

SUPPLEMENTARY MATERIAL

Table S1. Beef product yield (% shrunk body weight) estimates used to compute human-edible nutrient production

Animal	Meat	Liver	Heart	Kidney	Spleen	Pancreas	GIT ¹
Mature cow	32.98	1.0	0.34	0.17	0.11	0.07	3.15
Bull	29.54	1.0	0.34	0.17	0.11	0.07	3.15
Weaned steer	36.51	1.2	0.45	0.26	0.19	0.08	5.85
Weaned heifer	36.51	1.4	0.45	0.26	0.19	0.08	5.85
Heifer at breeding	38.23	1.4	0.45	0.27	0.21	0.11	5.57
Steer entering feedlot	38.23	1.4	0.45	0.27	0.21	0.11	5.57
Heifer entering feedlot	38.23	1.4	0.45	0.27	0.21	0.11	5.57
Finished steer	41.39	1.4	0.45	0.21	0.19	0.09	5.15
Finished heifer	41.39	1.4	0.45	0.21	0.19	0.09	5.15

¹ GIT = Gastrointestinal tract

Table S2. Nutrient concentration of feedstuffs, red meat, and organ meats used in summative model

Item ¹	Iron, ppm	Zinc, ppm	Selenium, ppm	Phosphorus, %	B6, ppm	Riboflavin, ppm	Niacin, ppm	Choline, ppm	Tryptophan, ppm
Alfalfa hay	240	23.5	0.55	0.26	4.4	13	42	1,200	567
Bermudagrass	236	37.5	0.24	0.25	NA	10	47	744	526
Cottonseed meal	150	63.9	1.29	1.13	5.8	4.9	44	3,076	5,300
Corn grain	50	20.5	0.61	0.29	7.6	1.2	27	702	600
Corn silage	50	20.5	0.61	0.29	7.6	1.2	27	702	600
Distiller's grains	103	63.3	0.99	0.86	10	8.6	82	2,963	2,100
Mineral, cow-calf	2,500	3,600	18.25	5.6	0	0	0	0	0
Mineral, stocker	2,500	2,850	21.5	4.5	0	0	0	0	0
Mineral, feedlot	800	3,500	8	3.6	0	0	0	0	0
Molasses	263	17.4	5.33	0.22	9.1	4.0	10	180	10
Tallow	482	42	0	NA	0	0	0	80	0
Red meat	26	59.1	0.27	21.08	4.2	2.24	51	909	2,580
Liver	63	52.3	0.34	48.7	10.1	34	173.4	4,186	2,800
Heart	46	19	0.21	21.1	2.42	8.65	63	1,700	2,400
Kidney	75	24	2.73	22.9	4.45	23	66	3,000	2,530
Spleen	504	26	1.14	25.2	1.2	0.7	48	4,000	2,300
Pancreas	45	44	NA ²	30.4	2.0	3.1	39	NA	NA
Gastrointestinal tract	31	15.5	NA	15.1	NA	0.59	19	NA	NA

¹Nutrient concentrations are on dry matter basis for feedstuffs and wet basis for red and organ meats.

²NA = no data on nutrient concentration were available

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Table S3. Nutrient absorption coefficients (%) of feedstuffs, red meat, and organ meats used in summative model.

Item	Iron	Zinc	Selenium	Phosphorus	B12	B6	Riboflavin	Niacin	Choline	Tryptophan
Alfalfa hay	0	0	0	0	0	0	0	0	0	0
Bermudagrass	0	0	0	0	0	0	0	0	0	0
Cottonseed meal	0	0	0	0	0	0	0	0	0	0
Corn grain	6	21.75	80	28	0	53.5	63	40	75	80
Corn silage	6	21.75	80	28	0	53.5	63	40	75	80
Distiller's grains	0	0	0	0	0	0	0	0	0	0
Mineral, cow-calf	0	11.2	54	85	0	0	0	0	0	0
Mineral, stocker	0	11.2	54	85	0	0	0	0	0	0
Mineral, feedlot	0	11.2	54	85	0	0	0	0	0	0
Molasses	5	15	86	63	0	75	63	100	56	86
Tallow	0	0	0	0	0	0	0	0	0	0
Red meat	18.13	36.34	89	69	66.25	89	89	84.5	95	97.5
Organ meats	11	14.3	89	65.5	23.57	89	95	100	88	96

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