APPENDIX

1. RAW DATA

Table 1: Root length of *V. wittrociana* in relation to different detergent concentrations

| Root length [cm] (±0.1 cm) | | | | | |
|----------------------------|------------|------------|------------|------------|------------|
| 0.0 vol. % | 0.4 vol. % | 0.8 vol. % | 1.4 vol. % | 2.0 vol. % | 5.0 vol. % |
| 1.7 | 2.3 | 3.2 | 1.8 | 2.3 | 0.5 |
| 4.0 | 3.7 | 1.8 | 1.2 | 1.0 | 1.5 |
| 3.5 | 3.2 | 2.3 | 2.0 | 1.2 | 1.1 |
| 3.2 | 3.0 | 2.7 | 1.3 | 1.4 | 0.8 |
| 2.9 | 2.0 | 3.0 | 1.7 | 2.0 | 0.5 |
| 3.7 | 2.8 | 1.8 | 1.0 | 1.3 | 0.7 |
| 3.2 | 3.5 | 2.3 | 1.4 | 1.9 | 0.4 |
| 3.3 | 3.1 | 2.3 | 1.5 | 1.5 | 1.1 |
| 3.9 | 2.4 | 1.4 | 1.9 | 2.1 | 0.9 |
| 1.9 | 2.4 | 2.2 | 1.6 | 2.0 | 0.7 |
| 3.7 | 2.4 | 2.9 | 0.8 | 1.8 | 1.0 |
| 2.2 | 2.7 | 2.5 | 1.7 | 1.3 | 0.9 |
| 3.2 | 2.8 | 2.7 | 2.3 | 1.7 | 0.8 |
| 2.9 | 2.9 | 1.4 | 1.5 | 1.7 | |
| 3.8 | 2.9 | 2.9 | 1.6 | 1.6 | |
| 2.8 | 2.1 | 3.3 | 1.5 | 0.9 | |
| 3.4 | 2.4 | 2.5 | 1.6 | 1.7 | |
| 2.5 | 3.1 | 1.7 | | 1.3 | |
| 2.6 | 3.1 | 1.9 | | 1.3 | |
| 2.5 | 2.3 | 2.7 | | 0.9 | |
| 2.9 | 3.2 | 1.8 | | 1.5 | |
| 2.6 | 3.2 | 2.2 | | | |
| 3.5 | 3.3 | | | | |
| 3.1 | 3.3 | | | | |
| 2.7 | 3.4 | | | | |
| 3.8 | 2.9 | | | | |
| 2.5 | 1.7 | | | | |
| 2.9 | 2.3 | | | | |
| 2.9 | 3.9 | | | | |
| 4.4 | 3.9 | | | | |
| 3.0 | 4.1 | | | | |
| 3.1 | 3.8 | | | | |
| 2.8 | | | | | |

Table 2: Stem length of *V. wittrociana* in relation to different detergent concentrations

| Stem length [cm] (±0.1 cm) | | | | | |
|----------------------------|------------|------------|------------|------------|------------|
| 0.0 vol. % | 0.4 vol. % | 0.8 vol. % | 1.4 vol. % | 2.0 vol. % | 5.0 vol. % |
| 6.8 | 4.7 | 3.0 | 5.1 | 4.3 | 3.2 |
| 5.5 | 5.9 | 4.4 | 3.7 | 2.6 | 2.3 |
| 7.6 | 7.2 | 3.6 | 3.5 | 5.5 | 2.8 |
| 5.1 | 6.4 | 5.2 | 3.3 | 4.2 | 3.0 |
| 7.1 | 6.8 | 4.0 | 4.1 | 4.1 | 2.7 |
| 6.2 | 5.5 | 4.2 | 4.0 | 4.1 | 4.0 |
| 6.4 | 5.0 | 5.7 | 4.3 | 3.3 | 3.5 |
| 7.3 | 6.6 | 4.4 | 4.1 | 2.7 | 2.4 |
| 5.5 | 5.4 | 3.7 | 4.6 | 3.5 | 3.4 |
| 7.3 | 6.3 | 5.8 | 4.2 | 3.1 | 3.2 |
| 6.0 | 7.0 | 4.2 | 3.9 | 4.2 | 3.2 |
| 6.2 | 6.1 | 5.2 | 3.2 | 4.4 | 3.0 |
| 5.9 | 6.9 | 4.3 | 3.6 | 3.1 | 2.3 |
| 6.0 | 4.9 | 4.4 | 4.1 | 5.4 | |
| 4.8 | 5.9 | 4.9 | 3.7 | 3.5 | |
| 6.1 | 6.8 | 4.3 | 4.4 | 4.4 | |
| 5.6 | 6.1 | 4.0 | 4.5 | 4.8 | |
| 6.6 | 5.9 | 4.3 | | 3.8 | |
| 6.1 | 5.9 | 3.0 | | 3.2 | |
| 6.6 | 5.5 | 5.2 | | 4.2 | |
| 4.7 | 6.5 | 5.5 | | 3.5 | |
| 6.1 | 6.3 | 4.4 | | | |
| 6.7 | 7.2 | | | | |
| 7.7 | 5.8 | | | | |
| 6.5 | 6.3 | | | | |
| 5.6 | 5.6 | | | | |
| 5.3 | 5.3 | | | | |
| 6.7 | 5.3 | | | | |
| 5.4 | 6.2 | | | | |
| 7.1 | 5.9 | | | | |
| 7.5 | 6.3 | | | | |
| 6.0 | 5.8 | | | | |
| 5.9 | | | | | |

2. HISTOGRAMS FOR THE DISTRIBUTION OF ROOT LENGTH

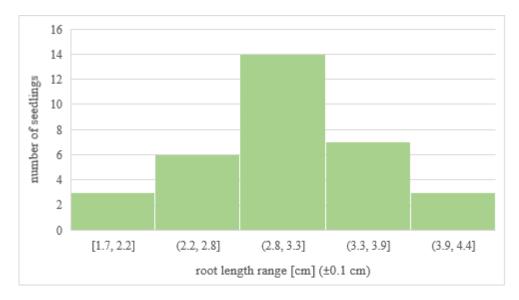


Figure 1: Histogram for the distribution of root lengths at the control

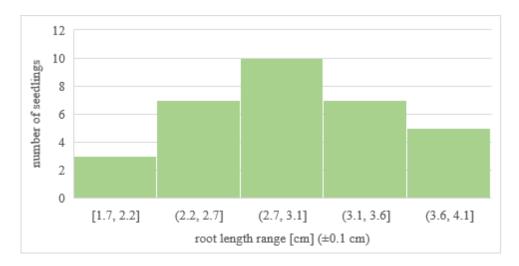


Figure 2: Histogram for the distribution of root lengths at the 0.4 vol. % concentration

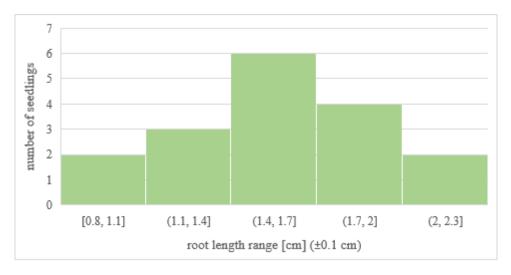


Figure 3: Histogram for the distribution of root lengths at the 1.4 vol. % concentration

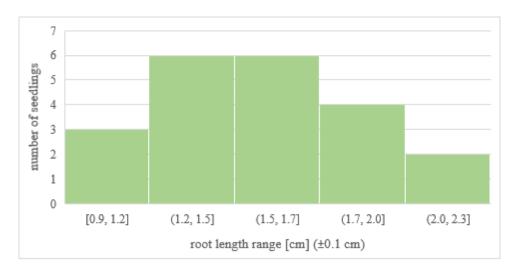


Figure 4: Histogram for the distribution of root lengths at the 2.0 vol. % concentration

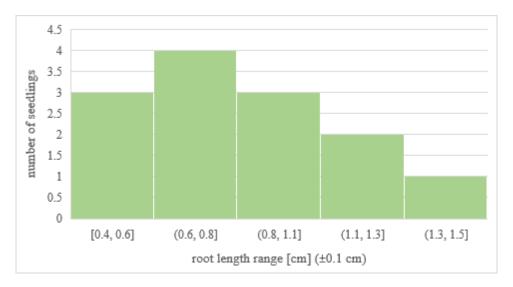


Figure 5: Histogram for the distribution of root lengths at the 5.0 vol. % concentration

3. HISTOGRAMS FOR THE DISTRIBUTION OF STEM LENGTH



Figure 6: Histogram for the distribution of stem lengths at the control

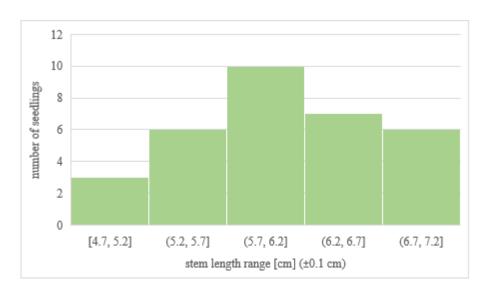


Figure 7: Histogram for the distribution of stem lengths at the 0.4 vol. % concentration

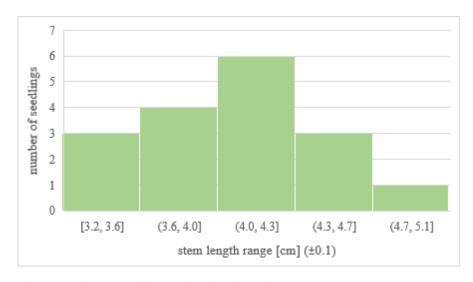


Figure 8: Histogram for the distribution of stem lengths at the 1.4 vol. % concentration

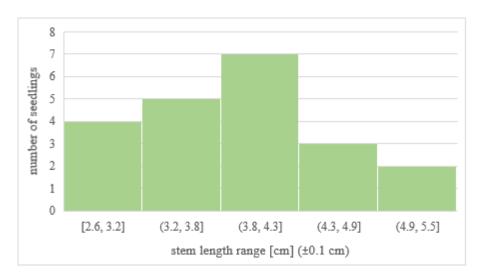


Figure 9: Histogram for the distribution of stem lengths at the 2.0 vol. % concentration

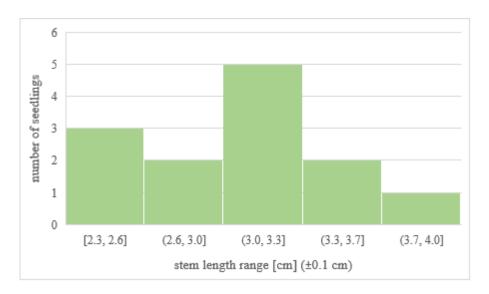


Figure 10: Histogram for the distribution of stem lengths at the 5.0 vol. % concentration

4. TUKEY HSD TEST FOR ROOT LENGTH

Table 3: Tukey HSD results for the statistically significant differences of root length at different concentrations

| Treatments pair | Tukey HSD Q statistic | Tukey HSD p-value | Tukey HSD inferfence |
|--------------------------|--------------------------|-------------------|----------------------|
| 0.0 vol. % vs 0.4 vol. % | 1.35 | 0.900 | insignificant |
| 0.0 vol. % vs 0.8 vol. % | 7.16 | 0.001 | ** p<0.01 |
| 0.0 vol. % vs 1.4 vol. % | 13.8 | 0.001 | ** p<0.01 |
| 0.0 vol. % vs 2.0 vol. % | 14.9 | 0.001 | ** p<0.01 |
| 0.0 vol. % vs 5.0 vol. % | 18.5 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 0.8 vol. % | 5.91 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 1.4 vol. % | 12.6 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 2.0 vol. % | 13.6 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 5.0 vol. % | 17.4 | 0.001 | ** p<0.01 |
| 0.8 vol. % vs 1.4 vol. % | 6.66 | 0.001 | ** p<0.01 |
| 0.8 vol. % vs 2.0 vol. % | 7.13 | 0.001 | ** p<0.01 |
| 0.8 vol. % vs 5.0 vol. % | 11.7 | 0.001 | ** p<0.01 |
| 1.4 vol. % vs 2.0 vol. % | 0.08 | 0.900 | insignificant |
| 1.4 vol. % vs 5.0 vol. % | 5.29 | 0.004 | ** p<0.01 |
| 2.0 vol. % vs 5.0 vol. % | 5.44 | 0.002 | ** p<0.01 |

5. TUKEY HSD TEST FOR STEM LENGTH

Table 4: Tukey HSD results for the statistically significant differences of stem length at different concentrations

| Treatments pair | Tukey HSD Q statistic | Tukey HSD p-value | Tukey HSD inferfence |
|---------------------------|--------------------------|-------------------|----------------------|
| s0.0 vol. % vs 0.4 vol. % | 1.62 | 0.848 | insignificant |
| 0.0 vol. % vs 0.8 vol. % | 13.2 | 0.001 | ** p<0.01 |
| 0.0 vol. % vs 1.4 vol. % | 15.0 | 0.001 | ** p<0.01 |
| 0.0 vol. % vs 2.0 vol. % | 16.9 | 0.001 | ** p<0.01 |
| 0.0 vol. % vs 5.0 vol. % | 19.9 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 0.8 vol. % | 11.6 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 1.4 vol. % | 13.6 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 2.0 vol. % | 15.4 | 0.001 | ** p<0.01 |
| 0.4 vol. % vs 5.0 vol. % | 18.6 | 0.001 | ** p<0.01 |
| 0.8 vol. % vs 1.4 vol. % | 2.64 | 0.428 | insignificant |
| 0.8 vol. % vs 2.0 vol. % | 3.57 | 0.124 | insignificant |
| 0.8 vol. % vs 5.0 vol. % | 8.30 | 0.001 | ** p<0.01 |
| 1.4 vol. % vs 2.0 vol. % | 0.73 | 0.900 | insignificant |
| 1.4 vol. % vs 5.0 vol. % | 5.57 | 0.002 | ** p<0.01 |
| 2.0 vol. % vs 5.0 vol. % | 5.14 | 0.005 | ** p<0.01 |