|  |  |
| --- | --- |
| Feed ingredients of the compound diet (%) | |
| Crude protein | ≥50.0 |
| Crude fat | ≥5.0 |
| Crude fibre | ≤6.0 |
| Crude ash | ≤24.0 |
| Total phosphorus | ≥1.0 |
| [Lysine](../AppData/Local/youdao/dict/Application/8.10.3.0/resultui/html/index.html#/javascript:;) | ≥2.4 |
| [Water content](../AppData/Local/youdao/dict/Application/8.10.3.0/resultui/html/index.html#/javascript:;) | ≤12.0 |

**Supplement Table 1.** Feed ingredients of the compound diet of *Siniperca chuatsi*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Taxonomy | F | WF |  |  |  | Taxonomy | B | WB |  |  |  |
| *Lactococcus\_garvieae* | 4.19% | 0.00% | *Lactobacillus\_reuteri* | 0.08% | 0.39% | *Herbaspirillum\_huttiense* | 18.42% | 0.01% | *Brevundimonas\_bullata* | 0.19% | 0.01% |
| *Methylobacterium\_brachiatum* | 12.39% | 0.03% | *Absiella\_dolichum* | 0.10% | 0.00% | *Plesiomonas\_shigelloides* | 15.32% | 0.08% | *Streptococcus\_pneumoniae* | 0.02% | 0.31% |
| *Klebsiella\_aerogenes* | 1.70% | 0.02% | *Lactobacillus\_murinus* | 0.10% | 0.02% | *Methylobacterium\_brachiatum* | 8.54% | 0.01% | *Escherichia\_coli* | 0.21% | 0.00% |
| *Herbaspirillum\_huttiense* | 7.66% | 0.01% | *Bacteroides\_massiliensis* | 0.08% | 0.00% | *Limnohabitans\_sp\_103DPR2* | 0.01% | 14.95% | *Exiguobacterium\_sp\_ZWU0009* | 0.09% | 0.00% |
| *Escherichia\_coli* | 1.36% | 0.00% | *Lolium\_perenne* | 0.00% | 0.31% | *Acinetobacter\_sp\_CIP\_53.82* | 0.30% | 0.00% | *Deinococcus\_ficus* | 0.08% | 0.00% |
| *Limnohabitans\_sp\_103DPR2* | 0.06% | 10.05% | *Brevundimonas\_bullata* | 0.28% | 0.01% | *Aeromonas\_veronii* | 0.44% | 0.17% | *Nannochloropsis\_gaditana* | 0.00% | 0.36% |
| *Plesiomonas\_shigelloides* | 1.38% | 0.17% | *Bifidobacterium\_breve* | 0.07% | 0.00% | *Moraxella\_catarrhalis* | 0.17% | 0.93% | *Pararheinheimera\_chironomi* | 0.07% | 0.01% |
| *Kosakonia\_cowanii* | 0.70% | 0.06% | *Stenotrophomonas\_maltophilia* | 0.15% | 0.00% | *Corynebacterium\_accolens* | 0.20% | 0.05% | *Candidatus\_Planktophila\_versatilis* | 0.00% | 0.26% |
| *Bacteroides\_plebeius* | 0.53% | 0.00% | *Anaerostipes\_hadrus* | 0.06% | 0.00% | *Lactococcus\_garvieae* | 0.27% | 0.00% | *Mycobacterium\_sp* | 0.00% | 0.25% |
| *Faecalibacterium\_prausnitzii* | 0.35% | 0.01% | *Serratia\_marcescens* | 0.19% | 0.01% | *Populus\_alba* | 0.17% | 0.01% | *Vogesella\_fluminis* | 0.00% | 0.24% |
| *Bacteroides\_dorei* | 0.33% | 0.00% | *Bacillus\_anthracis* | 0.09% | 0.00% | *Acinetobacter\_johnsonii* | 0.21% | 0.01% | *Devosia\_riboflavina* | 0.08% | 0.01% |
| *Lactobacillus\_johnsonii* | 0.22% | 0.34% | *Corynebacterium\_propinquum* | 0.00% | 0.31% | *Flavobacterium\_glycines* | 0.00% | 0.89% | *Serratia\_marcescens* | 0.06% | 0.01% |
| *Candidatus\_Planktophila\_versatilis* | 0.00% | 1.92% | *Pediococcus\_acidilactici* | 0.00% | 0.18% | *Neisseria\_mucosa* | 0.01% | 0.29% | *Bacillus\_anthracis* | 0.04% | 0.00% |
| *Anaerotignum\_lactatifermentans* | 0.17% | 0.00% | *Acinetobacter\_johnsonii* | 0.21% | 0.06% | *Corynebacterium\_propinquum* | 0.14% | 0.05% | *Rhodococcus\_fascians* | 0.03% | 0.00% |
| *Lactobacillus\_plantarum* | 0.00% | 0.59% | *Corynebacterium\_accolens* | 0.00% | 0.29% | *Staphylococcus\_caprae* | 0.14% | 0.13% | *Haemophilus\_parainfluenzae* | 0.01% | 0.10% |
| *Bacteroides\_ovatus* | 0.12% | 0.00% | *Lactococcus\_lactis* | 0.06% | 0.00% | *Lactobacillus\_murinus* | 0.14% | 0.00% | *Cutibacterium\_acnes* | 0.02% | 0.08% |
| *Moraxella\_catarrhalis* | 0.00% | 0.87% | *Pseudomonas\_balearica* | 0.08% | 0.00% | *Acinetobacter\_lwoffii* | 0.24% | 0.02% | *Rothia\_aeria* | 0.00% | 0.06% |
| *Aeromonas\_veronii* | 0.32% | 0.77% | Others | 66.98% | 83.57% | *Delftia\_tsuruhatensis* | 0.01% | 0.69% | Others | 54.37% | 80.01% |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Taxonomy | Fl | WF |  |  |  | Taxonomy | Fs | WF |  |  |  |
| Lactococcus\_garvieae | 8.22% | 0.00% | Pediococcus\_acidilactici | 0.00% | 0.18% | Methylobacterium\_brachiatum | 13.31% | 0.03% | Bacteroides\_massiliensis | 0.15% | 0.00% |
| Methylobacterium\_brachiatum | 11.47% | 0.03% | Corynebacterium\_accolens | 0.00% | 0.29% | Herbaspirillum\_huttiense | 6.19% | 0.01% | Lolium\_perenne | 0.00% | 0.31% |
| Klebsiella\_aerogenes | 3.30% | 0.02% | Lactococcus\_lactis | 0.10% | 0.00% | Escherichia\_coli | 2.51% | 0.00% | Brevundimonas\_bullata | 0.33% | 0.01% |
| Herbaspirillum\_huttiense | 9.12% | 0.01% | Pseudomonas\_balearica | 0.11% | 0.00% | Limnohabitans\_sp\_103DPR2 | 0.12% | 10.05% | Bifidobacterium\_breve | 0.14% | 0.00% |
| Limnohabitans\_sp\_103DPR2 | 0.00% | 10.05% | Escherichia\_coli | 0.21% | 0.00% | Bacteroides\_plebeius | 1.06% | 0.00% | Stenotrophomonas\_maltophilia | 0.24% | 0.00% |
| Plesiomonas\_shigelloides | 1.88% | 0.17% | Bacteroides\_dorei | 0.11% | 0.00% | Faecalibacterium\_prausnitzii | 0.69% | 0.01% | Anaerostipes\_hadrus | 0.12% | 0.00% |
| Kosakonia\_cowanii | 1.25% | 0.06% | Acinetobacter\_lwoffii | 0.17% | 0.02% | Bacteroides\_dorei | 0.55% | 0.00% | Serratia\_marcescens | 0.14% | 0.01% |
| Candidatus\_Planktophila\_versatilis | 0.00% | 1.92% | Acinetobacter\_johnsonii | 0.15% | 0.06% | Lactobacillus\_johnsonii | 0.43% | 0.34% | Bacillus\_anthracis | 0.18% | 0.00% |
| Lactobacillus\_plantarum | 0.00% | 0.59% | Streptococcus\_pneumoniae | 0.01% | 0.15% | Candidatus\_Planktophila\_versatilis | 0.00% | 1.92% | Corynebacterium\_propinquum | 0.00% | 0.31% |
| Moraxella\_catarrhalis | 0.00% | 0.87% | Staphylococcus\_caprae | 0.00% | 0.17% | Plesiomonas\_shigelloides | 0.88% | 0.17% | Kosakonia\_cowanii | 0.15% | 0.06% |
| Aeromonas\_veronii | 0.27% | 0.77% | Vogesella\_fluminis | 0.00% | 0.24% | Anaerotignum\_lactatifermentans | 0.33% | 0.00% | Pediococcus\_acidilactici | 0.00% | 0.18% |
| Lactobacillus\_reuteri | 0.01% | 0.39% | mixed\_culture\_isolate\_koll13 | 0.05% | 0.00% | Lactobacillus\_plantarum | 0.00% | 0.59% | Corynebacterium\_accolens | 0.00% | 0.29% |
| Lactobacillus\_johnsonii | 0.01% | 0.34% | Stenotrophomonas\_maltophilia | 0.05% | 0.00% | Bacteroides\_ovatus | 0.25% | 0.00% | Acinetobacter\_johnsonii | 0.27% | 0.06% |
| Lolium\_perenne | 0.00% | 0.31% | Roseomonas\_ludipueritiae | 0.04% | 0.00% | Moraxella\_catarrhalis | 0.00% | 0.87% | Pararheinheimera\_chironomi | 0.15% | 0.01% |
| Corynebacterium\_propinquum | 0.00% | 0.31% | Lactobacillus\_amylovorus | 0.00% | 0.07% | Lactobacillus\_reuteri | 0.15% | 0.39% | denitrifying\_bacterium\_enrichment\_culture\_clone\_NOB\_2\_E8 | 0.08% | 0.00% |
| Serratia\_marcescens | 0.24% | 0.01% | Sphingobacterium\_faecium | 0.05% | 0.00% | Absiella\_dolichum | 0.19% | 0.00% | Lactococcus\_garvieae | 0.16% | 0.00% |
| Brevundimonas\_bullata | 0.24% | 0.01% | Nitrospira\_bacterium\_SG8\_3 | 0.03% | 0.00% | Lactobacillus\_murinus | 0.20% | 0.03% | Klebsiella\_aerogenes | 0.09% | 0.02% |
| Delftia\_tsuruhatensis | 0.04% | 0.10% | Others | 62.86% | 82.84% | Aeromonas\_veronii | 0.38% | 0.77% | Others | 70.58% | 83.56% |

Table Supplement 2. Relative abundance of microflora at the species level in the gut samples and water environment of each *S. chuatsi* group (top 35)