|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [Abstract](http://docs.google.com/abstract.html)  [Introduction](http://docs.google.com/intro.html)  [Hypothesis/Prediction](http://docs.google.com/hypo.html)  [Materials](http://docs.google.com/material.html)  [Protocol](http://docs.google.com/protocol.html)  [Literature Review](http://docs.google.com/lit.html)  [Data](http://docs.google.com/data.html)  [Statistical Analysis](http://docs.google.com/stats.html)  [Graphs](http://docs.google.com/graphs.html)  [Images](http://docs.google.com/images.html)  [Conclusion](http://docs.google.com/conc.html)  [Works Cited](http://docs.google.com/works.html)  [Recommendations](http://docs.google.com/recc.html)  [Acknowledgements](http://docs.google.com/ack.html)  [Biology Updates](http://docs.google.com/updates.html)  [Home](http://docs.google.com/home.html) | **Perennial Ryegrass**  **One-Way Analysis of Variance**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Source** | DF | SS | MS | F | P | | factor | 3 | 338.9 | 113 | 1.48 | 0.225 | | Error | 96 | 7325.5 | 76.3 |  |  | | Total | 99 | 7664.4 |  |  |  | |  |  |  |  |  |  | | **Level** | N | Mean | St Dev |  |  | | control | 25 | 29.758 | 9.236 |  |  | | 2.0 SO2 | 25 | 29.568 | 9.417 |  |  | | 2.5 SO2 | 25 | 31.072 | 9.401 |  |  | | 3.0 SO2 | 25 | 34.168 | 6.547 |  |  |   Pooled StDev = 8.735  Ho: u1=u2=u3=u4  Ha: not equal | Individual 95% Cis For Mean  Based on Pooled StDev  ------+---------+---------+---------+  ..(---------\*---------)  ..(--------\*---------)  ......(---------\*---------)  ....................(---------\*---------)  ------+---------+---------+---------+  ...28.0 .....31.5 .....35.0..... 38.5  [Stats Generic Rye Grass](http://docs.google.com/stats2.html)  [T-Test: Statistical Analysis](http://docs.google.com/stats3.html) |   **One-Way Analysis of Variance**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Source** | DF | SS | MS | F | P | | factor | 3 | 309.5 | 103.2 | 1.49 | 0.223 | | Error | 96 | 6665.3 | 69.4 |  |  | | Total | 99 | 6974.8 |  |  |  | |  |  |  |  |  |  | | **Level** | N | Mean | St Dev |  |  | | control | 25 | 29.758 | 9.236 |  |  | | 2.0 SO2 | 25 | 31.092 | 6.933 |  |  | | 2.5 SO2 | 25 | 34.552 | 8.470 |  |  | | 3.0 SO2 | 25 | 31.376 | 8.521 |  |  |   Pooled StDev = 8.332  Ho: u1=u2=u3=u4  Ha: not equal | Individual 95% Cis For Mean  Based on Pooled StDev  ------+---------+---------+---------+  .(---------\*---------)  ..........(--------\*---------)  .......................(---------\*---------)  ..........(---------\*---------)  ------+---------+---------+---------+  ...28.0..... 31.5 .....35.0 .....38.5  [Stats Generic Rye Grass](http://docs.google.com/stats2.html)  [T-Test: Statistical Analysis](http://docs.google.com/stats3.html) |   Conclusion:  We fail to reject the null hypothesis because at the five percent alpha level our p-value equaled 22.3 (NO2) and 22.5 (SO2). This means that the data was insignificant to the alternative hypothesis. Our Ho provided evidence that the plants continued growth even at low pH levels in both NO2 and SO2. Our p-value means that the averages of the Perennial Ryegrass�s growth was undisturbed by the high pH levels of sulfuric and nitric acid. |