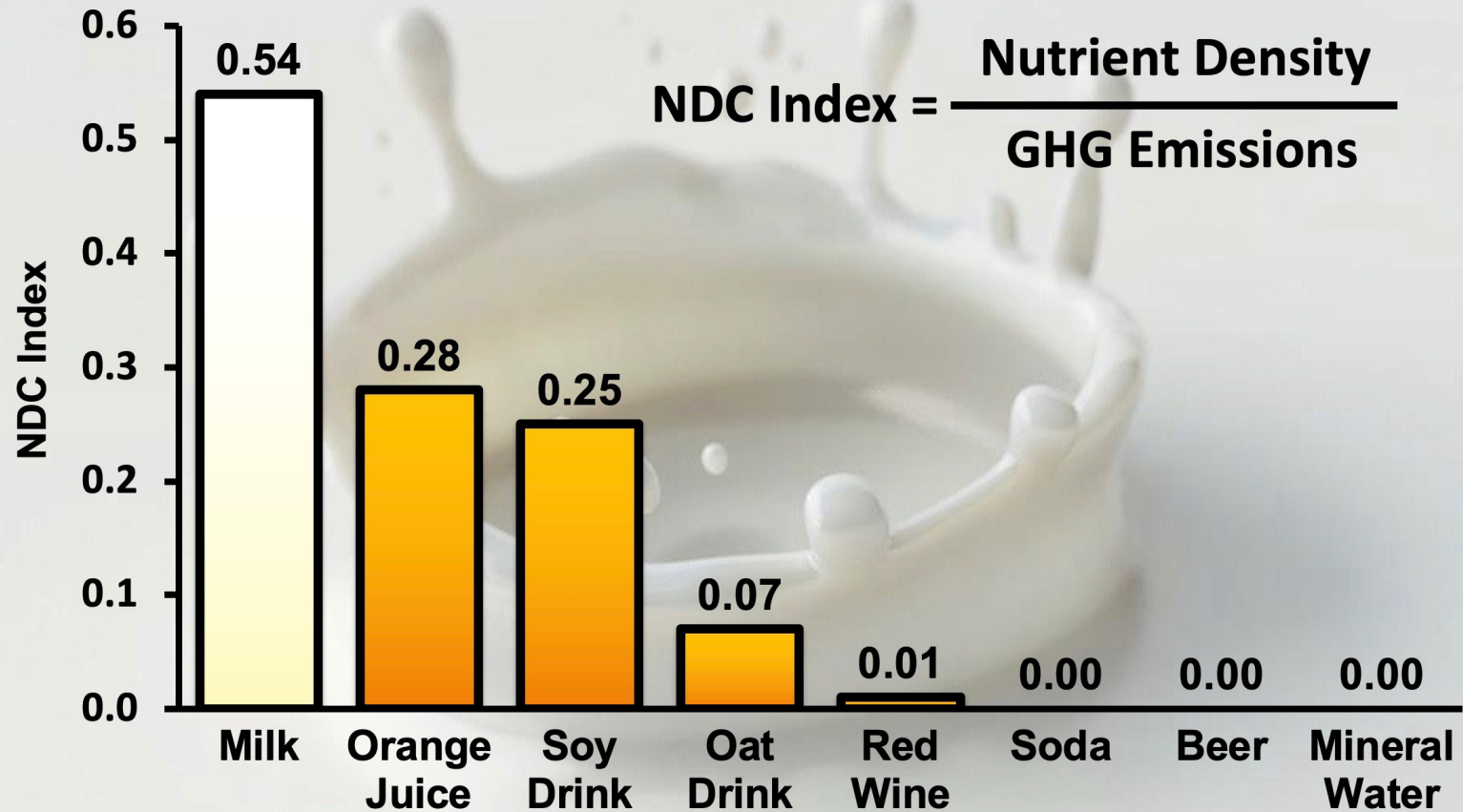
	Nutrient density	Carbon footprint g CO₂/100 g drink
Whole milk	53.8	99
Orange juice	17.2	61
Soya juice	7.6	30
Oat juice	1.5	21
Red wine	1.2	204
Soda	0.0	109
Beer	0.0	101
Water	0.0	10

Source: Created by Dr. Jude L. Capper, 2020. Data from: Smedman et al. (2010). Nutrient density to climate impact (NDCI) index of beverages. Food & Nutr. Res.



D

Nutrient density should be included when assessing carbon footprint



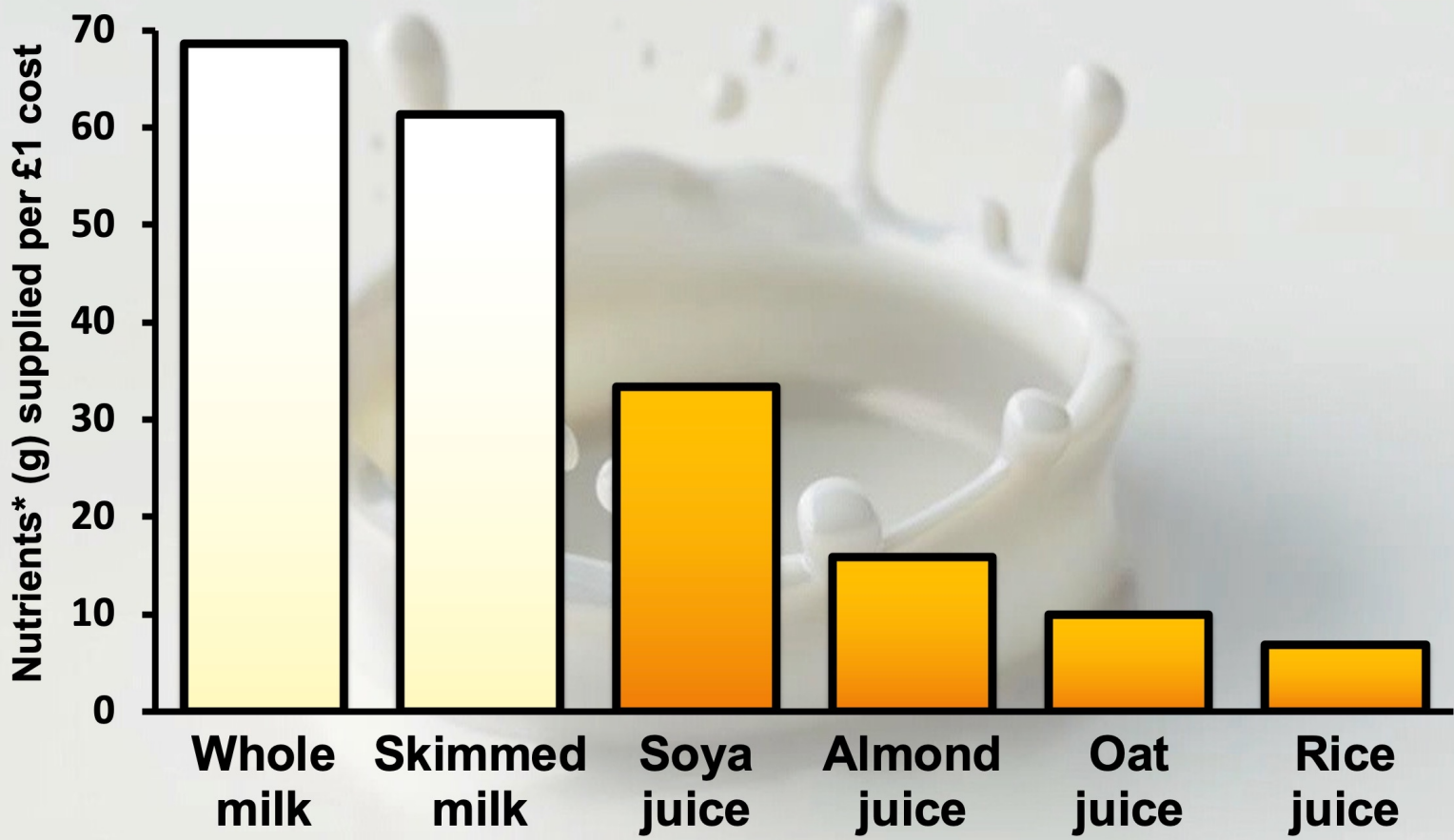
Source: Created by Dr. Jude L. Capper, 2020. Data from: Smedman et al. (2010). Nutrient density to climate impact (NDCI) index of beverages. Food & Nutr. Res.





D


Dairy supplies more positive nutrients per £1 than plant-based alternatives



Source: Created by Dr. Jude L. Capper, 2020. Beverage cost and nutrition data derived from the Sainsburys shopping app as of 5/11/2019. *Positive nutrients comprise protein, unsaturated fat, fibre; does not include carbohydrates, saturated fats, salt



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A close-up photograph of a burger with a sesame seed bun, cheese, and other toppings.

COM

Do 629,000 Veganuary participants in 2022 amount to more than a hill of beans?

**JOIN THE
NEW YEAR'S
REVOLUTION**



- Total is equal to 2.4x the population of Saskatoon
- If all participants were based in Canada they would comprise 1.6% of the population
- Average of 2,759 per participating country
- 60% of participants already vegan, vegetarian or pescatarian



Source: Created by Dr. Jude L. Capper, 2022. Information from: <https://veganuary.com/wp-content/uploads/2022/03/THE-OFFICIAL-VEGANUARY-2022-PARTICIPANT-SURVEY.pdf>

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B

How do we make meat sexy?



Source: Created by Dr. Jude L. Capper, 2022.

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B

How do we make meat sexy?



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Source: Created by Dr. Jude L. Capper, 2022.



B

How do we make meat sexy?



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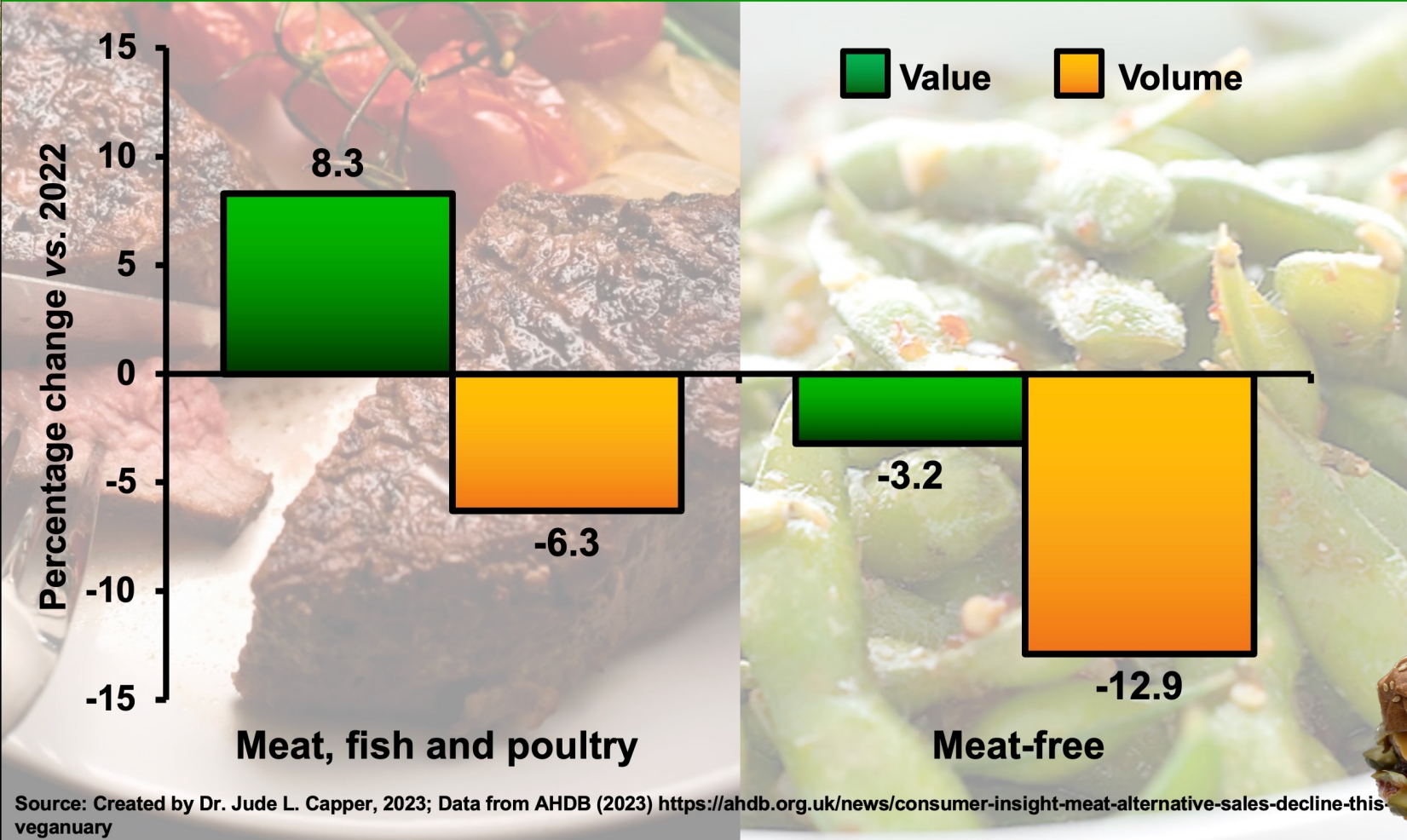
Source: Created by Dr. Jude L. Capper, 2022.





B

Sales of meat-free products declined in the 3 weeks ending 22/1/2023



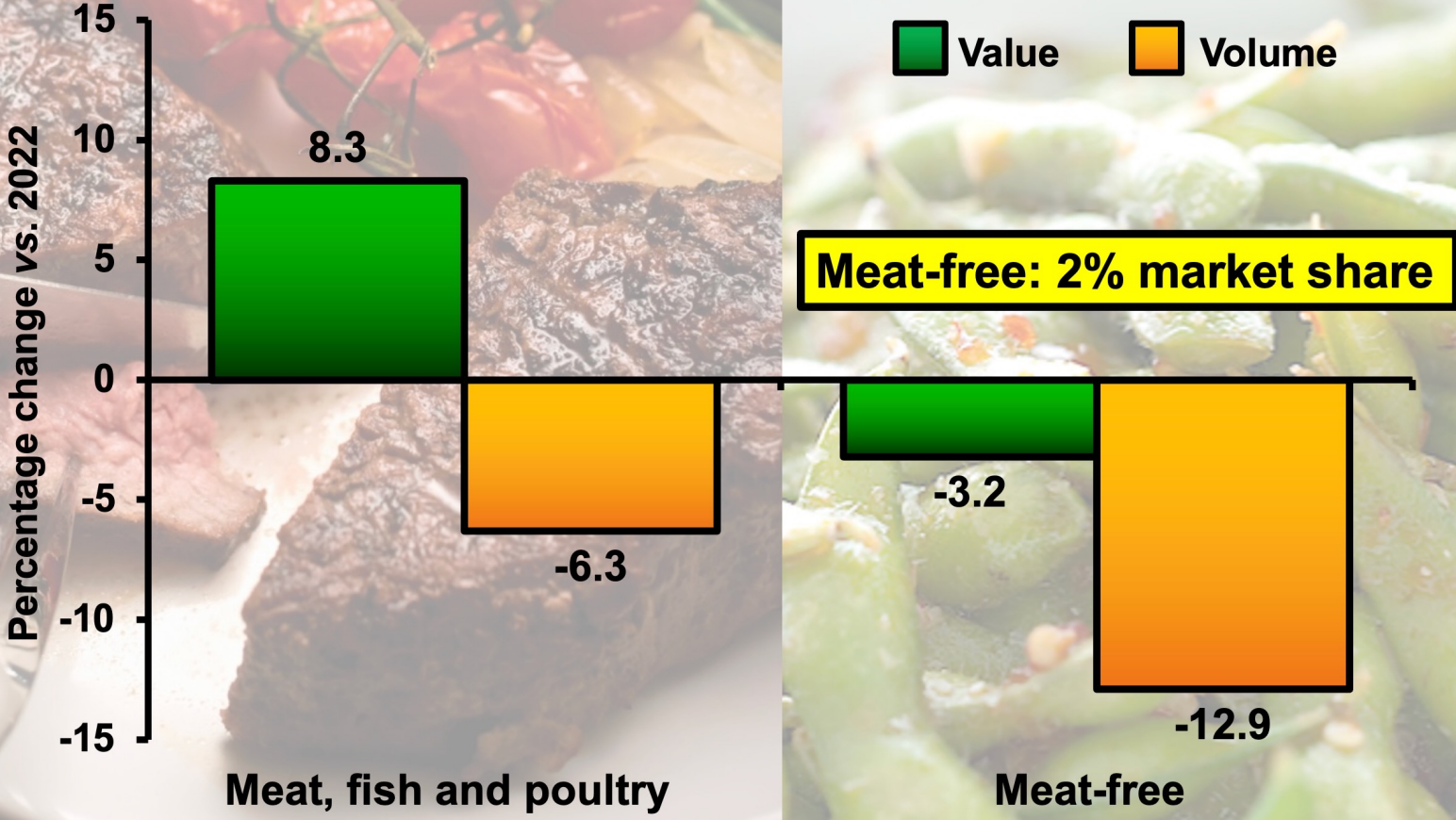
Source: Created by Dr. Jude L. Capper, 2023; Data from AHDB (2023) <https://ahdb.org.uk/news/consumer-insight-meat-alternative-sales-decline-this-veganuary>

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Sales of meat-free products declined in the 3 weeks ending 22/1/2023

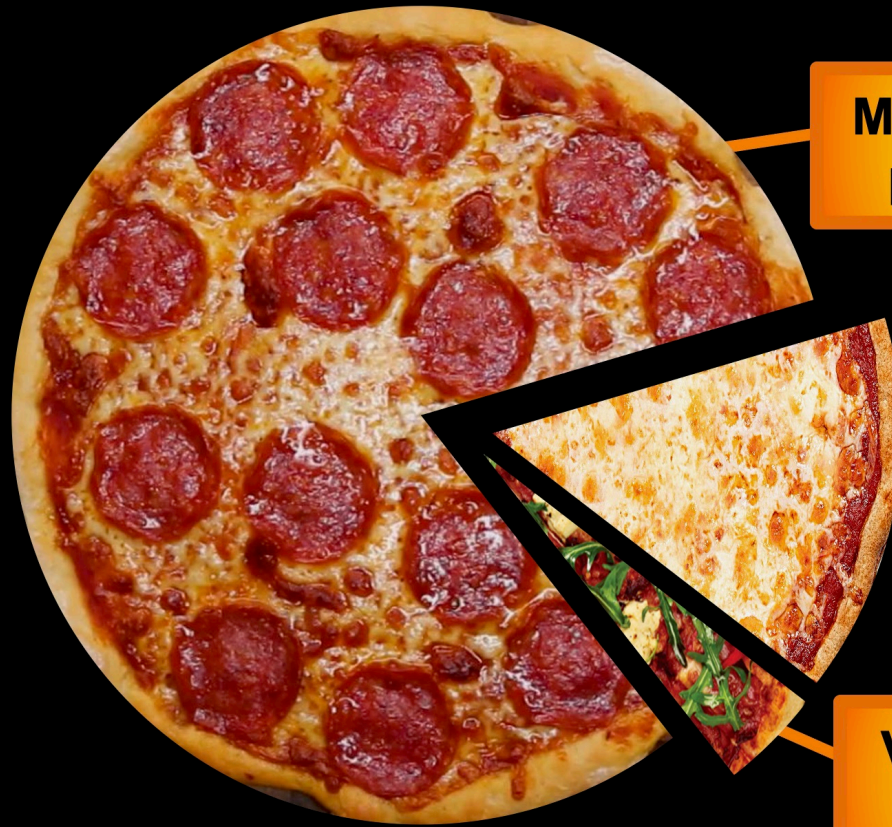


Source: Created by Dr. Jude L. Capper, 2023; Data from AHDB (2023) <https://ahdb.org.uk/news/consumer-insight-meat-alternative-sales-decline-this-veganuary>



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The future probably isn't vegan, but it may be flexitarian?



Meat-eater (78%) or pescatarian (3%)

Flexitarian (15%)

Vegetarian (3%) or vegan (1%)

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Source: Created by Dr. Jude L. Capper, 2020. Data from: YouGov (2019) Is the future of food flexitarian?
<https://yougov.co.uk/topics/resources/articles-reports/2019/03/18/future-food-flexitarian> Question: "Which, if any, of these best describes your usual eating habits?" Results adjusted for people who answered "don't know" (3%) or "other" (3%).



S

Can we grow human food crops everywhere?



Source: Created by Dr. Jude L. Capper, 2021

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>60% of UK land is not suitable for growing arable crops



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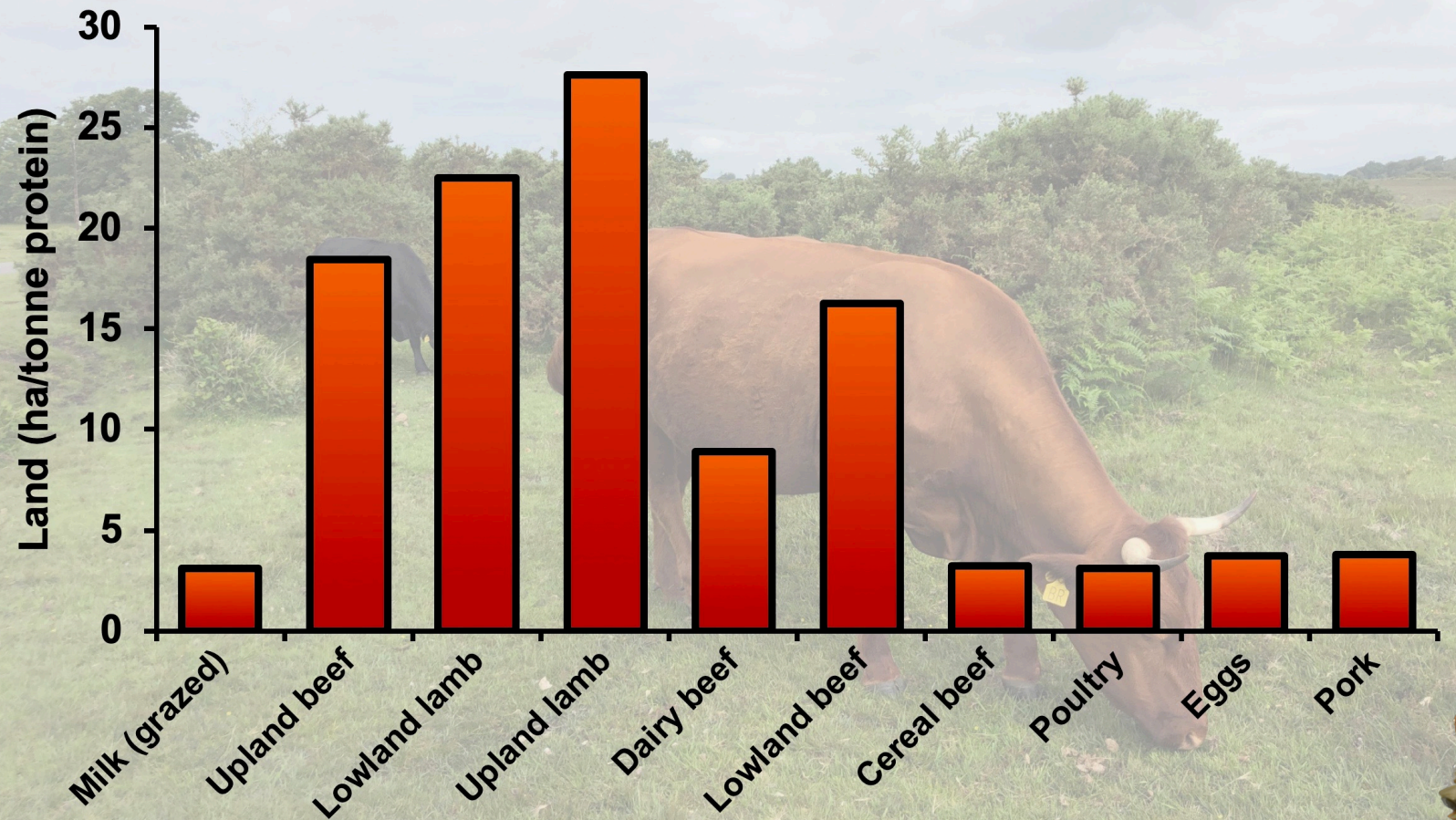


Source: Created by Dr. Jude L. Capper, 2020. Grazing land includes temporary grass on arable land (5% of total). Data from DEFRA. 2020. Farming statistics - provisional crop areas, yields and livestock populations at 1 June 2020 – United Kingdom. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946161/structure-jun2020final-uk-22dec20.pdf

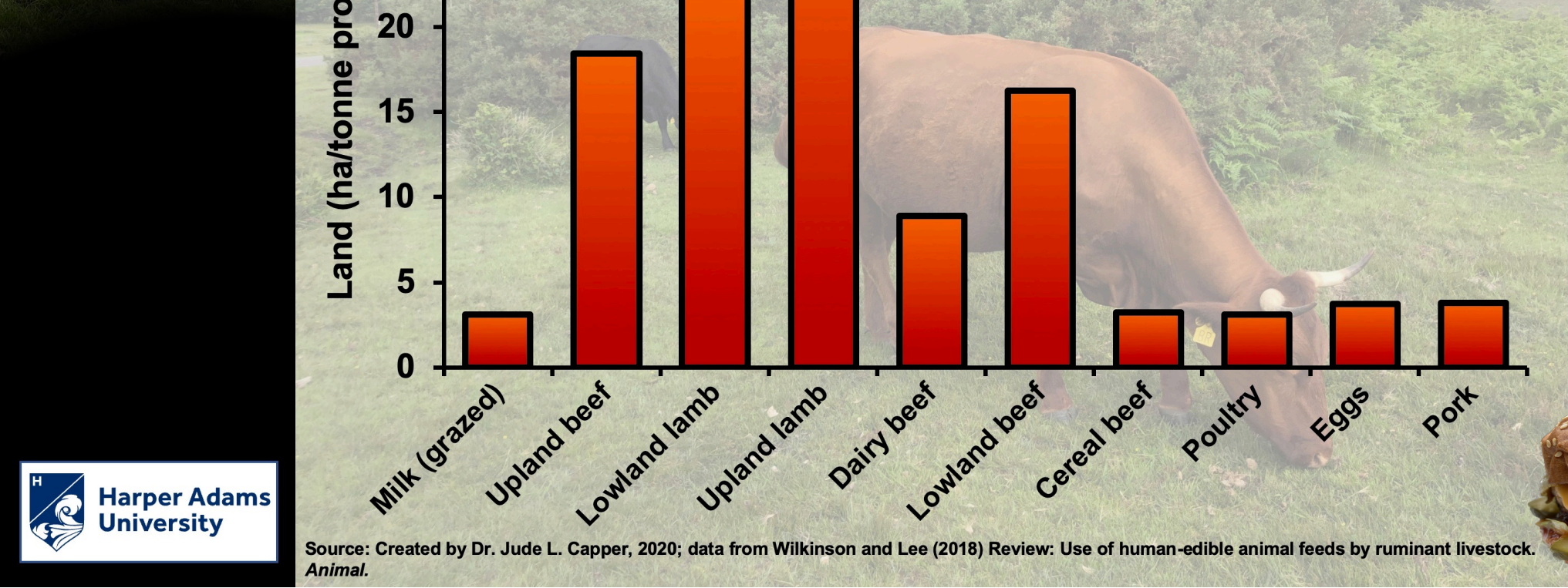


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Livestock systems vary widely in land use



Source: Created by Dr. Jude L. Capper, 2020; data from Wilkinson and Lee (2018) Review: Use of human-edible animal feeds by ruminant livestock. *Animal*.

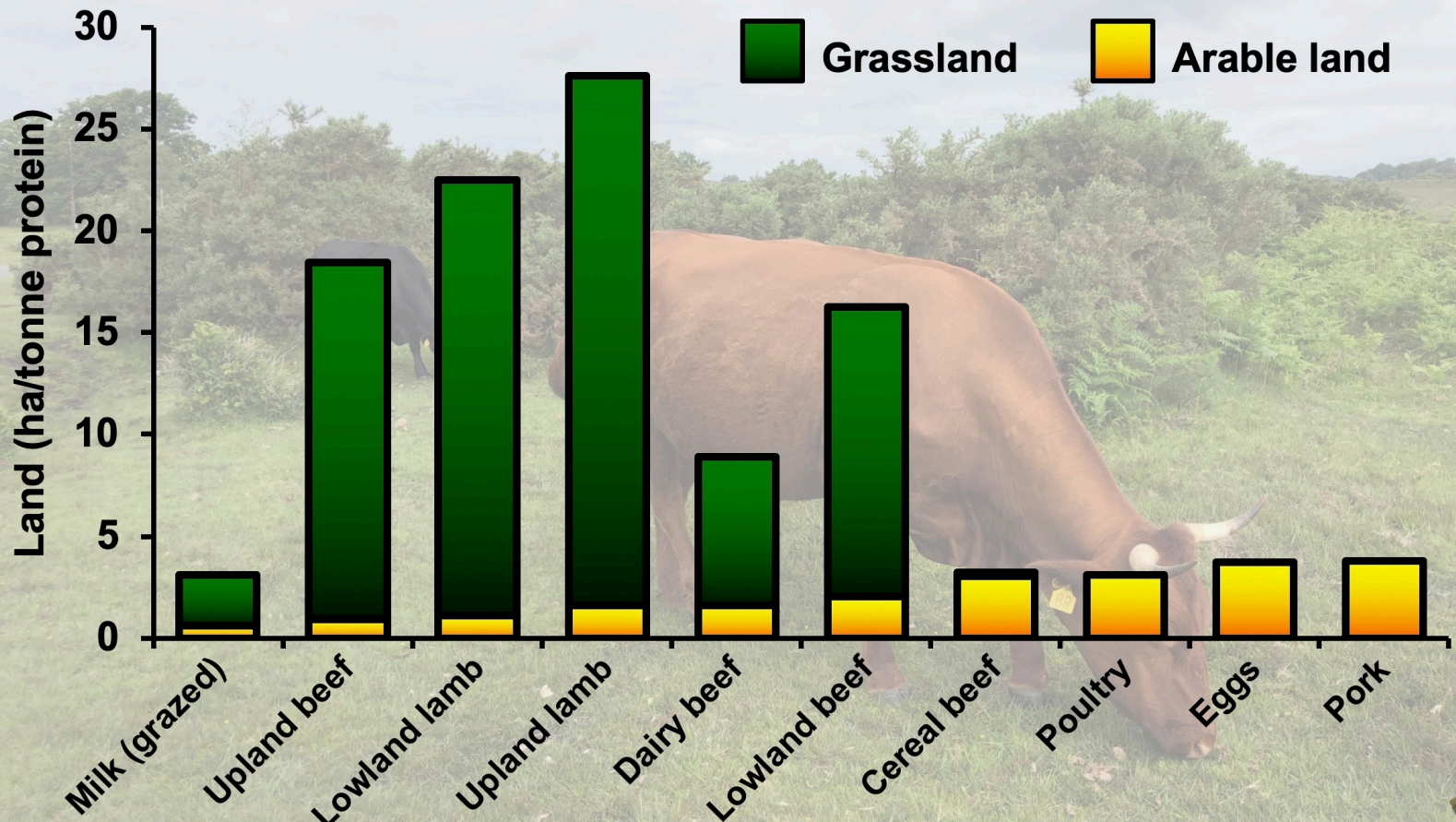


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S

Livestock systems vary widely in arable and grassland use



Source: Created by Dr. Jude L. Capper, 2020; data from Wilkinson and Lee (2018) Review: Use of human-edible animal feeds by ruminant livestock. *Animal*.

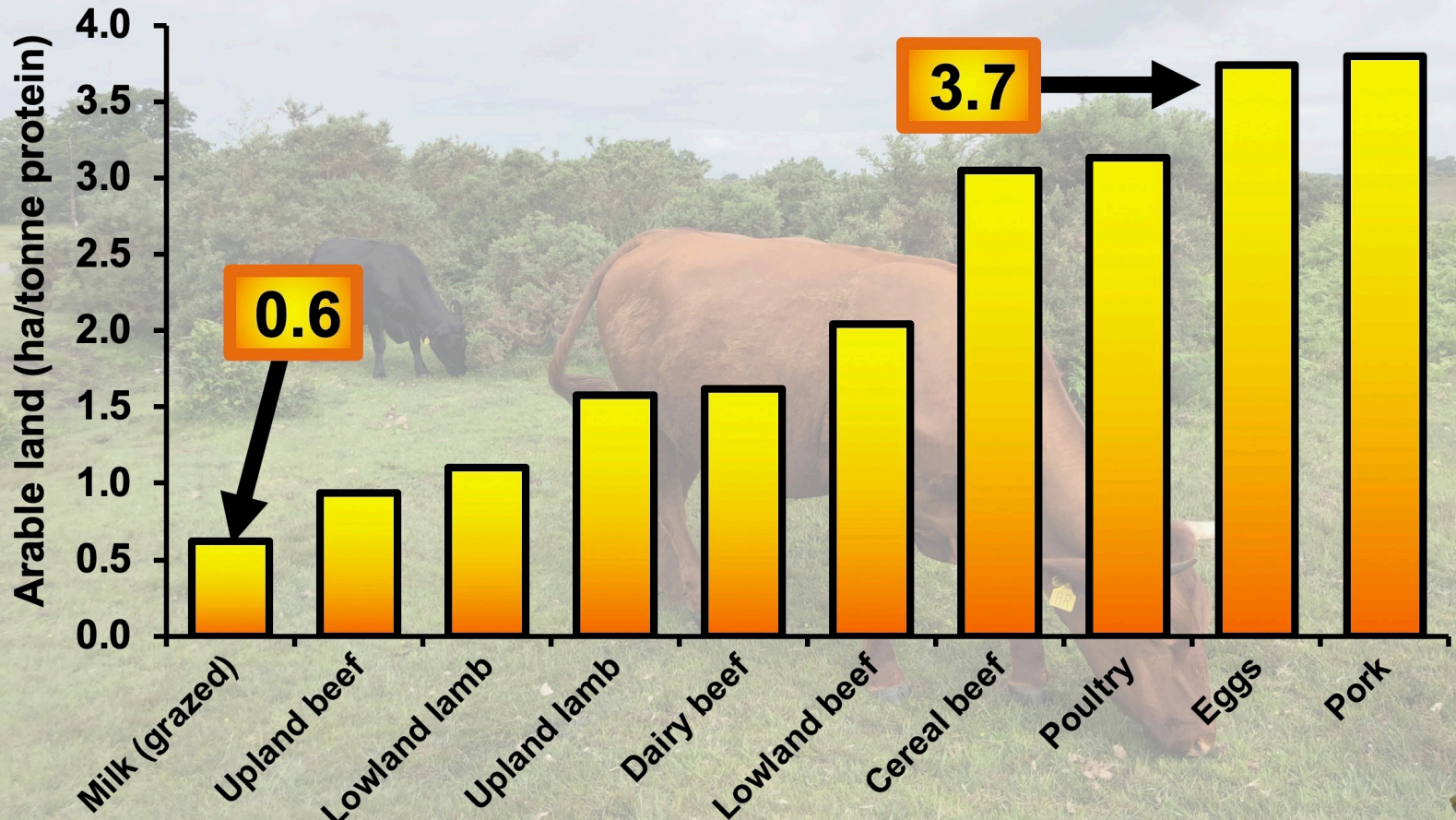


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Livestock systems vary widely in arable land use



Source: Created by Dr. Jude L. Capper, 2020; data from Wilkinson and Lee (2018) Review: Use of human-edible animal feeds by ruminant livestock. *Animal*.

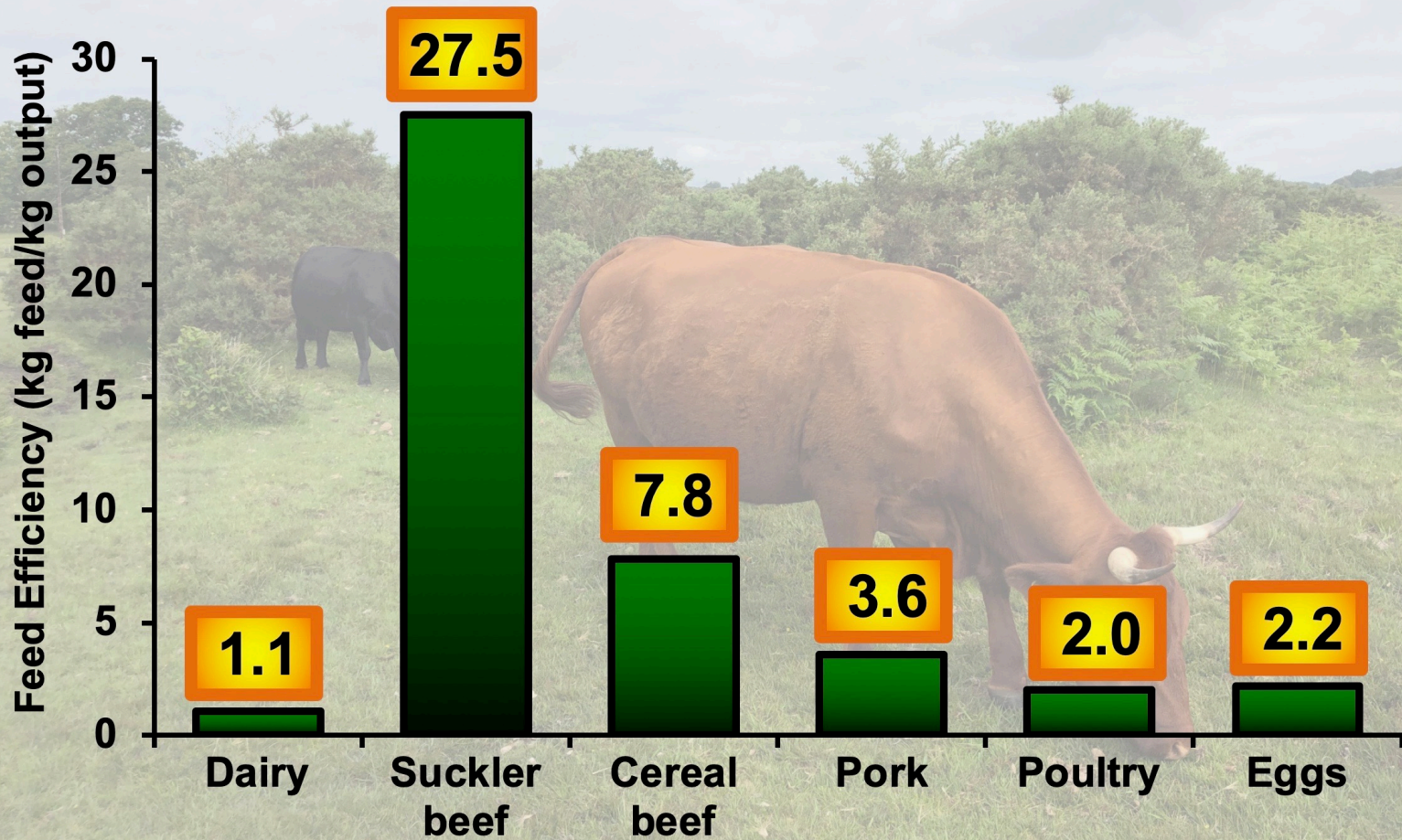


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Feed efficiency ratios vary between systems and species



Source: Created by Dr. Jude L. Capper, 2020; data from Wilkinson (2011) Re-defining efficiency of feed use by livestock. *Animal*.

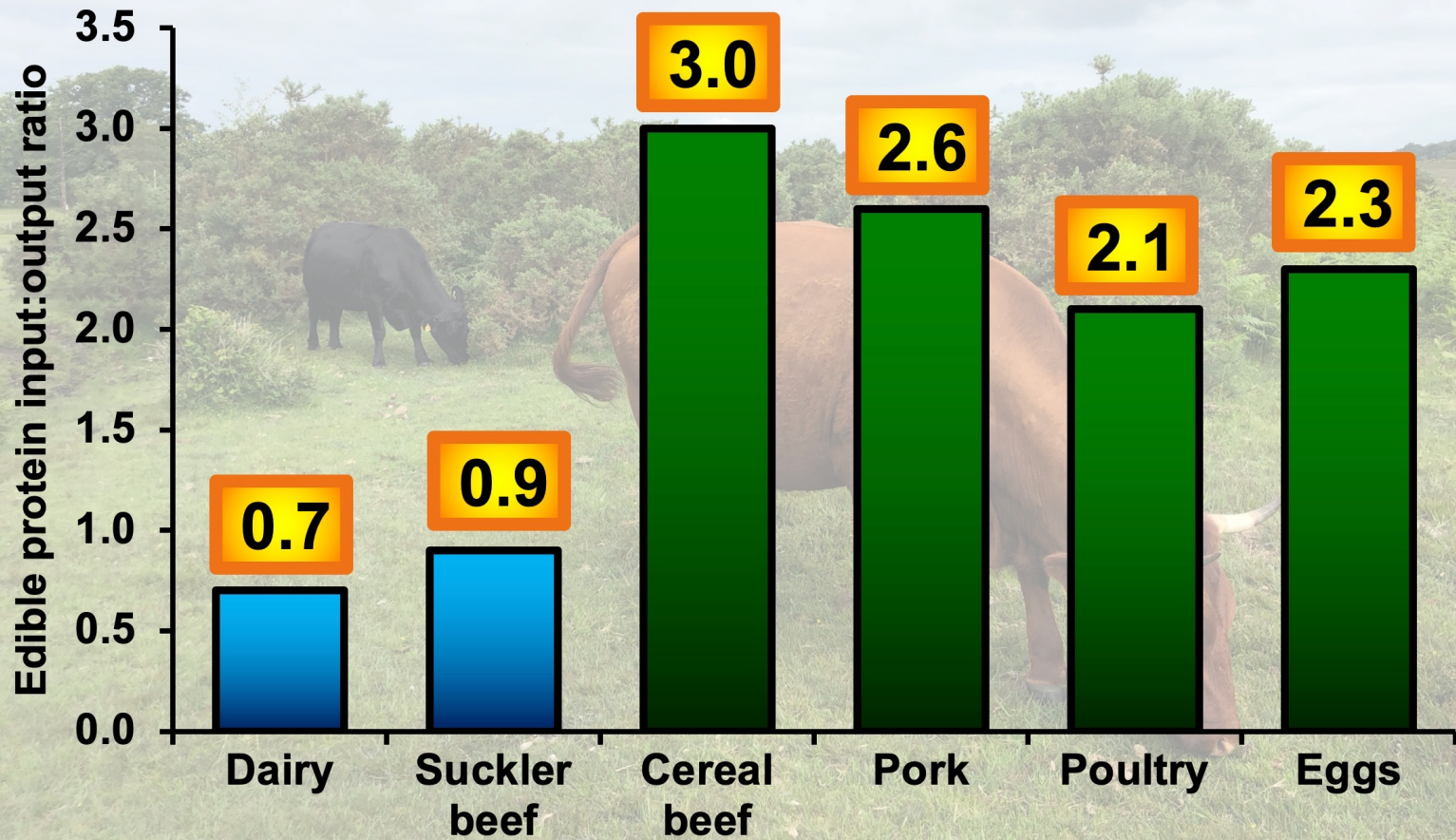


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Grazing cattle systems produce more human-edible protein than they consume



Source: Created by Dr. Jude L. Capper, 2020; data from Wilkinson (2011) Re-defining efficiency of feed use by livestock. *Animal*.



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Grazed land provides much more than food

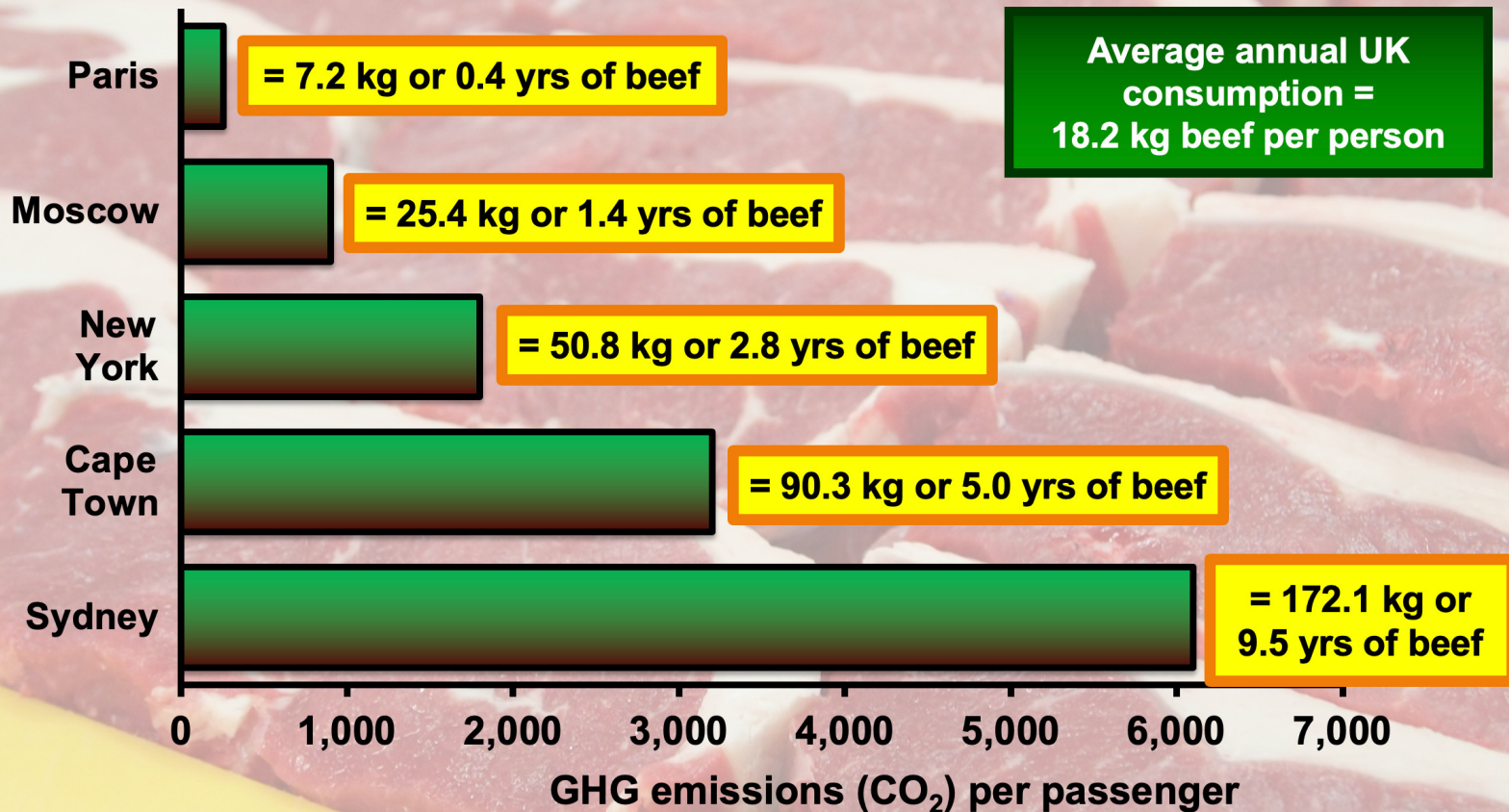
- Landscape maintenance
- Carbon sequestration
- Wildlife biodiversity
- Water filtration
- Silviculture
- Recreation
- Tourism

Source: Created by and photo by Dr. Jude L. Capper, 2020



cv

International flights emit considerable quantities of carbon compared to beef production



B

Is a bacon sandwich going to kill us?



Processed meats do cause cancer - WHO

By James Gallagher
Health editor, BBC News website

🕒 26 October 2015 | Health | 📄

Processed meats - such as bacon, sausages and ham - do cause cancer, according to the World Health Organization (WHO).

Its report said 50g of processed meat a day - less than two slices of bacon - increased the chance of

“50g of processed meat a day - less than two slices of bacon - increased the chance of developing colorectal cancer by 18%.”

Source: Created by Dr. Jude L. Capper, 2016. Quote from BBC. (2015) "Processed Meats Do Cause Cancer." <http://www.bbc.com/news/health-34615621>



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Some day, we will all die...
but bacon is unlikely to be the cause

Average Briton has
5% risk of bowel
cancer.

18% risk increase
from eating
processed meat =
6% risk of bowel
cancer.

Or 94% risk of not
having bowel cancer.



Source: Created by Dr. Jude L. Capper, 2016; Data from: <https://bovidiva.com/2015/10/26/bringing-home-the-bacon-im-a-cancer-survivor-with-meat-on-the-menu/>



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D

What about smallholders?



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Source: Created by Dr. Jude L. Capper, 2021. Photo attribution: Mullokkaran, CC BY-SA 3.0 <<https://creativecommons.org/licenses/by-sa/3.0/>>, via Wikimedia Commons



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Livestock are a vital resource in developing regions

“I started secondary school without a petticoat; that cow bought me my first petticoat. I cannot forget that.”

"For me, Send a Cow is everything"

Source: Created by Dr. Jude L. Capper, 2021. Photo from Send a Cow (2018) <https://www.sendacow.org/blog/for-me-send-a-cow-is-everything>

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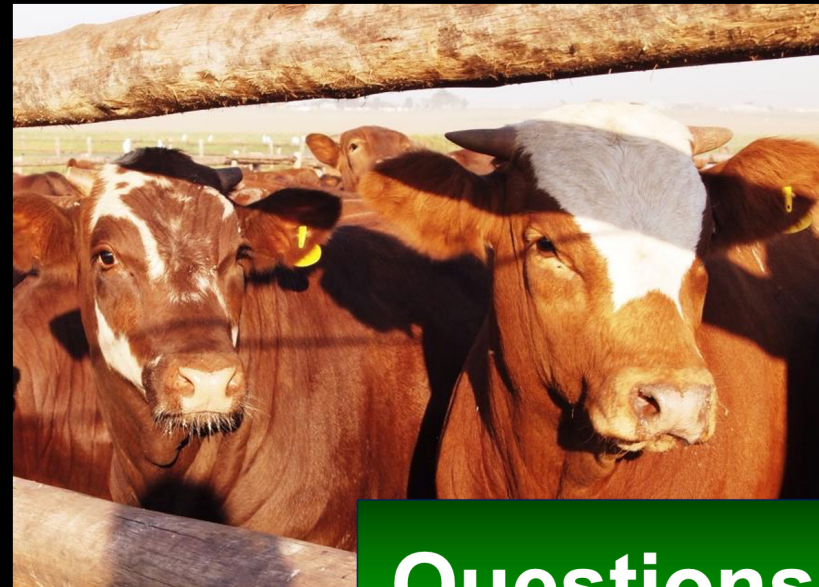


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Thank you!

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<http://bovidiva.com/presentationlinks>

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Questions?



Source: Created by Dr. Jude L. Capper, 2021. Cartoon from: <http://RubesCartoons.com>