

Feed vs food supplemental information

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The figures and data here are the supplemental information for the manuscript "" on global feeds and livestock production by Jessica Couture, Roland Geyer, Darcy Bradley, Benjamin Halpern, and Steve Gaines.

Figure S1

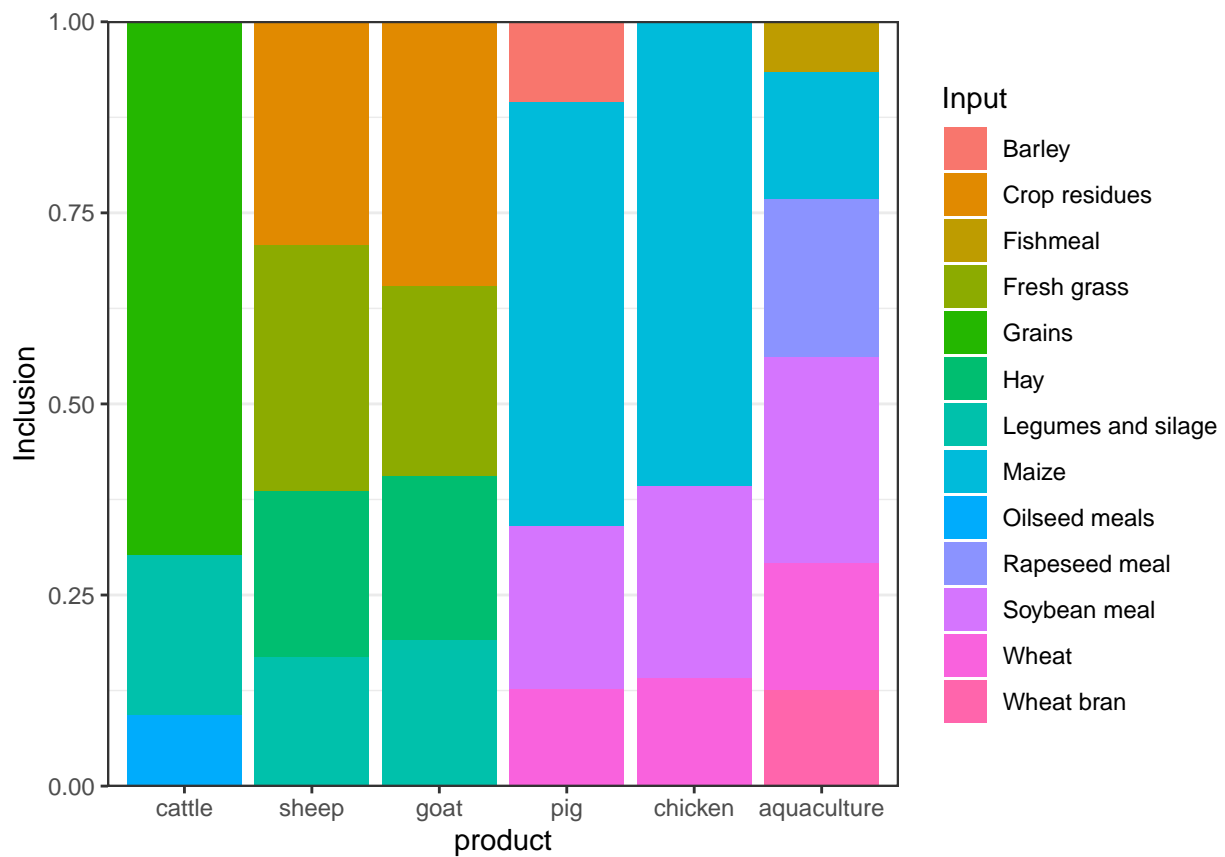


Table S1

Protein content of inputs to livestock and aquaculture feeds. Bolded ingredients (those with protein content greater than 20%) are replaced in growth projection scenarios, non-bolded are kept at constant inclusion rates to 2050.

input	proteinContent
Fishmeal	68.00
Soybean meal	49.50
Oilseed meals	44.78
Rapeseed meal	40.00
Fresh grass	19.00
Barley	12.50
Wheat	12.00
Hay	11.00
Maize	10.00
Wheat bran	9.00
Grains	8.50
Legumes and silage	7.50
Crop residues	3.25

Table S2

Calorific content of feeds scenarios. “Growth” scenario feeds replace ingredients indicated in table S1 only for growth in feeds above 2018 levels. Values are in kcal/kg of feed.

product	bauFeed	soyGrowth	bacteriaGrowth	yeastGrowth
cattle	4095.677	4532.869	4420.578	4489.481
pig	3539.175	4655.498	4368.775	4544.713
chicken	3373.113	4689.298	4351.241	4558.679
aquaculture	2048.816	4805.211	4097.243	4531.665
sheep	3339.222	3339.222	3339.222	3339.222
goat	3366.119	3366.119	3366.119	3366.119

Figure S2

Projection of production to 2050 based on current and recent trends in growth. Calculated based on total meat production from 1998-2018.

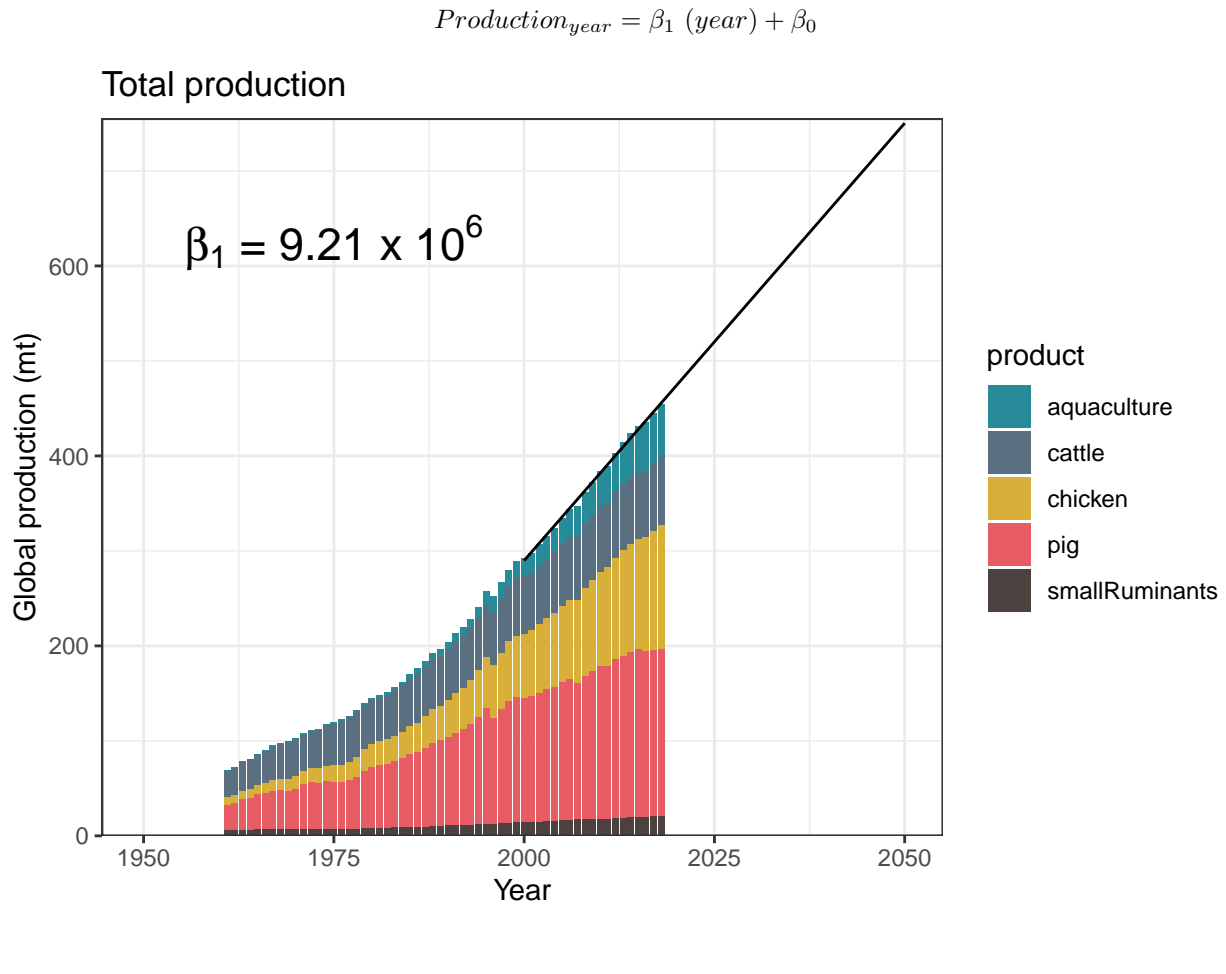
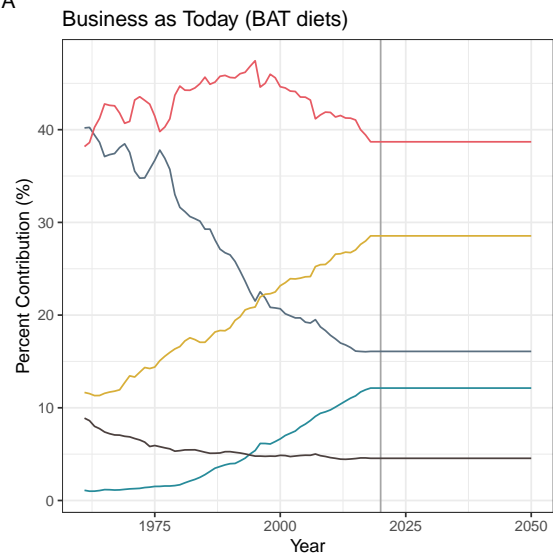


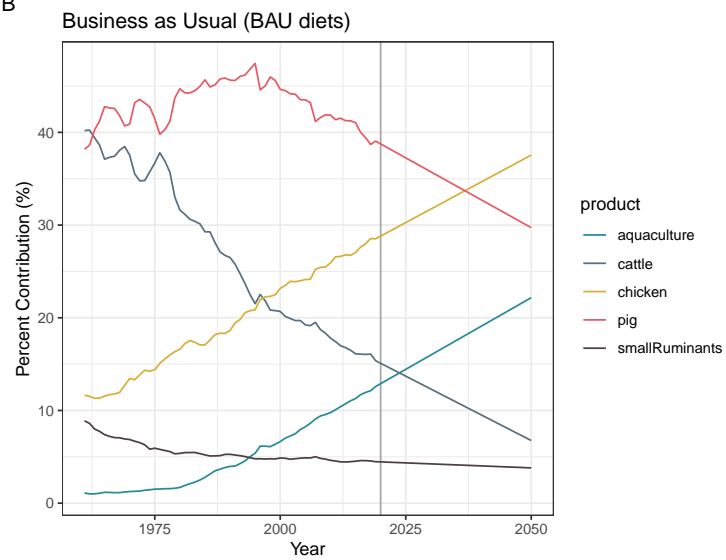
Figure S3

Diet scenarios were calculated based on the below composition scenarios applied to total production levels projected above (Figure S1).

A



B



C

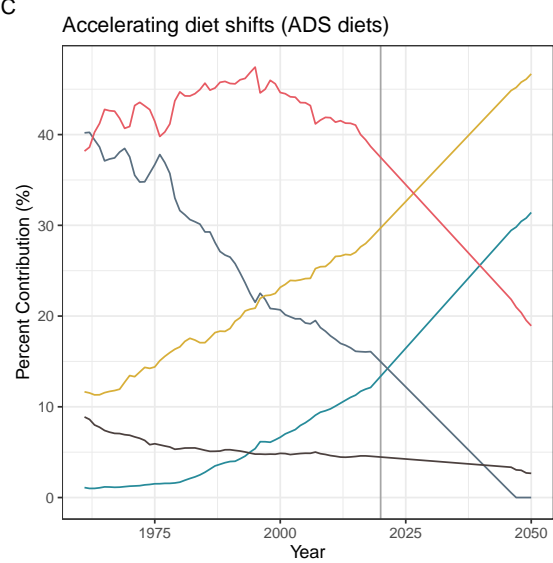


Figure S4

Projected greenhouse gas emissions of conventional versus alternative production methods for feed inputs. Alternative methods (dotted lines) refer to no till farming for crop inputs and yeast byproduct from biodiesel production from wheat. Real benefits of no-till farming vary by soil-type, location and over time, so these results are likely optimistic.

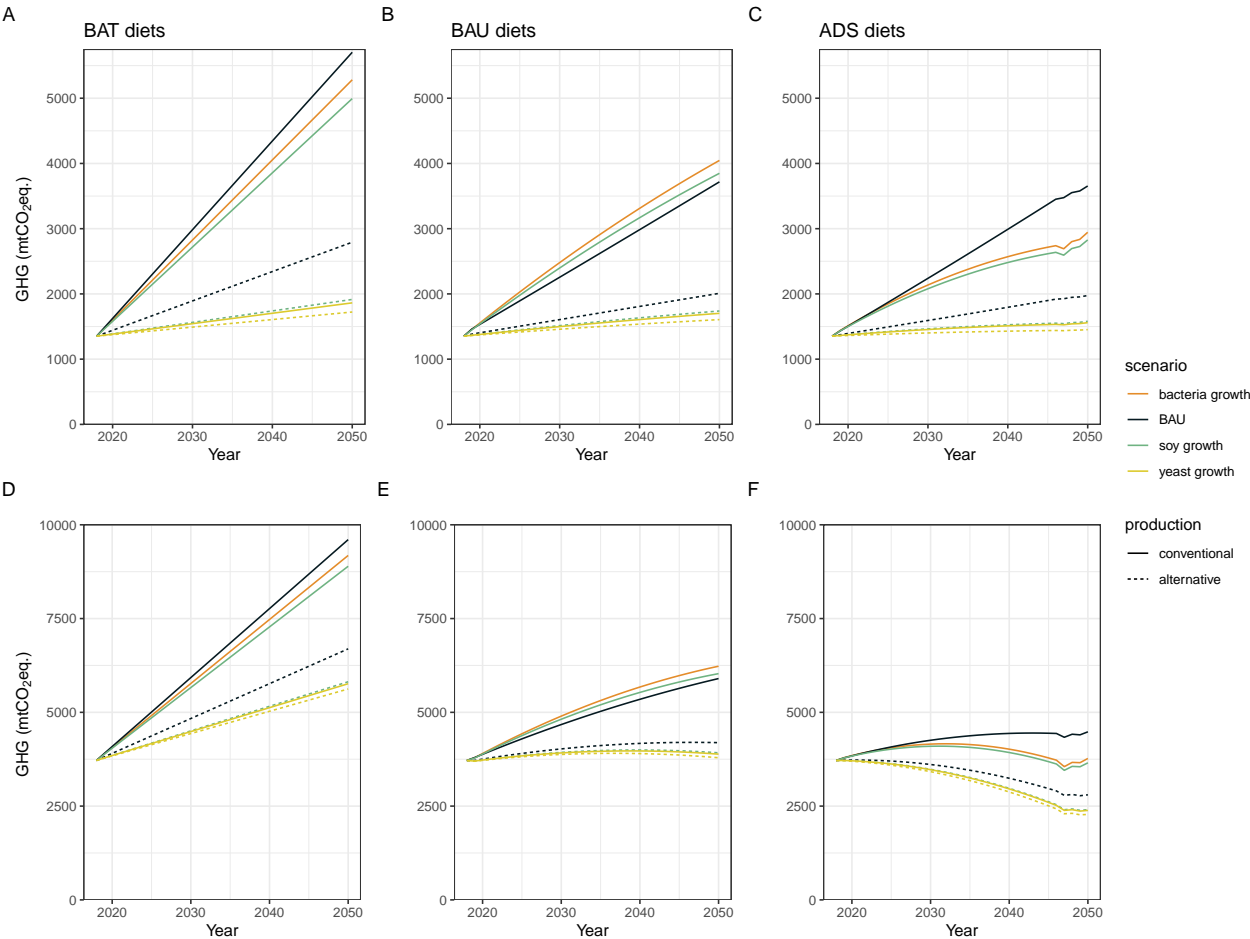


Figure S5

Contribution of feeds to total production emissions for projected years

