



Prof. Jude Capper

@bovidiva



Sustainability in Agriculture

Prof. Jude L. Capper

26th November 2021

Source: Dr. Jude L. Capper, 2021

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COM

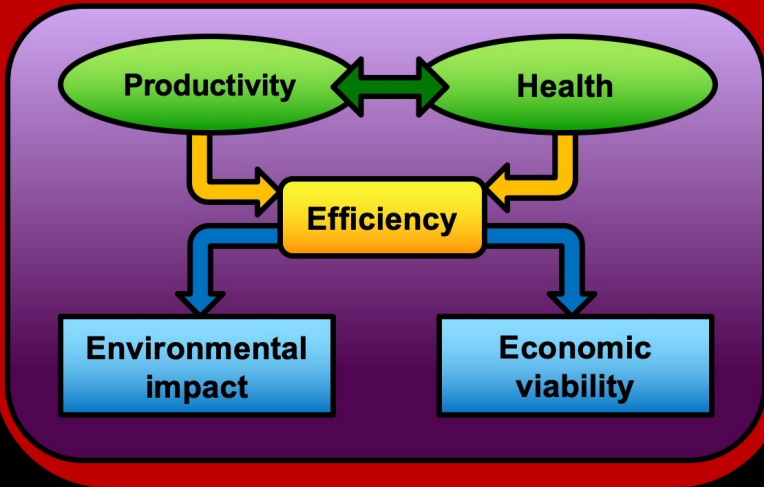
Social acceptability and consumer trust are vital for sustainable livestock production

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Social Acceptability



Sustainability



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



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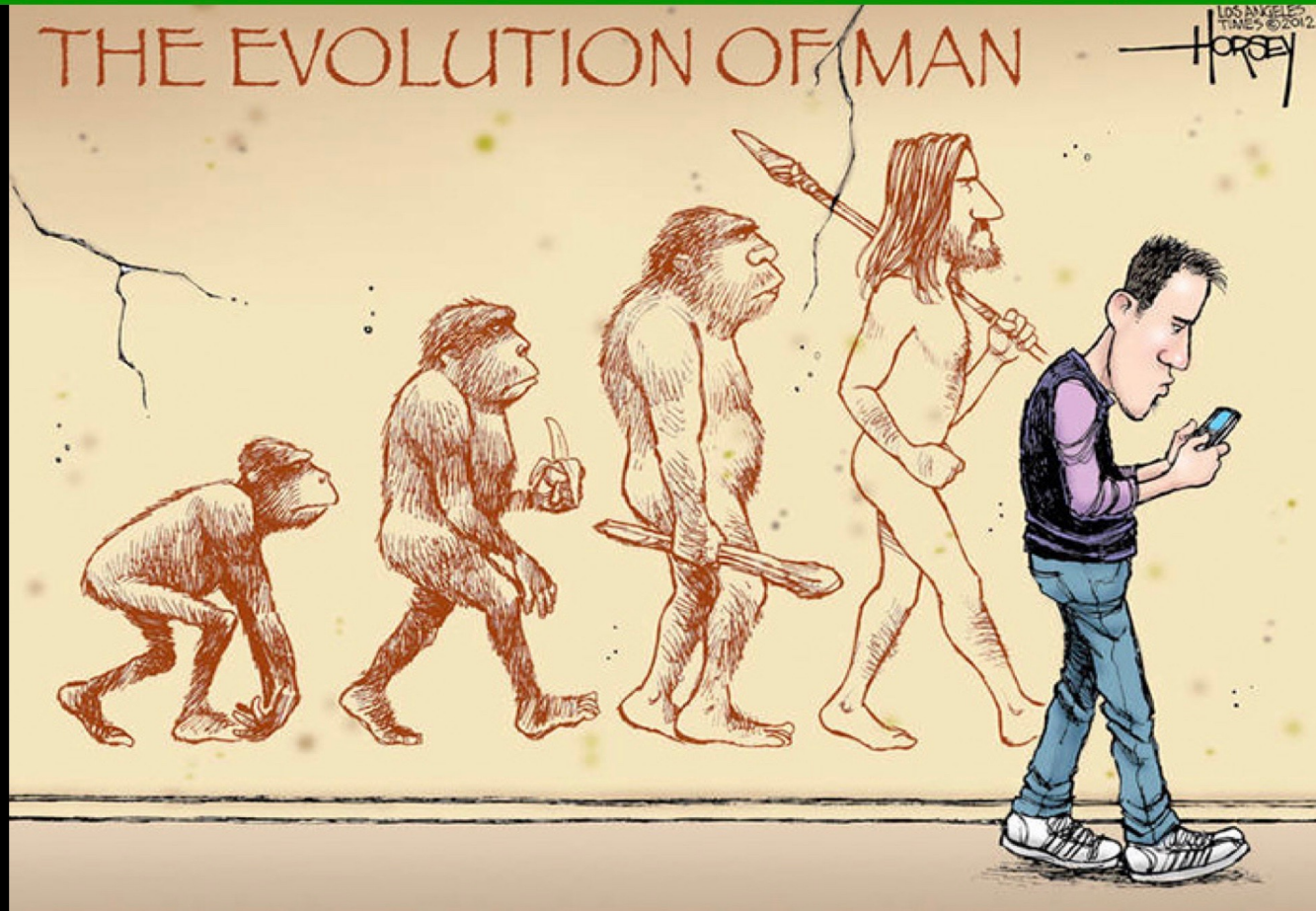
Source: Created by Dr. Jude L. Capper, 2020. Information from: YouGov (2019) Is the future of food flexitarian?
<https://yougov.co.uk/topics/resources/articles-reports/2019/03/18/future-food-flexitarian>

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COM

How have we changed over time?



Source: Created by Dr. Jude L. Capper, 2019. Cartoon from: https://static.boredpanda.com/blog/wp-content/uploads/2016/02/funny-satirical-evolution-charles-darwin-day-251_700.jpg

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Do we believe all that we read/see?



Kirsty
@Dairy_is_scary

Rape rack



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Source: Created by Dr. Jude L. Capper, 2019. Screenshot from Twitter.

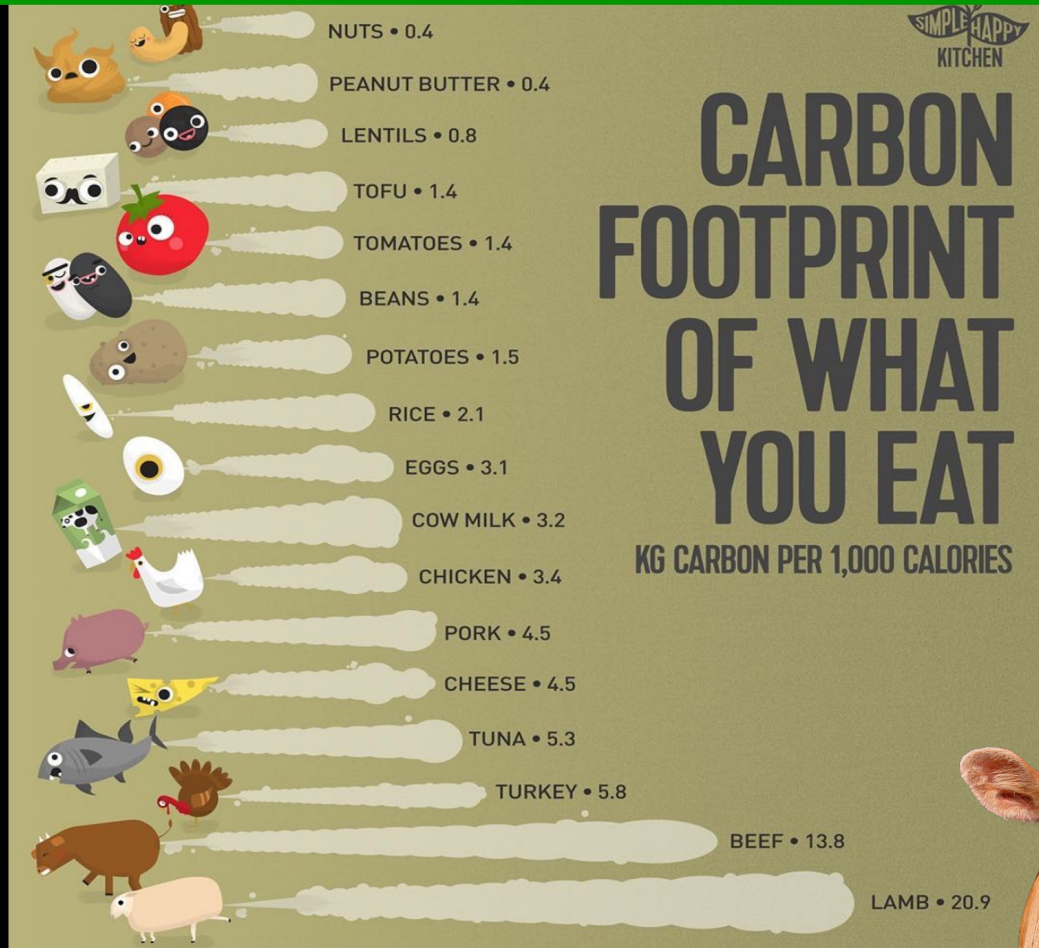
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B

Global averages are meaningless

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



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

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D

What could global dairying look like if we improved health, nutrition and genetics?

Global average yield

2,577
kg

UK average yield

8,140
kg

Dairy cows

-181
million

If all dairy cattle had UK yields, global milk supply could be maintained using 181 million fewer cows (69%).

At US average yields, 200 million fewer cows (75%)

Source: Created by Dr. Jude L. Capper, 2020. Data from: FAOSTAT (2020) <http://www.fao.org/faostat/en/>

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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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Can we grow human food crops everywhere?



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Harper Adams University

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

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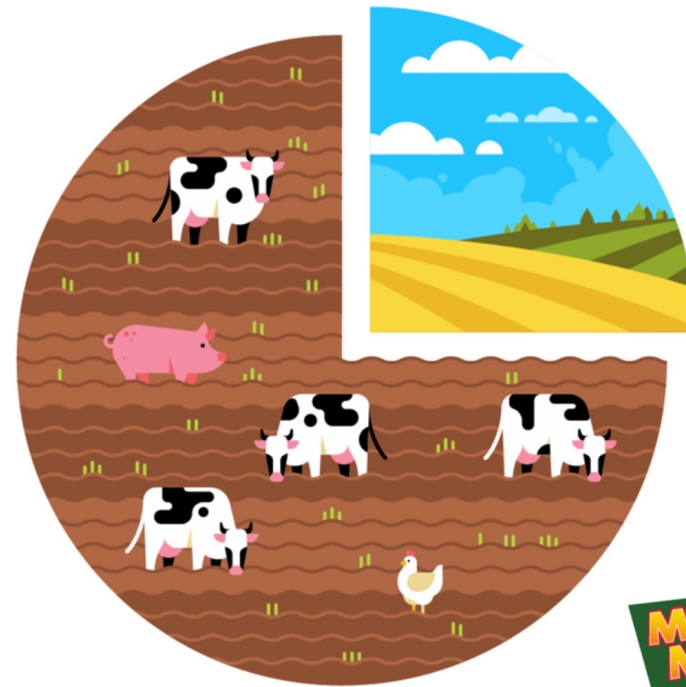


COM

Bad news bias – need five positive stories to cancel out each negative

We are programmed to believe bad news stories. Tidal wave of factual information needed to overcome them.

LIVESTOCK PRODUCTION USES 75% OF THE EARTH'S AGRICULTURAL LAND.



MEATLESS MONDAY

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Source: Created by Dr. Jude L. Capper, 2020. Infographic from: <https://www.pinterest.co.uk/pin/254383078939543245/>

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S

65% of UK land is not suitable for growing arable crops



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 non-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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Attractively presented misinformation can be difficult to counter

**the leading cause
of climate change**



*So much is being emitted that life
on Earth is collapsing!*



get.plant.ed Is animal agriculture responsible for 87% of annual greenhouse gases? A new study by [@climatehealers](#) says yes! When accounting for cumulative human-made greenhouse gas, aerosol emissions and the impact of deforestation, the scientists found that animal agriculture is responsible for more global warming than all the CO₂ from fossil fuel sources combined. This contradicts other reports that claim animal agriculture only causes 14.5% of greenhouse gases. Either way, the consensus is that animal agriculture is unsustainable, and switching to a plant-based diet is the most effective action you can take to help the plan

Source: Slide created by Dr. Jude L. Capper, 2021.
Screenshot from [@get.plant.ed](#) on Instagram.

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Harper Adams
University

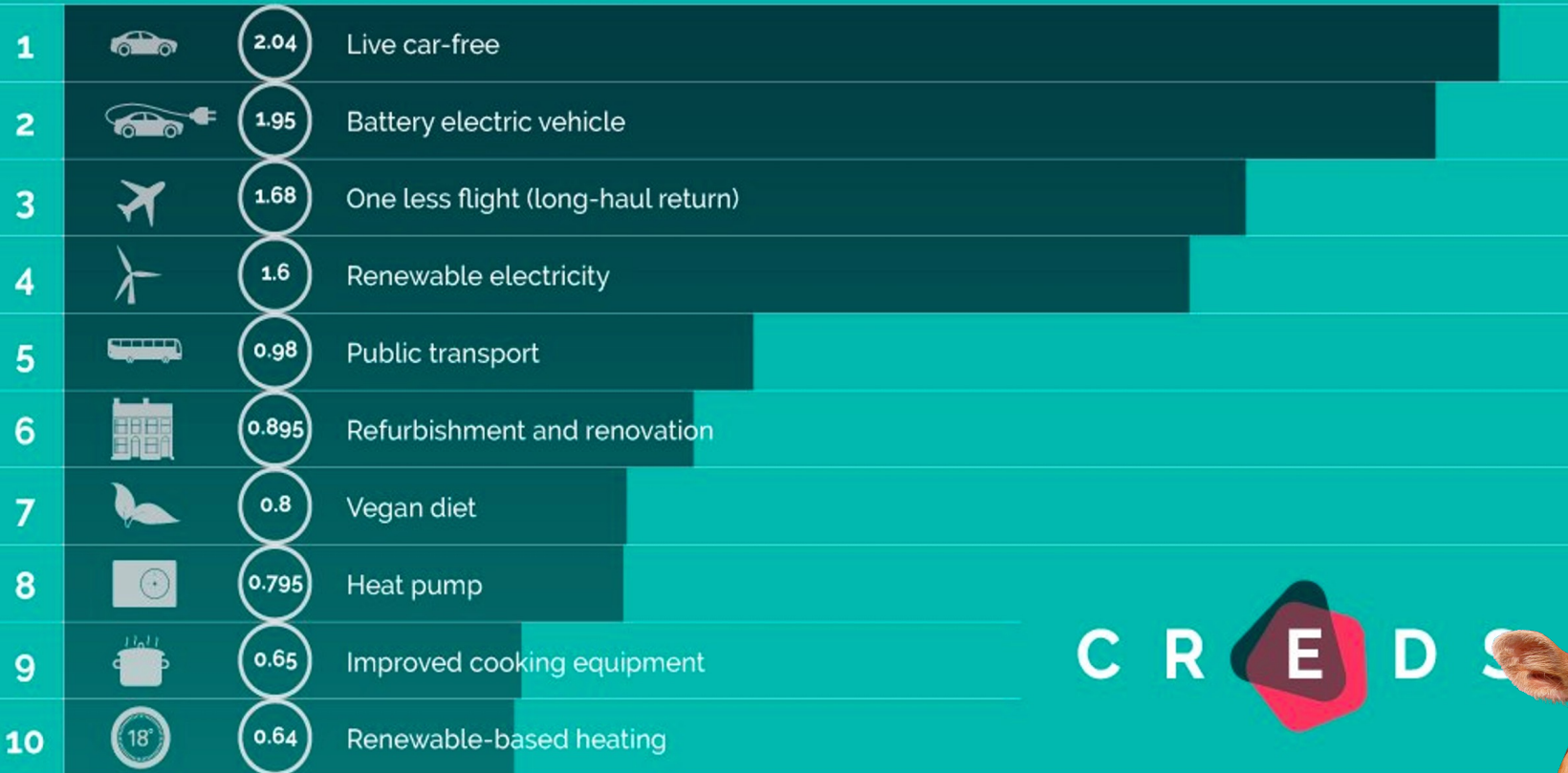
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CV

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

Top 10 options for reducing your carbon footprint



CREDS

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

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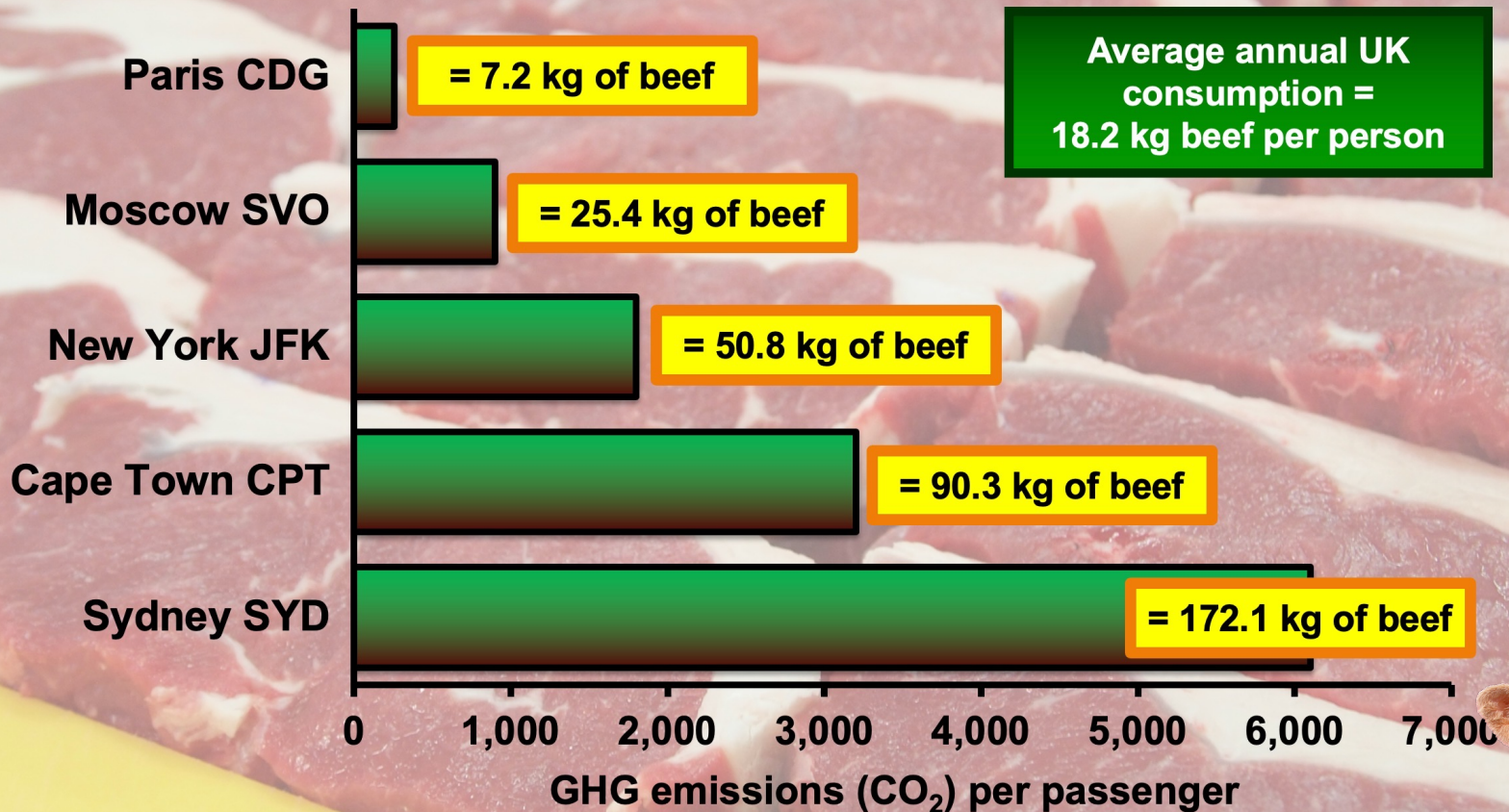


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CV

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



COM

The livestock industry has an image problem

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@bovidiva



Source: Created by Dr. Jude L. Capper, 2017. Photos from: <http://www.peta.org/mediacenter/ads/Outdoor-Ads.aspx> and https://www.farmsanctuary.org/wp-content/uploads/2012/06/pigs6_300_1.jpg and <http://www.mirror.co.uk/news/uk-news/secret-film-exposes-chicken-factory-1338652> and <https://i.pinimg.com/originals/15/47/d8/1547d811547d829276b7fb82122dfe295ba0e55.jpg>

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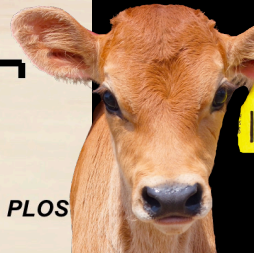
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Consumer perceptions of agriculture influence meat quality/enjoyment parameters



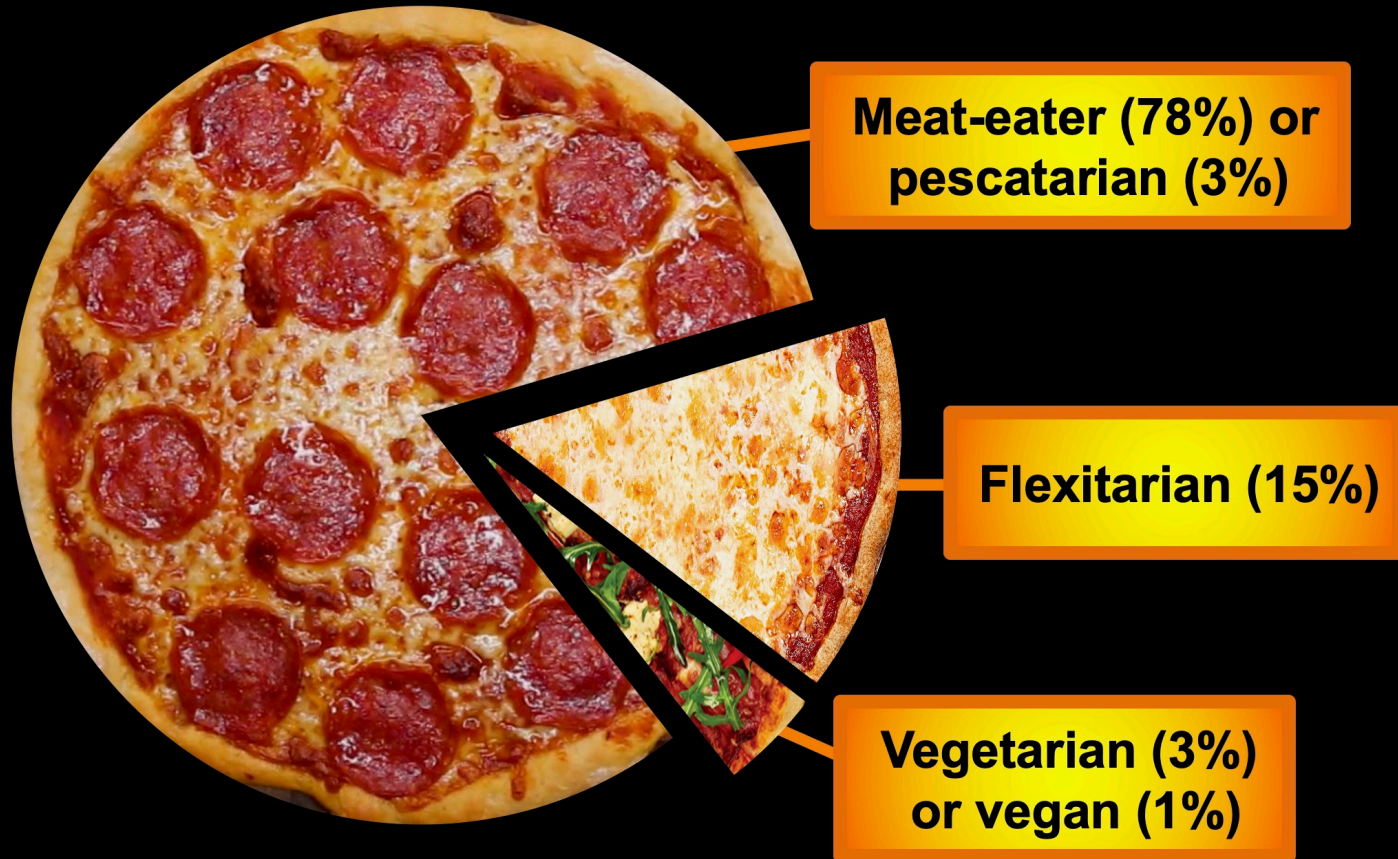
Source: Created by Dr. Jude L. Capper, 2016; data from Anderson and Barrett (2016) Affective Beliefs Influence the Experience of Eating Meat. *PLOS One*.

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



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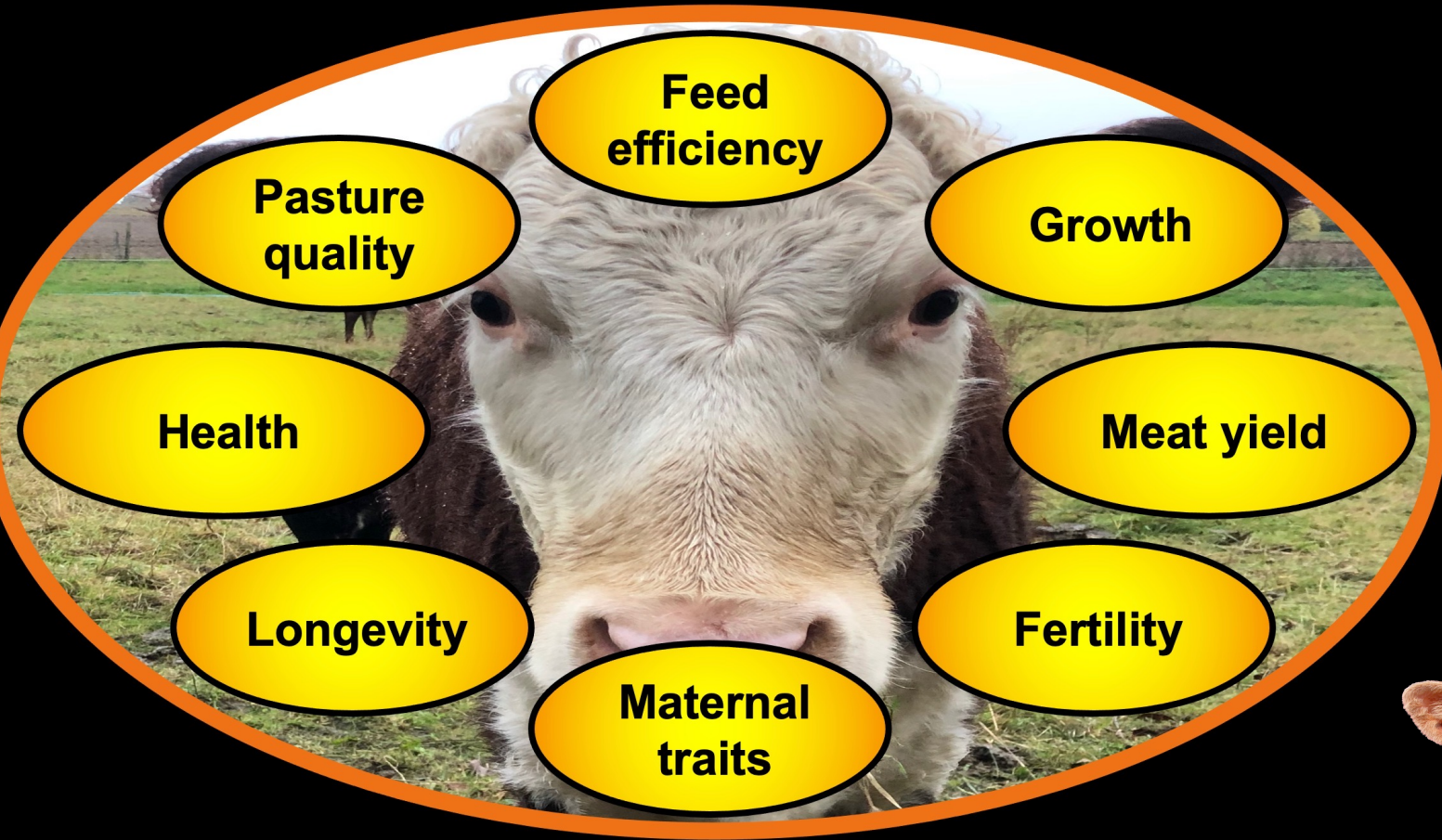
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Source: Created by Dr. Jude L. Capper, 2020. Data from: YouGov (2019) Is the future of food flexitarian?
<https://yougov.co.uk/topics/resources/articles-reports/2019/03/18/future-food-flexitarian> Question: "Which, if any, of these best describes your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

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Doing everything better on-farm improves economic and environmental sustainability



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

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

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@bovidiva



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

B

Thank you!

jcapper@harper-adams.ac.uk

<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>