**Table S5** Results of significant (P ≤ 0.05; non-significant results not shown) ANOVA or Regression analyses of the 100 most abundant OTUs against measured biological, chemical, or geographic factors.

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| --- | --- | --- | --- |
| **OTU Tested** | **Measurement** | **Test Statistic (t or F)** | **P-value** |
| 1 | Chlorophyll | t=3.012 | 0.0033 |
| 1 | Soil pH | t=2.952 | 0.004 |
| 1 | Traffic Intensity | F4,106=5.520 | <0.001 |
| 4 | Chlorophyll | t=2.166 | 0.0326 |
| 4 | Soil pH | t=3.201 | 0.0019 |
| 4 | Traffic Intensity | F4,106=4.424 | 0.0024 |
| 4 | Location Cluster | F4,106=2.575 | 0.042 |
| 5 | Soil pH | t=2.619 | 0.0103 |
| 6 | Traffic Intensity | F4,106=2.557 | 0.0432 |
| 9 | Leaf Area | t=-2.695 | 0.0082 |
| 12 | Traffic Intensity | F4,106=3.787 | 0.0065 |
| 12 | Location Cluster | F4,106=5.117 | <0.001 |
| 12 | Genotype | F4,106=4.2904 | 0.0014 |
| 15 | Location Cluster | F4,106=4.266 | 0.0031 |
| 15 | Soil pH | t=-2.847 | 0.0054 |
| 16 | Traffic Intensity | F4,106=3.362 | 0.0125 |
| 16 | Location Cluster | F4,106=2.504 | 0.0469 |
| 19 | Traffic Intensity | F4,106=3.381 | 0.0122 |
| 19 | Location Cluster | F4,106=5.796 | <0.001 |
| 20 | Traffic Intensity | F4,106=3.432 | 0.0113 |
| 22 | Location Cluster | F4,106=4.252 | 0.0032 |
| 22 | Traffic Intensity | F4,106=2.625 | 0.0389 |
| 23 | Traffic Intensity | F4,106=4.177 | 0.0036 |
| 24 | Location Cluster | F4,106=3.44 | 0.0112 |
| 26 | Chlorophyll | t=2.535 | 0.0127 |
| 26 | Location Cluster | F4,106=2.526 | 0.0453 |
| 32 | Chlorophyll | t=2.489 | 0.0144 |
| 32 | Potassium | t=-2.359 | 0.0202 |
| 33 | Chlorophyll | t=2.39 | 0.0186 |
| 33 | Traffic Intensity | F4,106=3.737 | 0.007 |
| 33 | Location Cluster | F4,106=2.579 | 0.0419 |
| 35 | Traffic Intensity | F4,106=3.316 | 0.0135 |
| 36 | Traffic Intensity | F4,106=2.655 | 0.0372 |
| 37 | Soil pH | t=3.085 | 0.0027 |
| 37 | Location Cluster | F4,106=4.959 | 0.0011 |
| 38 | Traffic Intensity | F4,106=3.52 | 0.0098 |
| 40 | Leaf Area | t=-2.048 | 0.0431 |
| 40 | Soil pH | t=2.489 | 0.0145 |
| 41 | Chlorophyll | t=2.471 | 0.0151 |
| 41 | Potassium | t=-2.493 | 0.0142 |
| 41 | Location Cluster | F4,106=3.792 | 0.0065 |
| 41 | Traffic Intensity | F4,106=2.511 | 0.0464 |
| 42 | Leaf Area | t=-2.29 | 0.024 |
| 42 | Leaf Area | t=-2.29 | 0.024 |
| 42 | Traffic Intensity | F4,106=4.294 | 0.003 |
| 42 | Location Cluster | F4,106=2.919 | 0.0249 |
| 43 | Location Cluster | F4,106=5.728 | <0.001 |
| 43 | Traffic Intensity | F4,106=2.461 | 0.05 |
| 44 | Leaf Area | t=-3.143 | 0.0022 |
| 44 | Potassium | t=-2.266 | 0.0255 |
| 45 | Chlorophyll | t=2.481 | 0.0147 |
| 46 | Location Cluster | F4,106=6.454 | <0.001 |
| 46 | Traffic Intensity | F4,106=6.063 | <0.001 |
| 46 | Location Cluster | F4,106=5.338 | <0.001 |
| 46 | Location Cluster | F4,106=5.215 | <0.001 |
| 46 | Traffic Intensity | F4,106=4.968 | 0.0011 |
| 46 | Traffic Intensity | F4,106=4.775 | 0.0014 |
| 46 | Traffic Intensity | F4,106=4.643 | 0.0017 |
| 46 | Traffic Intensity | F4,106=4.442 | 0.0024 |
| 46 | Location Cluster | F4,106=4.24 | 0.0033 |
| 46 | Traffic Intensity | F4,106=4.232 | 0.0033 |
| 46 | Traffic Intensity | F4,106=4.02 | 0.0045 |
| 46 | Location Cluster | F4,106=3.941 | 0.0052 |
| 46 | Location Cluster | F4,106=3.852 | 0.0059 |
| 46 | Location Cluster | F4,106=3.837 | 0.0061 |
| 46 | Location Cluster | F4,106=3.828 | 0.0061 |
| 46 | Traffic Intensity | F4,106=3.751 | 0.0069 |
| 46 | Traffic Intensity | F4,106=3.732 | 0.0071 |
| 46 | Location Cluster | F4,106=3.706 | 0.0074 |
| 46 | Location Cluster | F4,106=3.588 | 0.0089 |
| 46 | Traffic Intensity | F4,106=3.573 | 0.0091 |
| 46 | Location Cluster | F4,106=3.553 | 0.0094 |
| 46 | Traffic Intensity | F4,106=3.35 | 0.0128 |
| 46 | Traffic Intensity | F4,106=3.191 | 0.0163 |
| 46 | Traffic Intensity | F4,106=3.183 | 0.0165 |
| 46 | Traffic Intensity | F4,106=3.158 | 0.0172 |
| 46 | Traffic Intensity | F4,106=3.086 | 0.0192 |
| 46 | Traffic Intensity | F4,106=2.985 | 0.0224 |
| 46 | Traffic Intensity | F4,106=2.89 | 0.0259 |
| 46 | Location Cluster | F4,106=2.891 | 0.026 |
| 46 | Location Cluster | F4,106=2.735 | 0.033 |
| 46 | Traffic Intensity | F4,106=2.62 | 0.0392 |
| 46 | Traffic Intensity | F4,106=2.614 | 0.0396 |
| 46 | Location Cluster | F4,106=2.614 | 0.0397 |
| 46 | Traffic Intensity | F4,106=2.585 | 0.0414 |
| 46 | Traffic Intensity | F4,106=2.522 | 0.0455 |
| 46 | Location Cluster | F4,106=2.507 | 0.0467 |
| 46 | Location Cluster | F4,106=2.497 | 0.0474 |
| 47 | Chlorophyll | t=2.642 | 0.0095 |
| 53 | Soil pH | t=2.465 | 0.0155 |
| 53 | Genotype | F5,106=5.0503 | <0.001 |
| 55 | Genotype | F5,106=7.0954 | <0.001 |
| 57 | Genotype | F5,106=2.3105 | 0.0495 |
| 58 | Nitrate | t=3.093 | 0.0025 |
| 58 | Soil pH | t=2.12 | 0.0366 |
| 58 | Genotype | F5,106=6.1812 | <0.001 |
| 60 | Chlorophyll | t=2.561 | 0.0119 |
| 60 | Leaf Area | t=2.349 | 0.0207 |
| 60 | Nitrate | t=3.71 | <0.001 |
| 64 | Genotype | F5,106=6.8728 | <0.001 |
| 69 | Genotype | F5,106=4.9394 | <0.001 |
| 70 | Chlorophyll | t=2.444 | 0.0162 |
| 70 | Potassium | t=-2.343 | 0.021 |
| 74 | Leaf Area | t=2.04 | 0.0439 |
| 78 | Potassium | t=-2.301 | 0.0234 |
| 78 | Genotype | F5,106=3.2039 | 0.01 |
| 81 | Soil pH | t=-2.03 | 0.0452 |
| 83 | Leaf Area | t=2.984 | 0.0035 |
| 83 | Genotype | F5,106=2.9865 | 0.0148 |
| 92 | Genotype | F5,106=2.413 | 0.0413 |
| 94 | Soil pH | t=2.551 | 0.0123 |
| 98 | Leaf Area | t=3.95 | <0.001 |
| 98 | Genotype | F5,106=2.4299 | 0.0401 |
| 100 | Genotype | F5,106=3.7841 | 0.0035 |