**Comparing meat and meat alternatives: An analysis of nutrient quality in 5 European countries**

Supplementary files

Supplementary Table 1: Annual meat and poultry consumption across Europe

|  |  |  |  |
| --- | --- | --- | --- |
| Country/Region | Annual meat consumption in 2021 in kg/ per capita | Share of poultry  meat in kg/ per capita | Source |
| France | 89.0 | 28.6 (32.1%) | (12) |
| Germany | 81.7 | 21.9 (26.8%) | (12) |
| United Kingdom | 71.6 | 30.8 (43.0%) | (13) |
| Italy | 87.1 | 21.7 (24.9%) | (12) |
| Spain | 105.8 | 29.9 (28.3%) | (12) |
| EU-28 | 84.1 | 23.6 (28.1%) | (12) |

Note: Meat consumption refers to the total meat supply (production + imports – exports) divided by the population.

Supplementary Table 2: Variable descriptions

| Variables | | Description | |
| --- | --- | --- | --- |
| Sugar content | | | Sugar content in g/100g |
| Carbohydrate content | | | Carbohydrate content in g/100g |
| Energy content | | | Energy content in kcal/100g |
| Fat content | | | Fat content in g/100g |
| Saturated fat content | | | Saturated fat content in g/100g |
| Salt content | | | Salt content in g/100g |
| Calculated fiber content | | | Calculated fiber content in g/100g |
| Protein content | | | Protein content in g/100g |
| Red meat (RM) | | | Dummy: 1 if red meat |
| Poultry meat (PM) | | | Dummy: 1 if poultry meat |
| Vegan meat substitutes (VMS) | | | Dummy: 1 if vegan meat substitute |
| Non-vegan meat substitutes (VMS) | | | Dummy: 1 if non-vegan meat substitute |
| Germany | | | Dummy: 1 if product sold in Germany |
| United Kingdom | | | Dummy: 1 if product sold in the UK |
| France | | | Dummy: 1 if product sold in France |
| Spain | | | Dummy: 1 if product sold in Spain |
| Italy | | | Dummy: 1 if product sold in Italy |
| Burger | | | Dummy: 1 if burger, e.g., burger patties |
| Coated meat | | | Dummy: 1 if coated meat, e.g., schnitzel or nuggets |
| Cold cuts | | | Dummy: 1 if cold cuts, e.g., ham or salami |
| Meatballs | | | Dummy: 1 if meat balls, e.g., meat balls or burger |
| Roasting/ cooking | | | Dummy: 1 if roasting meat, e.g., filet or minced meat |
| Sausages | | | Dummy: 1 if sausages, e.g., frankfurter |
|  |  | | |

Dummy: Dummy Variable

Supplementary Table 3. List of example keywords for clustering

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Burgers | Coated meat | Cold cuts | Meatballs | Roasting/Cooking | Sausages | Excluded |
| Burger | Breaded | Ham | Meatball | Steak | Sausage | Pudding |
| Patty | Nugget | Salami | Kofta | Minced meat (beef/pork/chicken) | Viennese | Corned beef/pork |
| Quarter Pounder | Fingers | Bacon | Lentil balls | Schnitzel (plain) | Chorizo | Foie gras |
|  | Sticks | Mortadella | Beef ball | Meatloaf | Hot dog | Products with sauce |
|  | Schnitzel (ex. Plain) | Serrano | Köttbullar | Medallion | Frankfurter | Products with vegetables |
|  | Escalopes (ex.plain) | Prosciutto |  | Goulash | Salsiccia | Chicken curry |
|  |  | Aspic |  | Tofu | Merguez | Read-to-eat meals |
|  |  | Pepperoni |  | Drumstick |  |  |
|  |  | Liver sausage |  | Cutlet |  |  |
|  |  | Sliced Chorizo |  | Soy granules |  |  |
|  |  | Lyoner |  |  |  |  |

Supplementary Table 4. Cross table of meat categories and meat clusters for France

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Meat category** | | | | | | |  |
| **Meat cluster** | Non-vegan meat substitutes | Poultry meat | | Red meat | | | Vegan meat substitutes | Total sample |
|  | Number of observations (share cluster of the total meat category) | | | | | | |  |
| Burger | 55 (21.8%) | 23 (1.8%) | | 112 (5.2%) | | | 75 (15.7%) | 265 (6.3%) |
| Coated meat | 57 (11.5%) | 242 (18.6%) | | 12 (0.6%) | | | 34 (7.1%) | 317 (7.6%) |
| Cold cuts | 13 (5.2%) | 263 (20.2%) | | 989 (45.9%) | | | 14 (2.9%) | 1279 (30.5%) |
| Meatballs | 71 (28.2%) | 12 (0.9%) | | 65 (3.0%) | | | 68 (14.2%) | 216 (5.2%) |
| Roasting/ cooking | 68 (27.0%) | 660 (50.7%) | | 530 (24.6%) | | | 261 (54.5%) | 1519 (36.3%) |
| Sausages | 16 (6.3%) | 101 (7.8%) | | 449 (20.8%) | | | 27 (5.6%) | 593 (14.2%) |
| Total sample | 280 | | 1301 | | 2157 | 479 | | 4189 |
| Cat. share of whole sample | 6.0 % | | 31.1% | | 51.5% | 11.4% | |

Supplementary Table 5. Cross table of meat categories and meat clusters for Germany

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Meat category** | | | | | | |  |
| **Meat cluster** | Non-vegan meat substitutes | Poultry meat | | Red meat | | | Vegan meat substitutes | Total sample |
|  | Number of observations (share cluster of the total meat category) | | | | | | |  |
| Burger | 35 (12.6%) | 15 (1.1%) | | 116 (3.1%) | | | 100 (16.3%) | 266 (4.4%) |
| Coated meat | 57 (20.5%) | 158 (11.7%) | | 82 (2.2%) | | | 67 (10.9%) | 364 (6%) |
| Cold cuts | 56 (20.1%) | 279 (20.6%) | | 1745 (46.2%) | | | 50 (8.2%) | 2130 (35.4%) |
| Meatballs | 46 (16.5%) | 42 (3.1%) | | 117 (3.1%) | | | 50 (8.2%) | 255 (4.2%) |
| Roasting/ cooking | 33 (11.9%) | 712 (52.6%) | | 870 (23.1%) | | | 260 (42.5%) | 1875 (31.2%) |
| Sausages | 51 (18.3%) | 148 (10.9%) | | 843 (22.3%) | | | 85 (13.9%) | 1127 (18.7%) |
| Total sample | 278 | | 1354 | | 3773 | 612 | | 6017 |
| Cat. share of whole sample | 4.6% | | 22.5% | | 62.7% | 10.2% | |

Supplementary Table 6. Cross table of meat categories and meat clusters for the United Kingdom

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Meat category** | | | | | | |  |
| **Meat cluster** | Non-vegan meat substitutes | Poultry meat | | Red meat | | | Vegan meat substitutes | Total sample |
|  | Number of observations (share cluster of the total meat category) | | | | | | |  |
| Burger | 62 (24.2%) | 40 (2.0%) | | 266 (10.6%) | | | 95 (23.6%) | 463 (9.0%) |
| Coated meat | 13 (5.1%) | 173 (8.7%) | | 30 (1.2%) | | | 20 (5.0%) | 236 (4.6%) |
| Cold cuts | 12 (4.7%) | 115 (5.8%) | | 597 (23.8%) | | | 16 (4.0%) | 740 (14.4%) |
| Meatballs | 13 (5.1%) | 29 (1.5%) | | 209 (8.3%) | | | 41 (10.2%) | 292 (5.7%) |
| Roasting/ cooking | 107 (41.8%) | 1562 (78.7%) | | 798 (31.8%) | | | 171 (42.4%) | 2638 (51.2%) |
| Sausages | 49 (19.1%) | 66 (3.3%) | | 608 (24.2%) | | | 60 (14.9%) | 783 (15.2%) |
| Total sample | 256 | | 1985 | | 2508 | 403 | | 5152 |
| Cat. share of whole sample | 5.0% | | 38.5% | | 48.7% | 7.8% | |

Supplementary Table 7. Cross table of meat categories and meat clusters for Italy

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Meat category** | | | | | | |  |
| **Meat cluster** | Non-vegan meat substitutes | Poultry meat | | Red meat | | | Vegan meat substitutes | Total sample |
|  | Number of observations (share cluster of the total meat category) | | | | | | |  |
| Burger | 47 (36.4%) | 22 (3.7%) | | 182 (16.1%) | | | 157 (45.5%) | 408 (18.6%) |
| Coated meat | 23 (17.8%) | 83 (14%) | | 13 (1.1%) | | | 14 (4.1%) | 133 (6.1%) |
| Cold cuts | 11 (8.5%) | 110 (18.6%) | | 668 (59%) | | | 18 (5.2%) | 807 (36.7%) |
| Meatballs | 19 (14.7%) | 13 (2.2%) | | 39 (3.4%) | | | 13 (3.8%) | 84 (3.8%) |
| Roasting/ cooking | 23 (17.8%) | 288 (48.7%) | | 164 (14.5%) | | | 99 (28.7%) | 574 (26.1%) |
| Sausages | 6 (4.7%) | 75 (12.7%) | | 66 (5.8%) | | | 44 (12.8%) | 191 (8.7%) |
| Total sample | 129 | | 591 | | 1132 | 345 | | 2197 |
| Cat. share of whole sample | 5.9% | | 26.9% | | 51.5% | 15.7% | |

Supplementary Table 8. Cross table of meat categories and meat clusters for Spain

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Meat category** | | | | | | |  |
| **Meat cluster** | Non-vegan meat substitutes | Poultry meat | | Red meat | | | Vegan meat substitutes | Total sample |
|  | Number of observations (share cluster of the total meat category) | | | | | | |  |
| Burger | 28 (25.5%) | 42 (6.5%) | | 121 (8.8%) | | | 132 (45.5%) | 323 (13.3%) |
| Coated meat | 11 (10.0%) | 95 (14.8%) | | 28 (2.0%) | | | 18 (6.2%) | 152 (6.3%) |
| Cold cuts | 16 (14.5%) | 234 (36.3%) | | 672 (48.6%) | | | 15 (5.2%) | 937 (38.6%) |
| Meatballs | 6 (5.5%) | 10 (1.6%) | | 36 (2.6%) | | | 23 (7.9%) | 75 (3.1%) |
| Roasting/ cooking | 22 (20.0%) | 180 (28.0%) | | 195 (14.1%) | | | 83 (28.6%) | 480 (19.8%) |
| Sausages | 27 (24.5%) | 83 (12.9%) | | 330 (23.9%) | | | 19 (6.6%) | 459 (18.9%) |
| Total sample | 110 | | 644 | | 1382 | 290 | | 2426 |
| Cat. share of whole sample | 4.5% | | 26.5% | | 57.0% | 12% | |

Supplementary Table 9. Descriptive statistics by meat cluster

|  |  | Energy (kcal) (kcal / 100g) | | | Fat  (g / 100g) | | | | Saturated fat  (g / 100g) | | | | Salt  (g / 100g) | | | | Protein  (g / 100g) | | | | Carbohydrates  (g / 100g) | | | | Sugar  (g / 100g) | | | | Calculated fiber  (g / 100g) | | | | Obs. | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Meat cluster | Meat category | mean | sd | | mean | | sd | | mean | | sd | | mean | | sd | | mean | | sd | | mean | | sd | | mean | | sd | | mean | | sd | | N | | |
| Burger | NVMS | 196.00 | 44.21 | | 9.56 | | 3.74 | | 2.05 | | 1.42 | | 1.14 | | 0.42 | | 11.04 | | 5.70 | | 14.50 | | 7.62 | | 2.66 | | 1.84 | | 4.30 | | 2.07 | | 227 | | |
| PM | 181.07 | 51.15 | | 9.78 | | 4.58 | | 2.51 | | 1.26 | | 1.38 | | 0.55 | | 16.05 | | 3.09 | | 6.93 | | 5.86 | | 1.12 | | 1.06 | | 0.81 | | 1.02 | | 142 | | |
| RM | 216.77 | 45.35 | | 14.87 | | 5.18 | | 6.45 | | 2.42 | | 1.06 | | 0.52 | | 17.70 | | 3.26 | | 2.74 | | 2.77 | | 0.75 | | 0.90 | | 0.67 | | 1.06 | | 797 | | |
| VMS | 196.73 | 49.56 | | 9.13 | | 4.56 | | 1.54 | | 1.68 | | 1.22 | | 0.52 | | 10.59 | | 5.94 | | 15.75 | | 8.95 | | 2.41 | | 1.71 | | 4.92 | | 2.83 | | 559 | | |
| Total | 204.60 | 48.57 | | 11.89 | | 5.51 | | 3.95 | | 3.07 | | 1.15 | | 0.52 | | 14.38 | | 5.73 | | 8.85 | | 8.78 | | 1.57 | | 1.60 | | 2.54 | | 2.80 | | 1725 | | |
| Coated  meat | NVMS | 226.74 | 29.59 | | 10.73 | | 2.60 | | 1.73 | | 0.94 | | 1.49 | | 0.89 | | 11.44 | | 4.38 | | 19.28 | | 5.20 | | 2.36 | | 1.59 | | 3.71 | | 2.68 | | 133 | | |
| PM | 224.64 | 38.61 | | 11.22 | | 3.93 | | 2.24 | | 1.26 | | 1.23 | | 0.46 | | 14.17 | | 2.87 | | 16.18 | | 4.45 | | 1.57 | | 1.43 | | 1.26 | | 1.26 | | 751 | | |
| RM | 195.57 | 51.29 | | 8.52 | | 4.98 | | 2.42 | | 1.76 | | 1.59 | | 0.77 | | 15.95 | | 4.27 | | 13.54 | | 7.46 | | 1.51 | | 1.27 | | 0.82 | | 1.07 | | 165 | | |
| VMS | 238.60 | 39.42 | | 11.27 | | 3.67 | | 1.39 | | 1.12 | | 1.32 | | 0.50 | | 12.83 | | 4.74 | | 19.65 | | 7.15 | | 1.65 | | 1.07 | | 3.92 | | 2.32 | | 153 | | |
| Total | 222.66 | 41.48 | | 10.80 | | 4.04 | | 2.10 | | 1.33 | | 1.32 | | 0.59 | | 13.94 | | 3.75 | | 16.60 | | 5.73 | | 1.66 | | 1.40 | | 1.81 | | 1.98 | | 1202 | | |
| Cold cuts | NVMS | 191.73 | 49.45 | | 13.40 | | 5.36 | | 1.89 | | 1.82 | | 2.19 | | 0.72 | | 9.78 | | 4.18 | | 6.85 | | 6.61 | | 1.70 | | 1.01 | | 2.50 | | 2.18 | | 108 | | |
| PM | 151.31 | 79.19 | | 7.39 | | 8.69 | | 2.64 | | 3.41 | | 2.30 | | 0.86 | | 18.90 | | 4.54 | | 2.22 | | 2.22 | | 1.11 | | 1.13 | | 0.35 | | 0.69 | | 1001 | | |
| RM | 245.63 | 116.09 | | 16.51 | | 12.42 | | 6.40 | | 5.00 | | 3.25 | | 1.38 | | 22.91 | | 6.17 | | 1.33 | | 1.56 | | 0.87 | | 0.94 | | 0.31 | | 0.88 | | 4671 | | |
| VMS | 215.03 | 52.82 | | 10.67 | | 5.17 | | 2.47 | | 3.52 | | 1.85 | | 0.68 | | 21.14 | | 11.15 | | 7.13 | | 6.83 | | 2.04 | | 1.66 | | 2.98 | | 2.44 | | 113 | | |
| Total | 228.03 | 114.53 | | 14.79 | | 12.17 | | 5.60 | | 4.95 | | 3.04 | | 1.35 | | 21.95 | | 6.44 | | 1.69 | | 2.38 | | 0.95 | | 1.01 | | 0.41 | | 1.05 | | 5893 | | |
| Meatballs | NVMS | 193.82 | 56.97 | | 9.77 | | 4.57 | | 1.99 | | 1.62 | | 1.30 | | 0.52 | | 11.64 | | 5.15 | | 13.00 | | 6.45 | | 2.53 | | 1.62 | | 3.75 | | 1.96 | | 155 | | |
| PM | 188.59 | 56.52 | | 10.84 | | 5.11 | | 3.05 | | 1.67 | | 1.49 | | 0.54 | | 13.28 | | 4.23 | | 9.11 | | 4.36 | | 1.82 | | 1.52 | | 0.84 | | 0.89 | | 106 | | |
| RM | 218.57 | 56.76 | | 14.83 | | 5.55 | | 5.88 | | 2.42 | | 1.30 | | 0.55 | | 14.64 | | 4.94 | | 6.28 | | 3.50 | | 1.55 | | 1.61 | | 1.02 | | 1.15 | | 466 | | |
| VMS | 210.50 | 57.33 | | 9.67 | | 4.49 | | 1.39 | | 1.16 | | 1.18 | | 0.48 | | 10.86 | | 5.46 | | 17.63 | | 10.32 | | 2.82 | | 1.62 | | 5.20 | | 2.68 | | 195 | | |
| Total | 209.26 | 57.96 | | 12.43 | | 5.68 | | 3.95 | | 2.83 | | 1.29 | | 0.53 | | 13.18 | | 5.26 | | 10.14 | | 7.66 | | 2.01 | | 1.69 | | 2.34 | | 2.47 | | 922 | | |
| Roasting/  cooking | NVMS | 186.42 | 58.52 | | 8.97 | | 5.09 | | 2.07 | | 1.85 | | 1.10 | | 0.51 | | 12.05 | | 5.67 | | 12.34 | | 7.78 | | 2.14 | | 1.76 | | 4.24 | | 2.06 | | 253 | | |
| PM | 166.46 | 54.31 | | 7.57 | | 5.71 | | 2.09 | | 1.83 | | 1.09 | | 0.69 | | 19.48 | | 4.78 | | 4.89 | | 5.82 | | 1.46 | | 1.93 | | 0.57 | | 0.87 | | 3402 | | |
| RM | 199.50 | 82.80 | | 12.59 | | 9.58 | | 4.96 | | 3.87 | | 1.33 | | 1.17 | | 19.50 | | 4.90 | | 1.93 | | 3.00 | | 1.00 | | 1.64 | | 0.38 | | 0.95 | | 2557 | | |
| VMS | 187.35 | 68.87 | | 8.45 | | 5.02 | | 1.44 | | 1.28 | | 1.11 | | 0.72 | | 17.65 | | 10.22 | | 8.19 | | 7.82 | | 2.08 | | 2.28 | | 4.38 | | 3.92 | | 874 | | |
| Total | 181.68 | 69.47 | | 9.54 | | 7.63 | | 3.04 | | 3.07 | | 1.18 | | 0.90 | | 19.00 | | 5.98 | | 4.50 | | 5.96 | | 1.40 | | 1.91 | | 1.10 | | 2.18 | | 7086 | | |
| Sausages | NVMS | 208.80 | 50.73 | | 14.08 | | 6.55 | | 2.23 | | 2.22 | | 1.75 | | 0.68 | | 12.31 | | 4.34 | | 6.95 | | 6.62 | | 1.98 | | 2.06 | | 2.95 | | 2.08 | | 149 | | |
| PM | 217.81 | 51.94 | | 16.18 | | 6.11 | | 5.19 | | 2.36 | | 2.19 | | 0.76 | | 15.10 | | 4.48 | | 2.75 | | 2.90 | | 1.02 | | 0.85 | | 0.56 | | 1.47 | | 473 | | |
| RM | 288.83 | 79.00 | | 23.68 | | 8.13 | | 9.27 | | 3.50 | | 2.19 | | 0.93 | | 15.94 | | 5.21 | | 2.84 | | 3.50 | | 1.18 | | 1.35 | | 0.61 | | 1.19 | | 2296 | | |
| VMS | 221.75 | 50.43 | | 12.39 | | 5.04 | | 2.52 | | 2.63 | | 1.59 | | 0.48 | | 18.06 | | 8.31 | | 8.18 | | 6.22 | | 1.98 | | 1.84 | | 3.26 | | 2.61 | | 195 | | |
| Total | 270.00 | 79.33 | | 21.37 | | 8.58 | | 7.89 | | 4.05 | | 2.13 | | 0.89 | | 15.77 | | 5.41 | | 3.36 | | 4.14 | | 1.24 | | 1.39 | | 0.88 | | 1.62 | | 3113 | | |
| Whole  sample | NVMS | 239.91 | | 99.83 | | 16.78 | | 10.96 | | 6.59 | | 4.46 | | 2.31 | | 1.46 | | 19.82 | | 6.21 | | 2.28 | | 3.27 | | 1.00 | | 1.27 | | 0.46 | | 1.01 | | 10952 | | |
| PM | 176.21 | | 62.50 | | 8.81 | | 6.64 | | 2.48 | | 2.31 | | 1.42 | | 0.86 | | 18.15 | | 4.94 | | 5.83 | | 6.50 | | 1.38 | | 1.67 | | 0.63 | | 1.00 | | 5875 | | |
| RM | 198.71 | | 51.64 | | 10.66 | | 5.13 | | 2.01 | | 1.70 | | 1.40 | | 0.70 | | 11.49 | | 5.16 | | 12.46 | | 7.94 | | 2.27 | | 1.75 | | 3.74 | | 2.24 | | 1025 | | |
| VMS | 200.48 | | 60.74 | | 9.44 | | 4.93 | | 1.61 | | 1.76 | | 1.25 | | 0.64 | | 15.00 | | 9.14 | | 11.88 | | 9.30 | | 2.20 | | 1.96 | | 4.38 | | 3.31 | | 2089 | | |
| Total | 214.89 | | 89.26 | | 13.35 | | 9.87 | | 4.62 | | 4.21 | | 1.89 | | 1.29 | | 18.39 | | 6.58 | | 4.86 | | 6.53 | | 1.30 | | 1.57 | | 1.09 | | 2.01 | | 19941 | | |

NVMS: Non-vegan meat substitutes. PM: Poultry meat. RM: Red meat. VMS: Vegan meat substitutes.

Supplementary Table 10. Results of the Regression Analysis of Nutrients and meat categories

|  |  | (1) | | (2) | | | (3) | | | (4) | | | (5) | | | (6) | | | (7) | | | (8) | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Variables | | Sugar  g/100g | | Carbohydrates g/100g | | | Energy in kcal/100g | | | Fat in g/100g | | | Saturated fat in g/100g | | | Salt in g/100g | | | Protein in g/100g | | | Calculated fiber in g/100g | | |
| Meat category | VMS | | 1.199\*\*\* | | | 9.593\*\*\* | | | -39.43\*\*\* | | | -7.344\*\*\* | | | -4.972\*\*\* | | | -1.068\*\*\* | | | -4.816\*\*\* | | | 3.929\*\*\* | |
|  | | (0.0359) | | | (0.132) | | | (2.019) | | | (0.217) | | | (0.0859) | | | (0.0288) | | | (0.148) | | | (0.0359) | |
| PM | | 0.381\*\*\* | | | 3.547\*\*\* | | | -63.71\*\*\* | | | -7.973\*\*\* | | | -4.106\*\*\* | | | -0.896\*\*\* | | | -1.664\*\*\* | | | 0.178\*\*\* | |
|  | | (0.0243) | | | (0.0895) | | | (1.367) | | | (0.147) | | | (0.0582) | | | (0.0195) | | | (0.100) | | | (0.0243) | |
| NVMS | | 1.275\*\*\* | | | 10.17\*\*\* | | | -41.20\*\*\* | | | -6.127\*\*\* | | | -4.574\*\*\* | | | -0.917\*\*\* | | | -8.332\*\*\* | | | 3.284\*\*\* | |
|  | | (0.0492) | | | (0.181) | | | (2.762) | | | (0.297) | | | (0.118) | | | (0.0394) | | | (0.203) | | | (0.0492) | |
|  | Constant | | 0.998\*\*\* | | | 2.284\*\*\* | | | 239.9\*\*\* | | | 16.78\*\*\* | | | 6.586\*\*\* | | | 2.313\*\*\* | | | 19.82\*\*\* | | | 0.456\*\*\* | |
|  |  | | (0.0144) | | | (0.0529) | | | (0.808) | | | (0.0870) | | | (0.0344) | | | (0.0115) | | | (0.0593) | | | (0.0144) | |
|  | Observations | | 19,941 | | | 19,941 | | | 19,941 | | | 19,941 | | | 19,941 | | | 19,941 | | | 19,941 | | | 19,941 | |
|  | R-squared | | 0.075 | | | 0.282 | | | 0.103 | | | 0.149 | | | 0.269 | | | 0.132 | | | 0.111 | | | 0.440 | |

## NVMS: Non-vegan meat substitutes. PM: Poultry meat. VMS: Vegan meat substitutes.

Standard errors in parentheses. Red meat products are the reference category in all models.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Supplementary Table 11. Pairwise comparisons of marginal linear predictions of the individual nutrients

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Comparison | Energy kcal/100g | Fat in g/100g | Sat. fat g/100g | Carbo-hydrates g/100g | Sugar  g/100g | Fiber g/100g | Salt g/100g | Protein g/100g |
| Non-vegan MS vs.  Poultry meat | 22.5 | 1.85 | -0.47 | 6.63 | 0.89 | 3.31 | -0.02 | -6.67 |
| (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (0.599) | (<.001) |
| Non-vegan MS vs.  Red meat | -41.2 | -6.13 | -4.57 | 10.17 | 1.28 | 3.28 | -0.92 | -8.33 |
| (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) |
| Non-vegan MS  Vegan MS | 1.8 | 1.22 | 0.40 | 0.58 | 0.08 | -0.64 | 0.15 | -3.52 |
| (0.582) | (0.001) | (0.004) | (0.006) | (0.183) | (<.001) | (0.002) | (<.001) |
| Vegan MS vs.  Poultry meat | 24.3 | 0.63 | -0.87 | 6.05 | 0.82 | 3.75 | -0.17 | -3.15 |
| (<.001) | (0.007) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) |
| Vegan MS vs.  Red meat | -39.4 | -7.34 | -4.97 | -9.59 | 1.20 | 3.93 | -1.07 | -4.82 |
| (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) |
| Red meat vs. Poultry meat | 63.7 | 7.97 | 4.11 | -3.55 | -0.38 | -0.18 | 0.90 | 1.66 |
| (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) | (<.001) |

Non-vegan MS: Non-vegan meat substitutes. Vegan MS: Vegan meat substitutes. Fiber: Calculated fiber content.

The numbers in parentheses are the (39) corrected p-values. The table is estimated based on the results of the linear models in Supplemental, Table 10.

Ein Bild, das Text, Diagramm, Handschrift, Schrift enthält.

Automatisch generierte Beschreibung

Supplementary Figure 1. Comparison of predicted marginal means of energy and protein content with 95% confidence intervals over clusters and countries

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Automatisch generierte Beschreibung **Supplementary Figure 2. Comparison of predicted marginal means of fat and saturated fat content with 95% confidence intervals over clusters and countries**

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Automatisch generierte Beschreibung

**Supplementary Figure 3. Comparison of predicted marginal means of carbohydrate and sugar content with 95% confidence intervals over clusters and countries**

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Automatisch generierte Beschreibung

**Supplementary Figure 4. Comparison of predicted marginal means of salt and calculated fiber content with 95% confidence intervals over clusters and countries**