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Scottish livestock production – sustainably feeding the nation

*West Fife and Kinross
NFUS Branch AGM*

19th January 2022

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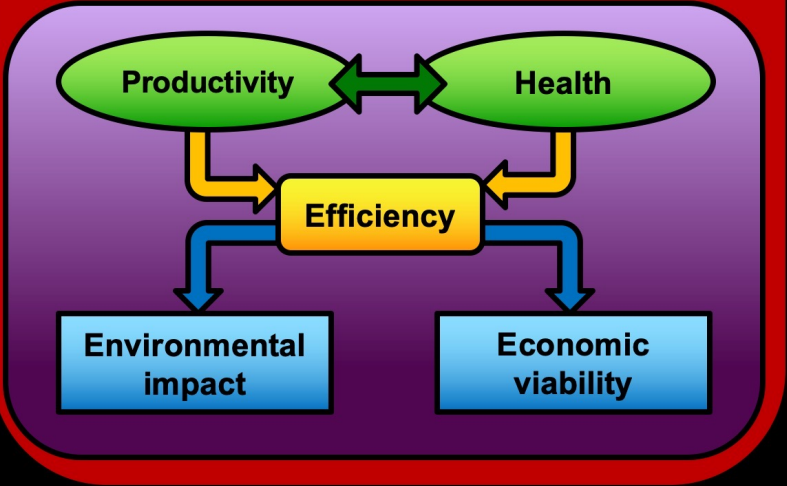
COM

Social acceptability and consumer trust are vital for sustainable livestock production

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Social Acceptability



Sustainability



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



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B
Market share for plant-based meat/dairy alternatives is growing

Tesco sets 300% sales target for plant-based alternatives to meat

In UK first, supermarket's five-year commitment aims to offer more sustainable options



A 300% sales target is impressive... yet the magnitude of the results depends on the (2018) baseline

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Source: Created by Dr. Jude L. Capper, 2020. Screenshot from: The Guardian (2020). <https://www.theguardian.com/business/2020/sep/29/tesco-sets-300-per-cent-sales-target-for-plant-based-alternatives-to-meat>



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D
Is the rise in plant-based food sales related to consumer demand?



Lockdown preparations in local food hall indicate that dairy may be a priority for many panic-buyers

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

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Do 582,538 Veganuary participants amount to more than a hill of beans?

**JOIN THE
NEW YEAR'S
REVOLUTION**



- Slightly smaller than the population of Sheffield
- If all participants were UK-based they would comprise <1% of the UK population
- Average of 2,787 per participating country
- 62% of participants already vegan, vegetarian or pescatarian

Source: Created by Dr. Jude L. Capper, 2021. Information from: <https://veganuary.com/>

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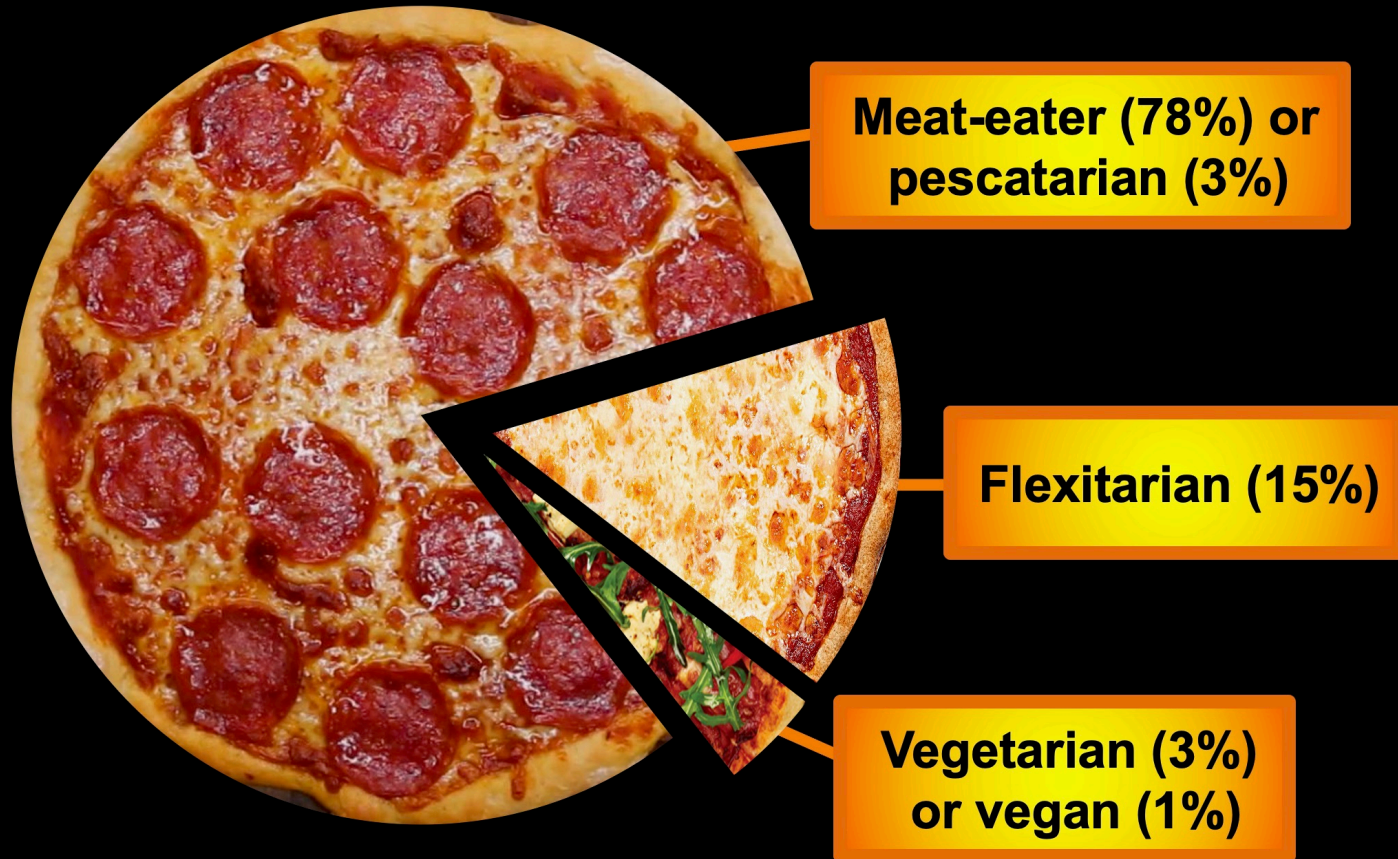


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B

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



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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%).

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

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"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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Source: Created by Dr. Jude L. Capper, 2020. Information from: YouGov (2019) Is the future of food flexitarian?
<https://yougov.co.uk/topics/resources/articles-reports/2019/03/18/future-food-flexitarian>

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

Animal welfare

Healthiness

Environment

Labelling

Economic cost



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

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Source: Created by Dr. Jude L. Capper, 2020. Information from: YouGov (2019) Is the future of food flexitarian?
<https://yougov.co.uk/topics/resources/articles-reports/2019/03/18/future-food-flexitarian>

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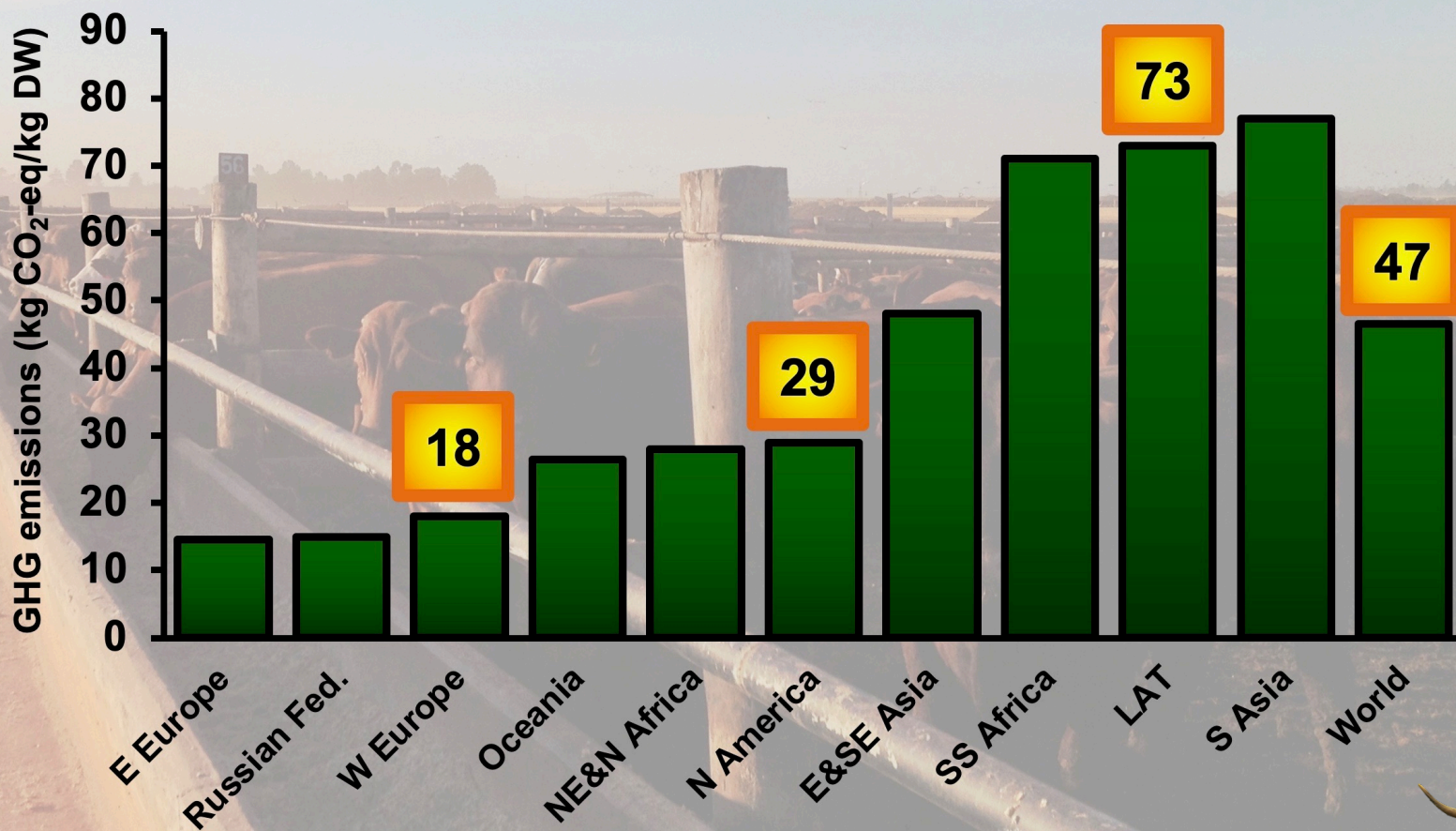
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The carbon footprint of beef production varies across the globe



Source: Created by Dr. Jude L. Capper, 2020; data from Gerber et al. (2013) Tackling climate change through livestock – A global assessment of emissions and mitigation opportunities. FAO, Rome, Italy.

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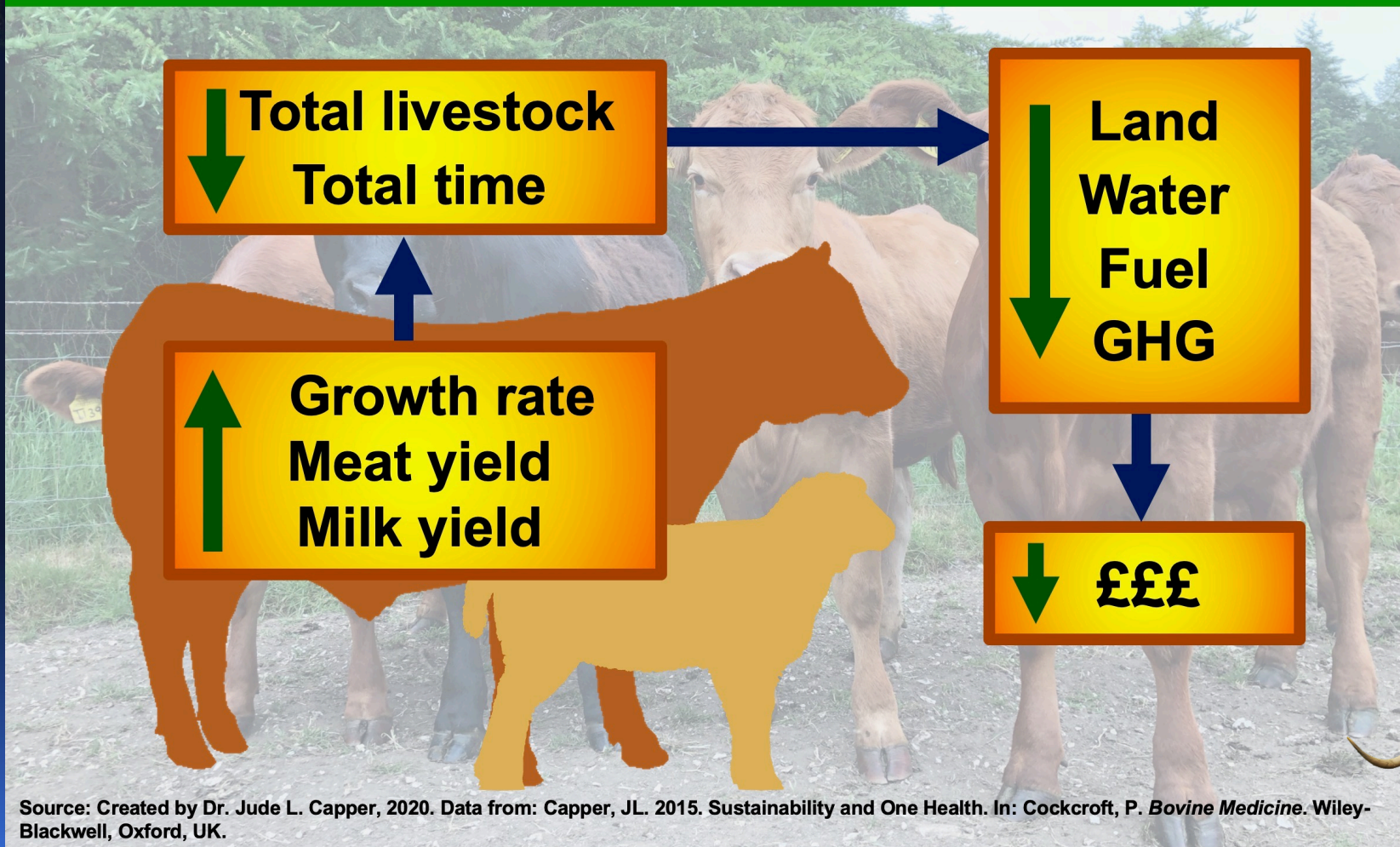
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Improving animal productivity reduces the environmental impact of milk and meat



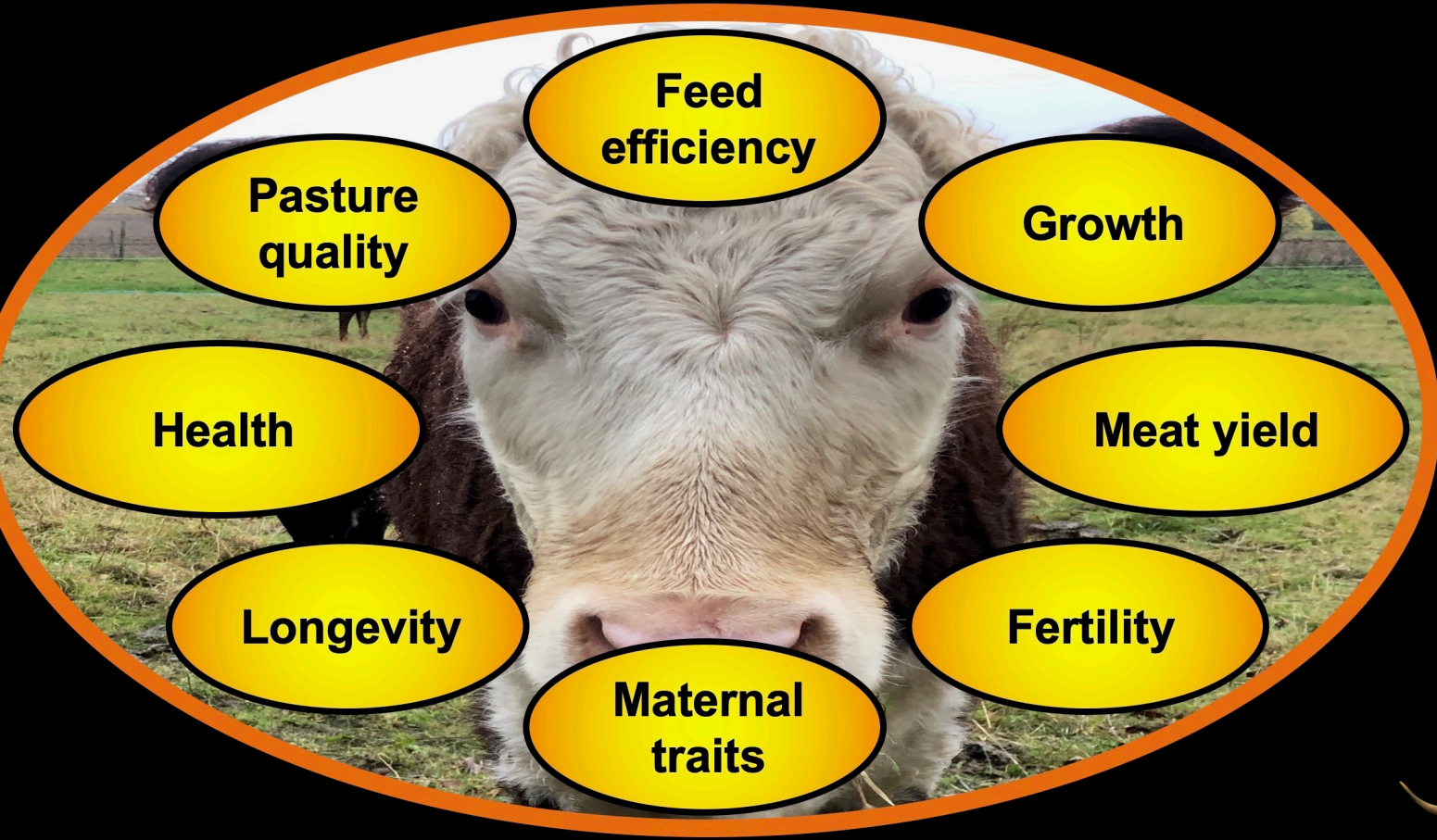
Source: Created by Dr. Jude L. Capper, 2020. Data from: Capper, JL. 2015. Sustainability and One Health. In: Cockcroft, P. *Bovine Medicine*. Wiley-Blackwell, Oxford, UK.

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B

Improving key performance indicators reduces environmental impacts



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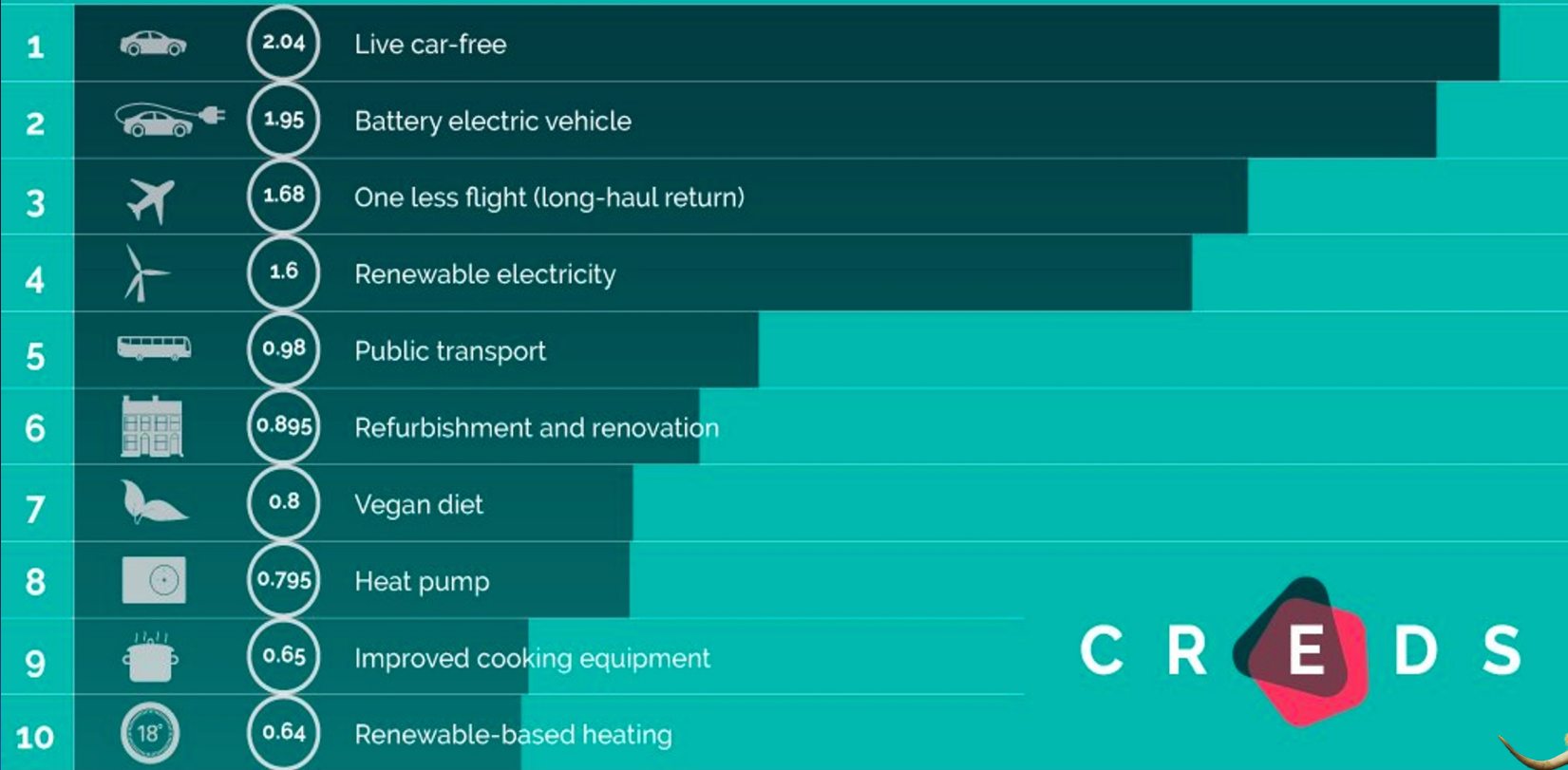


Source: Created by Dr. Jude L. Capper, 2020

CV

New CREDS report puts transport, energy and food choices into context

Top 10 options for reducing your carbon footprint



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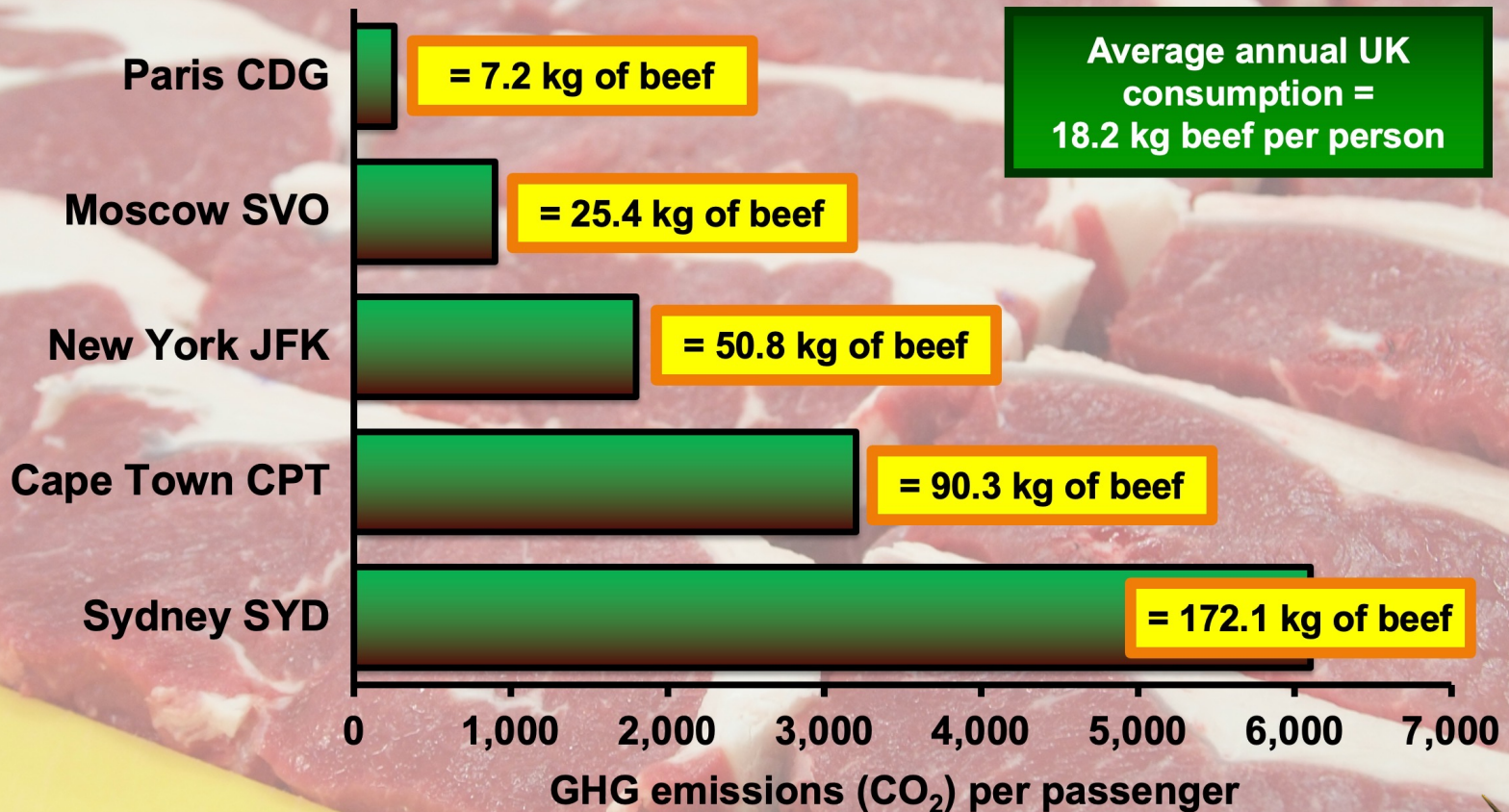
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Source: Created by Dr. Jude L. Capper, 2020. . Infographic adapted from Centre for Research into Energy Demand Solutions (2020). Available at: https://twitter.com/CREDS_UK/status/1262984570175176704?s=20

CV

International flights emit considerable quantities of carbon compared to beef production



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Source: Created by Dr. Jude L. Capper, 2020. Calculations based on GHG emissions flight data from: https://co2.myclimate.org/en/flight_calculators/new, and on a carbon footprint per kg of boneless beef of 35.5 kg CO₂-eq (under GWP100) from AHDB: http://beefandlamb.ahdb.org.uk/wp-content/uploads/2013/05/p_cp_down_to_earth300112.pdf

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S

Can we grow human food crops everywhere?



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

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65% 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 (6% of total), land used for outdoor pigs or no. agricultural purposes not shown (1.7% of total). Data from DEFRA. 2019. Farming statistics - provisional crop areas, yields and livestock populations at 1 June 2019 – United Kingdom.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/837834/structure-jun2019prov-UK-10oct19.pdf

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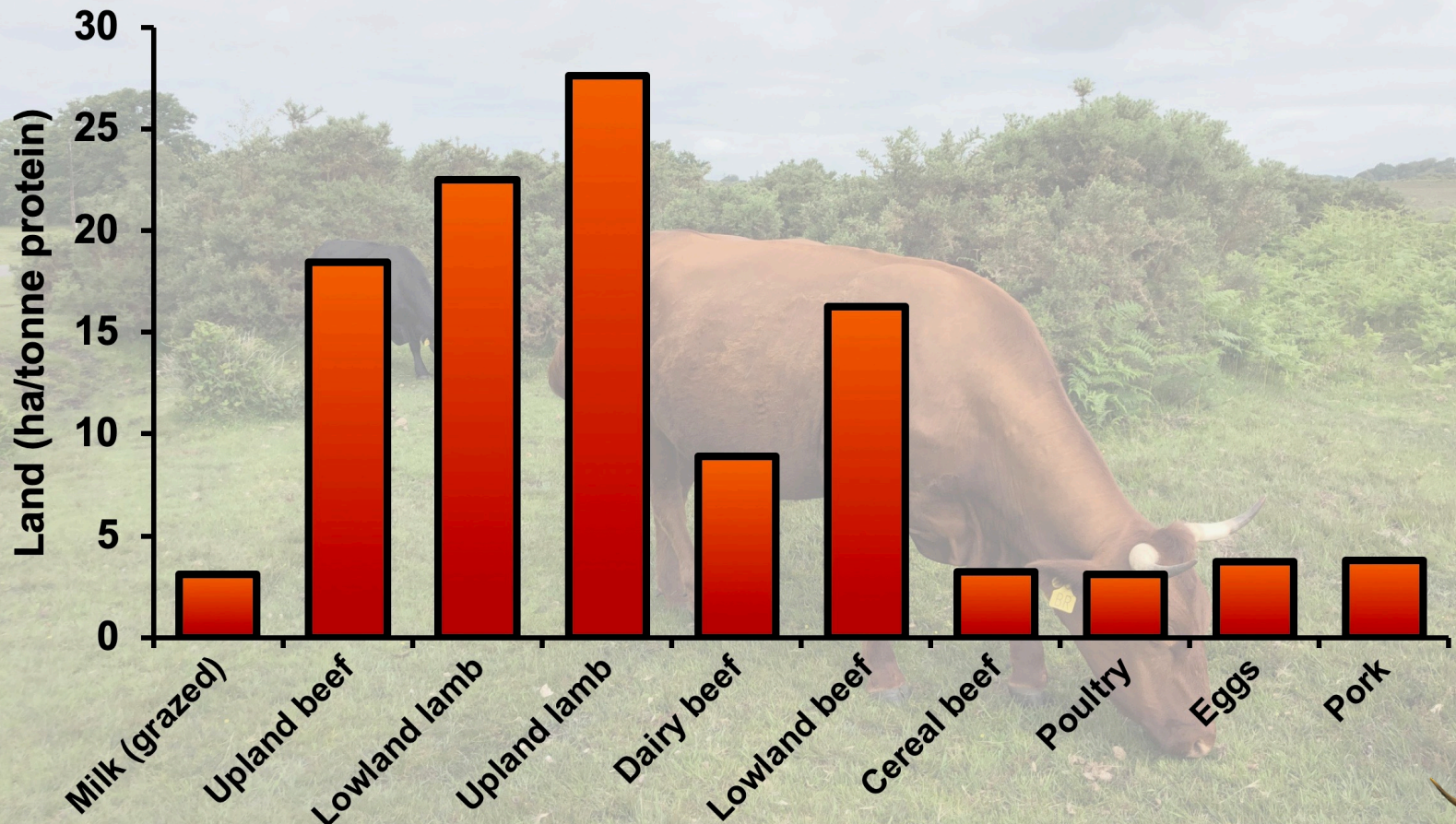
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Livestock systems vary widely in land use



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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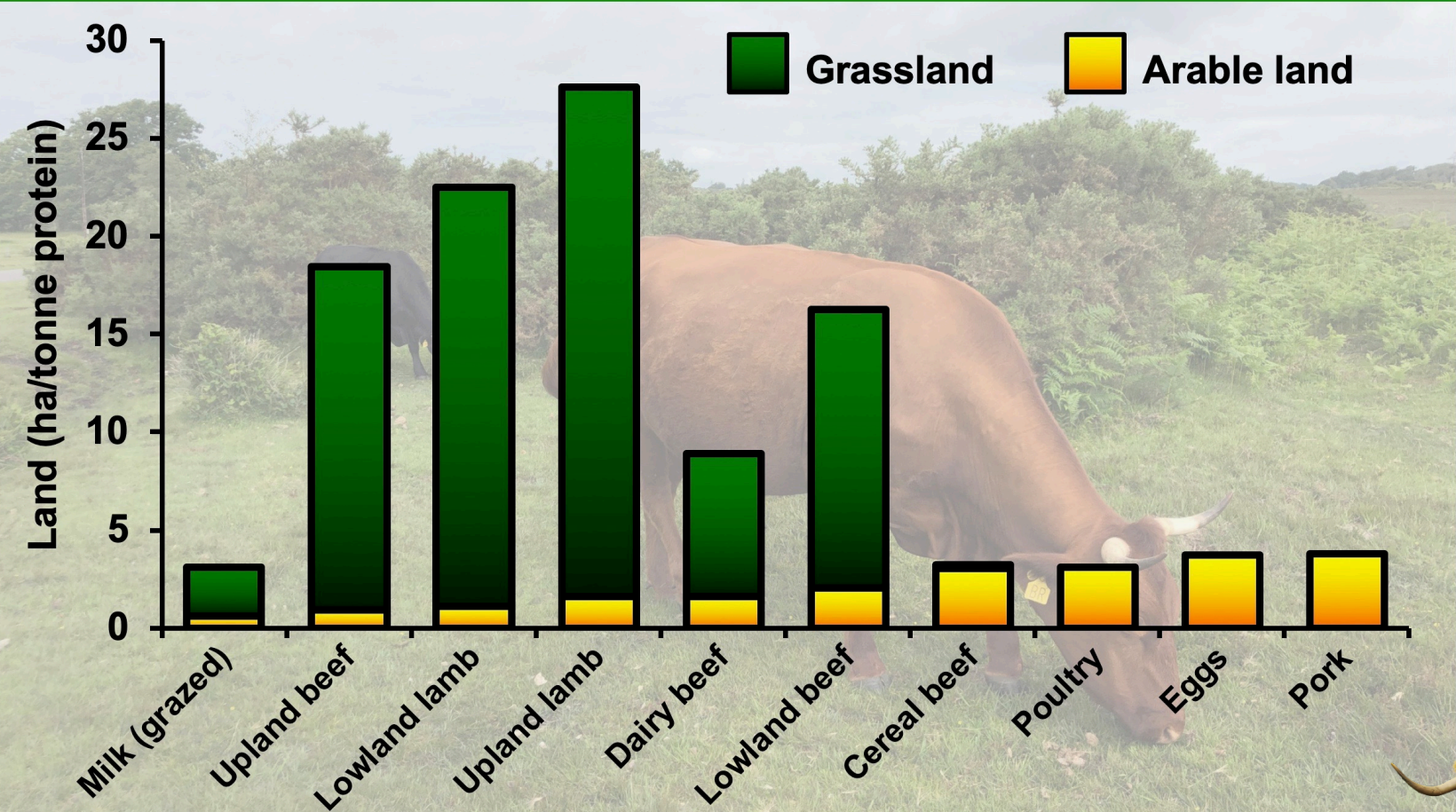


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Livestock systems vary widely in arable and grassland use



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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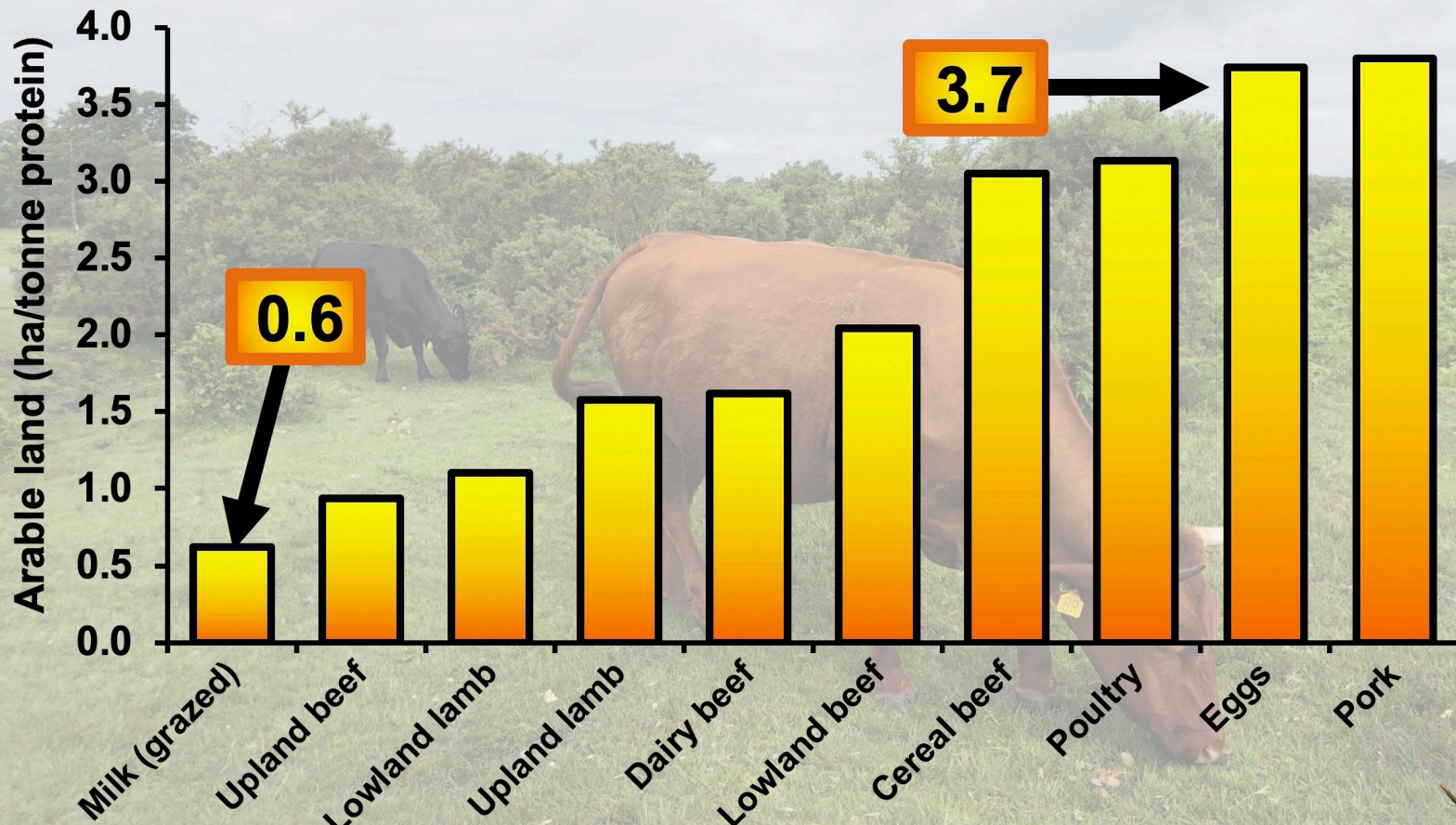
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Livestock systems vary widely in arable land use



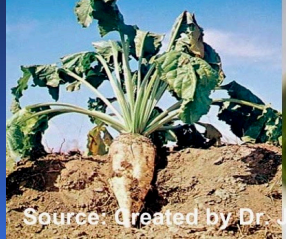
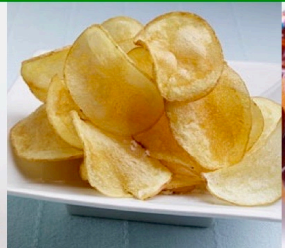
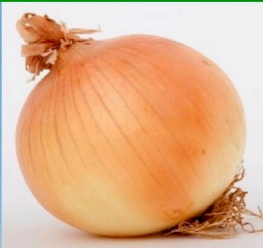
Source: Created by Dr. Jude L. Capper, 2020; data from Wilkinson and Lee (2018) Review: Use of human-edible animal feeds by ruminant livestock. *Animal*.

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What do these industries have in common? They all provide by-products fed to animals



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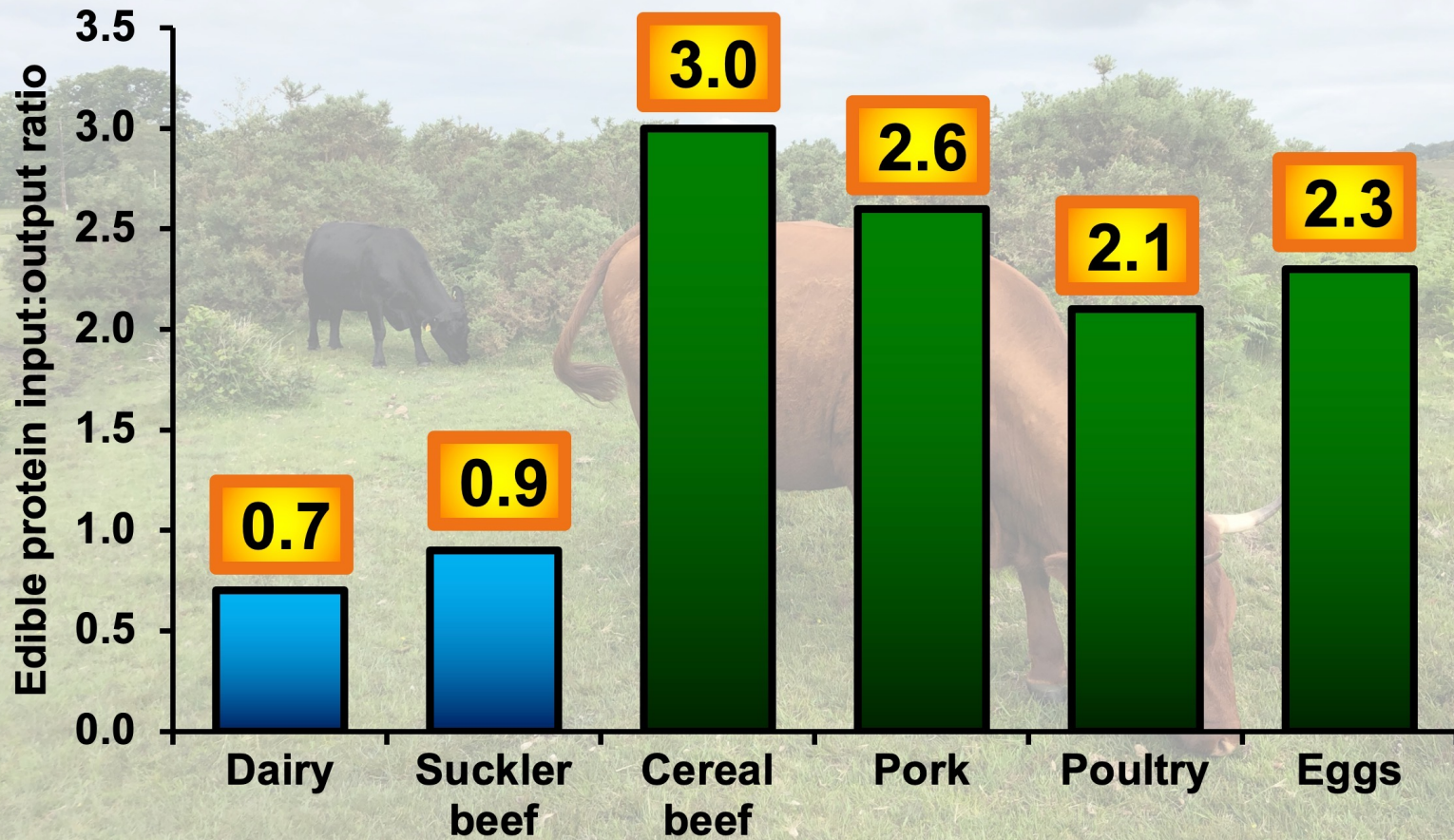


Source: Created by Dr. Jude L. Capper, 2013

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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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5 easy tips for positive communication

Share your values

Stay positive, polite and personal

Keep it short, simple and see-through

Focus on the important

Know when to walk away

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Source: Created by Dr. Jude L. Capper, 2019. Adapted from: Capper and Yancey. 2015. Communicating Animal Science to the General Public. *Animal Frontiers*.

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You don't have to be the biggest,
you do need to do your best

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

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Thank you!

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<http://bovidiva.com/presentationlinks>

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Questions?



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Source: Created by Dr. Jude L. Capper, 2020. Cartoon from: <http://snipurl.com/methanecartoon>