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| [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)  [Perennial Rye Stats](http://docs.google.com/stats.html)  [Generic Rye Stats](http://docs.google.com/stats2.html)  [Home](http://docs.google.com/home.html) | **Statistical Analysis** T-test  t = x-uo/s/n  1) Perennial Ryegrass SO2 2.0pH  Ho: The length of the 2.0 SO2 pH Perennial Ryegrass is the same height as the control.  Ha:The length of the 2.0 SO2 pH Perennial Ryegrass is not the same length as the control.  t = -1.008814  p-value= .162\*2=.324  At the 5 percent alpha level, we fail to reject the null hypothesis because our p-value=.324. There wasn�t statistical evidence that the length of the experimental Perennial Ryegrass was different from the control length.  2) SO2 2.5pH  Ho:The length of the 2.5 SO2 pH is equal to the length of the control.  Ha:The length of the 2.5 SO2 pH Perennial Ryegrass is different than the control.  t=.69886  p-value=.2457\*2=.4914  We fail to reject the null hypothesis at the five percent alpha level because our p-value=.4914. There wasn�t evidence that the experimental group differed in length compared to the control group.  3) SO2 3.0 pH  Ho: The length of the 3.0 SO2 pH Perennial Ryegrass is equal to the length of the control.  Ha: The length of the 3.0 SO2 pH Perennial Ryegrass is not equal to the length of the control.  t=3.368  p-value=.00128\*2=.00256  We reject the null hypothesis at the five percent alpha level because our p-value=.00256. There is sufficient evidence that the Perennial Ryegrass�s length in the 3.0 SO2 pH is different than the length of the Ryegrass in the control group.  Perennial Ryegrass NO2  NO2 2.0pH  1) Ho: The length of the 2.0 NO2 pH Perennial Ryegrass is the same as the control length.  Ha:The length of the 2.0 NO2 pH Perennial Ryegrass is not the same as the control length.  t=.962  p-value=.1728\*2=.3456  We fail to reject Ho at the five percent alpha level because our p-value=.3456. There wasn�t sufficient evidence that the length of the 2.0 NO2 pH ryegrass was a different length than the control.  2) NO2 2.5pH  Ho: The length of the 2.5 NO2 pH Perennial Ryegrass is the same length as the control.  Ha: The length of the 2.5 NO2 pH Perennial Ryegrass is not the same as the control.  t=2.82999  p-value=.00463\*2=.00926  We reject Ho at the five percent alpha level because our p-value=.00926. There was sufficient evidence that the length of the 2.5 NO2 pH ryegrass was different than the control length.  3) NO2 3.0pH  Ho: The length of the 3.0 NO2 pH Perennial Ryegrass is the same as the control length.  Ha:The length of the 3.0 NO2 pH Perennial Ryegrass is the same as the control length.  t=.9494  p-value=.17594\*2=.351788  We fail to reject Ho at the five percent alpha level because our p-value=.351788. There isn�t sufficient evidence that the 3.0 NO2 pH ryegrass is a different length than the control length.  Generic Ryegrass  1) 2.0 SO2  Ho: The length of the 2.0 SO2 pH Ryegrass is the same as the control length.  Ha: The length of the 2.0 SO2 pH Ryegrass is different than the control length.  t=-7.574  p-value=.00005\*2=.001  We reject Ho because at the five percent alpha level our p-value=.001.There was sufficient evidence that the pH level affected the growth of the ryegrass and therefore it is a different length than the control.  2) 2.5 SO2  Ho: The length of the 2.5 SO2 pH Ryegrass is the same as the control length.  Ha: The length of the 2.5 SO2 pH Ryegrass is different than the control length.  t=-7.33  p-value=.0001\*2=.0004  We reject Ho at the five percent alpha level because at the five percent alpha level our p-value=.0004. There was sufficient evidence that the pH level affected the growth of the ryegrass and therefore the length so it�s different from the control ryegrass length.  3) 3.0 SO2 pH  Ho: The length of the 3.0 SO2 pH Ryegrass is the same as the control length.  Ha: The length of the 3.0 SO2 pH Ryegrass is different than the control length.  t=-1.99  p-value=.03\*2=.06  We fail to reject Ho because at the five percent alpha level our p-value=.06. There wasn�t sufficient evidence that the length of the 3.0 pH Ryegrass was different from the control length.  4) 3.5 SO2 pH  Ho: The length of the 3.5 SO2 pH Ryegrass is the same as the control length.  Ha: The length of the 3.5 SO2 pH Ryegrass is different than the control length.  t=2.98  p-value=.0032\*2=.0064  We reject Ho because at the five percent alpha level our p-value=.0064. There was sufficient evidence that the 3.5 SO2 pH ryegrass was a different length than the control length.  Generic Ryegrass NO2  1)2.0 pH  Ho: The length of the NO2 2.0 pH Ryegrass isn�t different than the control length.  Ha: The length of the NO2 2.0 pH Ryegrass is different than the control length.  t=-4.0225  p-value=.000249\*2=.000498  We reject Ho because at the five percent alpha level our p-value=.000498. There is evidence that because of the high level of NO2 the length of the Ryegrass was effected and therefore the length of the 2.0 pH ryegrass was different than that of the control.  2)2.5 pH  Ho: The length of the NO2 2.5 pH Ryegrass isn�t different than the control length.  Ha: The length of the NO2 2.5 pH Ryegrass is different than the control length.  t=-2.772  p-value=.0053\*2=.0106  We reject Ho because at the five percent alpha level our p-value=.0106. There is evidence that because of the high level of NO2 the length of the Ryegrass was effected and therefore the length of the 2.0 pH ryegrass was different than that of the control.  3) NO2 3.0 pH  Ho: The length of the NO2 3.0 pH Ryegrass isn�t different than the control length.  Ha: The length of the NO2 3.0 pH Ryegrass is different than the control length.  t=-.9424  p-value=.17769\*2=.3554  We fail to reject Ho because at the five percent alpha level our p-value=.3554. There isn�t sufficient evidence that the growth of the plant was affected and therefore the growth wasn�t different from that of the control.  4) NO2 pH 3.5  Ho: The length of the NO2 3.5 pH Ryegrass isn�t different than the control length.  Ha: The length of the NO2 3.5 pH Ryegrass is different than the control length.  t=2.62699  p-value=.00738\*2=.01477  We reject Ho because at the five percent alpha level our p-value=.01477. There was a significant difference between the length of the 3.5 pH ryegrass and the control length. |