

**Table S3.** The list of bacterial genera that differ between experimental feeds B and C.

| PHYLUM           | CLASS          | ORDER                               | FAMILY                | GENUS                       | B (%) | SD (%) | C (%) | SD (%) | p-value  |
|------------------|----------------|-------------------------------------|-----------------------|-----------------------------|-------|--------|-------|--------|----------|
| Actinobacteriota | Actinobacteria | Micrococcales                       | Brevibacteriaceae     | Brevibacterium              | 1.70  | 0.06   | 0.07  | 0.03   | 4.41E-05 |
| Actinobacteriota | Actinobacteria | Corynebacteriales                   | Corynebacteriaceae    | Corynebacterium             | 3.72  | 0.19   | 0.46  | 0.17   | 5.54E-05 |
| Actinobacteriota | Actinobacteria | Micrococcales                       | Dermabacteraceae      | Brachybacterium             | 1.44  | 0.07   | 0.08  | 0.03   | 0.0003   |
| Actinobacteriota | Actinobacteria | Micrococcales                       | Micrococcaceae        | Enteractinococcus           | 0.19  | 0.01   | 0.01  | 0.01   | 0.0004   |
| Actinobacteriota | Actinobacteria | Micrococcales                       | AKAU3644              | AKAU3644                    | 0.64  | 0.02   | 0.00  | 0.00   | 0.0004   |
| Actinobacteriota | Actinobacteria | Micrococcales                       | Microbacteriaceae     | Leucobacter                 | 0.43  | 0.04   | 0.10  | 0.03   | 0.0015   |
| Actinobacteriota | Actinobacteria | Actinomycetales                     | Actinomycetaceae      | Actinomyces                 | 1.20  | 0.10   | 3.01  | 0.22   | 0.0025   |
| Actinobacteriota | Actinobacteria | Corynebacteriales                   | Dietziaceae           | Dietzia                     | 0.66  | 0.07   | 0.02  | 0.03   | 0.0032   |
| Bacteroidota     | Bacteroidia    | Flavobacteriales                    | Crocinitomicaceae     | Fluvicola                   | 0.16  | 0.01   | 0.00  | 0.00   | 2.09E-05 |
| Bacteroidota     | Bacteroidia    | Sphingobacteriales                  | Sphingobacteriaceae   | Sphingobacterium            | 2.62  | 0.10   | 0.09  | 0.04   | 0.0001   |
| Bacteroidota     | Bacteroidia    | Bacteroidales                       | Dysgonomonadaceae     | Dysgonomonadaceae           | 0.36  | 0.02   | 1.93  | 0.06   | 0.0002   |
| Bacteroidota     | Bacteroidia    | Flavobacteriales                    | Flavobacteriaceae     | Myroides                    | 3.89  | 0.13   | 0.10  | 0.04   | 0.0003   |
| Bacteroidota     | Bacteroidia    | Bacteroidales                       | Bacteroidaceae        | Bacteroides                 | 0.51  | 0.07   | 1.27  | 0.05   | 0.0005   |
| Bacteroidota     | Bacteroidia    | Flavobacteriales                    | Flavobacteriaceae     | Flavobacterium              | 0.17  | 0.02   | 0.03  | 0.02   | 0.0021   |
| Bacteroidota     | Bacteroidia    | Sphingobacteriales                  | Sphingobacteriaceae   | Pedobacter                  | 0.13  | 0.02   | 0.01  | 0.01   | 0.0041   |
| Bacteroidota     | Bacteroidia    | Flavobacteriales                    | Flavobacteriaceae     | Ulvibacter                  | 0.38  | 0.05   | 0.09  | 0.06   | 0.0055   |
| Bacteroidota     | Bacteroidia    | Bacteroidales                       | Dysgonomonadaceae     | Dysgonomonas                | 1.33  | 0.07   | 2.90  | 0.44   | 0.0343   |
| Firmicutes       | Clostridia     | Peptostreptococcales-Tissierellales | Peptostreptococcaceae | Clostridioides              | 0.25  | 0.01   | 0.01  | 0.01   | 0.0001   |
| Firmicutes       | Bacilli        | Staphylococcales                    | Staphylococcaceae     | Staphylococcus              | 5.38  | 0.23   | 0.16  | 0.12   | 0.0001   |
| Firmicutes       | Bacilli        | Bacillales                          | Bacillaceae           | Pseudogracilibacillus       | 2.72  | 0.18   | 0.85  | 0.12   | 0.0005   |
| Firmicutes       | Bacilli        | Bacillales                          | Bacillaceae           | Amphibacillus               | 0.31  | 0.02   | 0.05  | 0.01   | 0.0005   |
| Firmicutes       | Bacilli        | Bacillales                          | Bacillaceae           | Virgibacillus               | 0.23  | 0.01   | 0.14  | 0.01   | 0.0008   |
| Firmicutes       | Bacilli        | Bacillales                          | Planococcaceae        | Sporosarcina                | 0.74  | 0.11   | 2.54  | 0.21   | 0.0015   |
| Firmicutes       | Clostridia     | Oscillospirales                     | Ruminococcaceae       | Incertae_Sedis              | 0.08  | 0.02   | 0.23  | 0.01   | 0.0031   |
| Firmicutes       | Clostridia     | Clostridiales                       | Clostridiaceae        | Clostridium_sensu_stricto_7 | 0.00  | 0.00   | 0.04  | 0.00   | 0.0033   |
| Firmicutes       | Bacilli        | Bacillales                          | Bacillaceae           | Geobacillus                 | 0.04  | 0.01   | 0.10  | 0.01   | 0.0038   |
| Firmicutes       | Bacilli        | Lactobacillales                     | Enterococcaceae       | Enterococcus                | 0.63  | 0.06   | 0.14  | 0.02   | 0.0038   |
| Firmicutes       | Bacilli        | Bacillales                          | Bacillaceae           | Bacillus                    | 2.09  | 0.16   | 21.97 | 1.98   | 0.0047   |

|                |                     |                    |                       |                  |       |      |       |      |          |
|----------------|---------------------|--------------------|-----------------------|------------------|-------|------|-------|------|----------|
| Firmicutes     | Bacilli             | Erysipelotrichales | Erysipelotrichaceae   | Erysipelothrix   | 2.20  | 0.21 | 0.40  | 0.05 | 0.0047   |
| Firmicutes     | Bacilli             | Bacillales         | Planococcaceae        | Savagea          | 2.62  | 0.27 | 0.16  | 0.04 | 0.0052   |
| Firmicutes     | Bacilli             | Lactobacillales    | Streptococcaceae      | Streptococcus    | 0.30  | 0.03 | 0.72  | 0.07 | 0.0057   |
| Firmicutes     | Bacilli             | RsaHf231           | RsaHf231              | RsaHf231         | 0.16  | 0.02 | 0.06  | 0.02 | 0.0060   |
| Firmicutes     | Bacilli             | Bacillales         | Bacillaceae           | Ureibacillus     | 0.19  | 0.05 | 12.00 | 1.37 | 0.0066   |
| Firmicutes     | Bacilli             | Lactobacillales    | Leuconostocaceae      | Weissella        | 0.69  | 0.02 | 1.17  | 0.07 | 0.0070   |
| Firmicutes     | Bacilli             | Lactobacillales    | Carnobacteriaceae     | Atopostipes      | 0.36  | 0.05 | 0.07  | 0.02 | 0.0077   |
| Firmicutes     | Bacilli             | Bacillales         | Bacillaceae           | Cerasibacillus   | 0.14  | 0.01 | 0.07  | 0.01 | 0.0094   |
| Firmicutes     | Bacilli             | Lactobacillales    | Lactobacillaceae      | Lactobacillus    | 16.56 | 0.76 | 35.81 | 3.29 | 0.0111   |
| Firmicutes     | Bacilli             | Staphylococcales   | Staphylococcaceae     | Nosocomiicoccus  | 0.13  | 0.02 | 0.00  | 0.00 | 0.0159   |
| Firmicutes     | Bacilli             | Bacillales         | Bacillaceae           | Oceanobacillus   | 0.24  | 0.04 | 0.09  | 0.01 | 0.0251   |
| Fusobacteriota | Fusobacteriia       | Fusobacteriales    | Fusobacteriaceae      | Cetobacterium    | 0.06  | 0.01 | 0.13  | 0.01 | 0.0042   |
| Proteobacteria | Gammaproteobacteria | Enterobacterales   | Yersiniaceae          | Serratia         | 0.64  | 0.03 | 0.03  | 0.02 | 6.01E-05 |
| Proteobacteria | Gammaproteobacteria | Enterobacterales   | Morganellaceae        | Proteus          | 7.20  | 0.24 | 0.07  | 0.02 | 0.0005   |
| Proteobacteria | Gammaproteobacteria | Enterobacterales   | Morganellaceae        | Providencia      | 12.29 | 0.56 | 0.17  | 0.06 | 0.0009   |
| Proteobacteria | Gammaproteobacteria | Pseudomonadales    | Moraxellaceae         | Acinetobacter    | 0.23  | 0.02 | 0.05  | 0.02 | 0.0010   |
| Proteobacteria | Gammaproteobacteria | Burkholderiales    | Alcaligenaceae        | Alcaligenes      | 1.47  | 0.12 | 0.05  | 0.01 | 0.0032   |
| Proteobacteria | Gammaproteobacteria | Burkholderiales    | Alcaligenaceae        | Paenacaligenes   | 1.28  | 0.15 | 0.31  | 0.08 | 0.0038   |
| Proteobacteria | Gammaproteobacteria | Aeromonadales      | Aeromonadaceae        | Aeromonas        | 1.97  | 0.20 | 0.06  | 0.02 | 0.0050   |
| Proteobacteria | Gammaproteobacteria | Pseudomonadales    | Pseudomonadaceae      | Oblitimonas      | 1.32  | 0.14 | 0.04  | 0.01 | 0.0052   |
| Proteobacteria | Gammaproteobacteria | Cardiobacterales   | Wohlfahrtiimonadaceae | Ignatzschineria  | 5.12  | 0.54 | 0.46  | 0.02 | 0.0066   |
| Proteobacteria | Gammaproteobacteria | Enterobacterales   | Morganellaceae        | Morganella       | 1.99  | 0.33 | 0.08  | 0.04 | 0.0134   |
| Proteobacteria | Alphaproteobacteria | Rhizobiales        | Rhizobiaceae          | Paenochrobactrum | 0.41  | 0.06 | 0.07  | 0.01 | 0.0139   |
| Proteobacteria | Gammaproteobacteria | Xanthomonadales    | Xanthomonadaceae      | Stenotrophomonas | 0.18  | 0.04 | 0.05  | 0.02 | 0.0169   |