**Phenoloxidase assay PERMANOVA results**

***1. Combined cresolase, catecholase, and laccase tpPO***

Note: Timepoint was removed from the analysis as it was not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0167) |
| Nutrients | 1 | 74.9781 | 0.0001\* |  |
| Damage | 2 | 4.4329 | 0.0088\* | Predation-Control | 2.805e-06\* |
| Mechanical-Control | 0.1052 |
| Predation-Mechanical | 0.0001004\* |
| Nutrients: Damage | 2 | 0.3387 | 0.8049 |  |
| Residuals | 48 |  |

\*significant

***2. Combined cresolase, catecholase, and laccase PO***

Note: None removed from analysis as all factors were significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0055) |
| Nutrients | 1 | 73.6032 | 0.0001\* |  |
| Damage | 2 | 30.7031 | 0.0001\* | Predation-Control | 0.0005679\* |
| Mechanical-Control | 0.538 |
| Predation-Mechanical | 1.697e-05\* |
| Timepoint | 2 | 8.8214 | 0.0006\* |  |
| Nutrients: Damage | 2 | 8.8236 | 0.0005\* | Enriched: Predation-Control | 0.3144 |
| Enriched: Mechanical-Control | 0.8668 |
| Enriched: Predation-Mechanical | 0.008484\* |
| Ambient: Predation-Control | 0.0002275\* |
| Ambient: Mechanical-Control | 0.2871 |
| Ambient: Predation-Mechanical | 0.0001139\* |
| Nutrients:Timepoint | 2 | 4.3326 | 0.0102\* |  |
| Residuals | 40 |  |

\*significant

***3. Catecholase tpPO***

Note: Timepoint was removed from the analysis as it was not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0167) |
| Nutrients | 1 | 78.7658 | 0.0001\* |  |
| Damage | 2 | 5.2131 | 0.0085\* | Predation-Control | 0.08604 |
| Mechanical-Control | 0.1716 |
| Predation-Mechanical | 0.829 |
| Nutrients: Damage | 2 | 0.4770 | 0.6226 |  |
| Residuals | 48 |  |

\*significant

***4. Cresolase tpPO***

Note: Timepoint was removed from the analysis as it was not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0167) |
| Nutrients | 1 | 98.4896 | 0.0001\* |  |
| Damage | 2 | 9.2281 | 0.0007\* | Predation-Control | 0.1358 |
| Mechanical-Control | 0.04246 |
| Predation-Mechanical | 0.6379 |
| Nutrients: Damage | 2 | 0.4491 | 0.6408 |  |
| Residuals | 48 |  |

\*significant

***5. Laccase tpPO***

Note: Timepoint and Damage were removed from the analysis as they were not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value  |
| Nutrients | 1 | 30.451 | 1e-04\* |  |
| Residuals | 52 |  |

\*significant

***6. Catecholase PO***

Note: Timepoint was removed from the analysis as it was not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0167) |
| Nutrients | 1 | 65.1892 | 0.0001\* |  |
| Damage | 2 | 16.1323 | 0.0001\* | Predation-Control | 0.02208 |
| Mechanical-Control | 0.005163\* |
| Predation-Mechanical | 0.7955 |
| Nutrients: Damage | 2 | 0.5705 | 0.5646 |  |
| Residuals | 48 |  |

\*significant

***7. Cresolase PO***

Note: None removed from analysis as all factors were significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.00555) |
| Nutrients | 1 | 93.1545 | 0.0001\* |  |
| Damage | 2 | 19.0397 | 0.0002\* | Predation-Control | 0.007836 |
| Mechanical-Control | 0.0208 |
| Predation-Mechanical | 0.3397 |
| Timepoint | 2 | 13.7379 | 0.0001\* |  |
| Nutrients: Damage | 2 | 10.8690 | 0.0003\* | Enriched: Predation-Control | 0.0009534\* |
| Enriched: Mechanical-Control | 4.001e-05\* |
| Enriched: Predation-Mechanical | 0.9008 |
| Ambient: Predation-Control | 0.02524 |
| Ambient: Mechanical-Control | 0.6369 |
| Ambient: Predation-Mechanical | 0.08812 |
| Nutrients:Timepoint | 2 | 9.3633 | 0.0003\* |  |
| Residuals | 40 |  |

\*significant

***8. Laccase PO***

Note: None removed from analysis as all factors were significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.00555) |
| Nutrients | 1 | 15.4669 | 0.0002\* |  |
| Damage | 2 | 41.4522 | 0.0001\* | Predation-Control | 3.002e-07\* |
| Mechanical-Control | 0.0007714\* |
| Predation-Mechanical | 0.08716 |
| Timepoint | 2 | 9.3089 | 0.0008\* |  |
| Nutrients: Damage | 2 | 22.2774 | 0.0001\* | Enriched: Predation-Control | 1.344e-05\* |
| Enriched: Mechanical-Control | 2.871e-05\* |
| Enriched: Predation-Mechanical | 0.5112 |
| Ambient: Predation-Control | 0.01971 |
| Ambient: Mechanical-Control | 0.8536 |
| Ambient: Predation-Mechanical | 0.05039 |
| Nutrients:Timepoint | 2 | 5.8845 | 0.0049\* |  |
| Residuals | 40 |  |

\*significant

***9. Ratio of catecholase PO to tpPO activity***

Note: Timepoint and Damage were removed from the analysis as they were not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value  |
| Nutrients | 1 | 9.1486 | 0.0039\* |  |
| Residuals | 52 |  |

\*significant

***10. Ratio of cresolase PO to tpPO activity***

Note: Timepoint was removed from the analysis as it was not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0167) |
| Nutrients | 1 | 3.0962 | 0.0804 |  |
| Damage | 2 | 2.6183 | 0.0784 | Predation-Control | 0.07054 |
| Mechanical-Control | 0.4995 |
| Predation-Mechanical | 0.1712 |
| Nutrients: Damage | 2 | 5.7124 | 0.0056\* |  |
| Residuals | 48 |  |

\*significant

***11. Ratio of laccase PO to tpPO activity***

Note: Timepoint was removed from the analysis as it was not significant

|  |  |
| --- | --- |
| PERMANOVA | Post-hoc t-tests |
|  | df | F | p-value | Comparisons | p-value (α=0.0167) |
| Nutrients | 1 | 33.0044 | 1e-04\* |  |  |
| Damage | 2 | 13.8797 | 1e-04\* | Predation-Control | 0.003361\* |
| Mechanical-Control | 0.1657 |
| Predation-Mechanical | 0.2141 |
| Nutrients: Damage | 2 | 8.6651 | 3e-04\* |  |  |
| Residuals | 48 |  |  |  |  |

\*significant