Supplement 3. The top 50 OTUs used by the different Random Forest models constructed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Rank | 4-Corners RF | | 4-Corners GRS RF | | Twins RF | |
| OTU | Mean decrease accuracy | OTU | Mean decrease accuracy | OTU | Mean decrease accuracy |
| 1 | Otu00220 | 0.12755 | Otu00071 | 0.0539 | Otu00304 | 0.06025 |
| 2 | Otu00060 | 0.0855 | Otu00105 | 0.04025 | Otu00323 | 0.05585 |
| 3 | Otu00134 | 0.06065 | Otu00529 | 0.032 | Otu00564 | 0.0352 |
| 4 | Otu00131 | 0.06015 | Otu00195 | 0.0316 | Otu00172 | 0.0323 |
| 5 | Otu00204 | 0.0567 | Otu00033 | 0.02185 | Otu00269 | 0.0261 |
| 6 | Otu00500 | 0.05565 | Otu00160 | 0.01505 | Otu00173 | 0.0215 |
| 7 | Otu00447 | 0.0447 | Otu00153 | 0.01305 | Otu00176 | 0.02045 |
| 8 | Otu00024 | 0.04075 | Otu00140 | 0.01275 | Otu00095 | 0.0192 |
| 9 | Otu00118 | 0.0347 | Otu00028 | 0.01215 | Otu00267 | 0.0188 |
| 10 | Otu00004 | 0.0341 | Otu00688 | 0.01125 | Otu00447 | 0.0188 |
| 11 | Otu00044 | 0.02905 | Otu00065 | 0.0105 | Otu00286 | 0.01765 |
| 12 | Otu00407 | 0.0284 | Otu00711 | 0.0093 | Otu00076 | 0.0173 |
| 13 | Otu00172 | 0.0241 | Otu00225 | 0.00905 | Otu00007 | 0.0125 |
| 14 | Otu00005 | 0.02375 | Otu00093 | 0.00905 | Otu00118 | 0.01195 |
| 15 | Otu00136 | 0.0237 | Otu00115 | 0.0087 | Otu00042 | 0.01175 |
| 16 | Otu00094 | 0.02145 | Otu00019 | 0.00845 | Otu00321 | 0.0111 |
| 17 | Otu00462 | 0.0198 | Otu00106 | 0.0082 | Otu00074 | 0.01045 |
| 18 | Otu00097 | 0.0181 | Otu00234 | 0.00775 | Otu00045 | 0.00855 |
| 19 | Otu00062 | 0.01755 | Otu00312 | 0.00765 | Otu00199 | 0.00855 |
| 20 | Otu00156 | 0.0174 | Otu00390 | 0.0076 | Otu00041 | 0.0084 |
| 21 | Otu00063 | 0.01725 | Otu00361 | 0.00755 | Otu00022 | 0.00835 |
| 22 | Otu00006 | 0.0169 | Otu00001 | 0.00735 | Otu00115 | 0.0082 |
| 23 | Otu00042 | 0.0165 | Otu00087 | 0.0073 | Otu00414 | 0.00775 |
| 24 | Otu00132 | 0.01595 | Otu00108 | 0.0069 | Otu00174 | 0.00705 |
| 25 | Otu00077 | 0.01585 | Otu00130 | 0.0069 | Otu00109 | 0.0068 |
| 26 | Otu00555 | 0.01485 | Otu00004 | 0.0068 | Otu00135 | 0.0068 |
| 27 | Otu00016 | 0.0145 | Otu00044 | 0.0066 | Otu00146 | 0.00625 |
| 28 | Otu00295 | 0.0139 | Otu00145 | 0.0066 | Otu00344 | 0.0061 |
| 29 | Otu00353 | 0.0135 | Otu00002 | 0.0064 | Otu00136 | 0.00535 |
| 30 | Otu00262 | 0.0133 | Otu00539 | 0.0062 | Otu00190 | 0.00535 |
| 31 | Otu00208 | 0.01265 | Otu00020 | 0.0062 | Otu00008 | 0.00515 |
| 32 | Otu00621 | 0.0118 | Otu00095 | 0.0062 | Otu00229 | 0.00505 |
| 33 | Otu00068 | 0.0111 | Otu00152 | 0.00615 | Otu00353 | 0.005 |
| 34 | Otu00017 | 0.01105 | Otu00413 | 0.00615 | Otu00048 | 0.00485 |
| 35 | Otu00033 | 0.01105 | Otu00147 | 0.00585 | Otu00062 | 0.0047 |
| 36 | Otu00323 | 0.00995 | Otu00010 | 0.0058 | Otu00017 | 0.0047 |
| 37 | rareOTUs | 0.00975 | Otu00084 | 0.00565 | Otu00301 | 0.00465 |
| 38 | Otu00458 | 0.0096 | Otu00110 | 0.0056 | Otu00134 | 0.0045 |
| 39 | Otu00251 | 0.009 | Otu00564 | 0.00545 | Otu00087 | 0.0044 |
| 40 | Otu00081 | 0.0086 | Otu00260 | 0.00515 | Otu00500 | 0.00415 |
| 41 | Otu00002 | 0.00855 | Otu00146 | 0.005 | Otu00481 | 0.00415 |
| 42 | Otu00014 | 0.0085 | Otu00037 | 0.00495 | Otu00462 | 0.0041 |
| 43 | Otu00302 | 0.00835 | Otu00040 | 0.00485 | Otu00153 | 0.0041 |
| 44 | Otu00269 | 0.0082 | Otu00009 | 0.0048 | Otu00204 | 0.004 |
| 45 | Otu00064 | 0.00815 | Otu00255 | 0.0048 | Otu00064 | 0.004 |
| 46 | Otu00051 | 0.0081 | Otu00034 | 0.0048 | Otu00084 | 0.00395 |
| 47 | Otu00777 | 0.0073 | Otu00174 | 0.00475 | Otu00016 | 0.0038 |
| 48 | Otu00053 | 0.0071 | Otu00679 | 0.00475 | Otu00341 | 0.0038 |
| 49 | Otu00560 | 0.007 | Otu00400 | 0.0047 | Otu00555 | 0.00375 |
| 50 | Otu00286 | 0.00695 | Otu00102 | 0.00455 | Otu00165 | 0.0037 |