

Soil ph of winthrop assignment



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Winthrop University's Successional Plot's Soil P. H. Meredith Hamilton

Biology- Westover September 30, 2011 Abstract The question of this study pertained to the amount of vegetation that was occurring on each of the succession plot's ground floor. There are three successional plots in Winthrop University's wooded areas, the oldest was created in 1989 the second was created in 1994 and the youngest plot was created in 1999. For the hypothesis to be tested, there were soil PH meters to test the amount of PH in each plot's soil.

The hypothesis was incorrect; there was not a significant difference in the means of the PH from the oldest plot compared to the youngest plot.

Introduction The definition of vegetation is plants considered collectively especially those found in a particular area or habitat. The amount of vegetation that occurs in soil depends on the type of habitat that the soil belongs to. Each habitat has inhibitors and prohibitions that affect the amount of vegetation that each plot of soil is capable of producing.

Inhibitors of soil are plots that receive a decent amount of sunlight and precipitation; while prohibitors are soil erosion, temperature, lack of precipitation and P. H. Winthrop University's research area is 325 acres; which includes a large wooded area, three successional plots, and 1. 1 acre wetland area. The successional plots are 50 x 50 meters and each of the plots is five years apart in age. The oldest plot was originally created in 1989. In a previous study on the Chinese Loess Plateau to determine how physiochemical properties, microbial biomass, and enzyme activities changed the natural succession for abandoned farm land.

The experiment involved aged and abandoned farmland from zero to fifty years old and the results were the PH was lower for the older farmland compared to the younger farmland. (Wang, Liu, Xue, Zhu, paragraph 1)

Pertaining to the results of the past study, the objective of the study was to evaluate the amount of PH that has reached the ground floor of the succession plots, while connecting it to the results from the other plots to decide which plot's soil receives the most sunlight. Methods and Materials The study was conducted in Winthrop University's wooded area that has been divided into three successional plots.

To begin the study, each succession plot was entered from an estimated 25 meters from the borderline and an estimated 25 meters toward the center of the plot. The first soil P. H. meter was placed almost directly in the center of the plot, and then the other meter is placed approximately 1.3 meters apart from the other meter. The independent variable is the succession plots, the dependent variable is the measure of the PH, the control of the study is the distance between all of the detectors, there is no experimental control in the study, and there are 2 samples of PH in each plot.

Originally, there were 3 samples of PH but a technological problem occurred with one of the PH meters, therefore one of the meters has been removed from the study. Results The data was analyzed by a t-test to compare the different means of the plots. The two averages that were placed into the t-test were the averages from the oldest successional plot which was created in 1989 and the youngest successional plot which was created in 1999 to show the range in PH over the years. The samples collected from Plot 1 (1989) were 6. and 6. 8, and the samples collected from Plot 3 (1999) were

6. 8 and 6. 9. The results are reported as mean standard deviation and the p-value was 0. 29289 (Figure 2). See the bar graph below to compare the means for both plots. Figure 2 Figure 2 Discussion P-value The P-value represents the successional plots' statistical difference based on the samples collected. If the p-value is less than 0. 05, then there is a 5% chance or lower for experimental error; if the p-value is higher than 0. 5, then there is a greater chance for experimental error. The data that was demonstrated is higher than 0. 05, therefore means there is no significant difference between the two plots PH's. Conclusion The data produced was not consistent with the predicted results. Through interpretation of the data, it states that there was no significant change in the PH value in the oldest plot compared to the youngest plot. The data was not consistent with the predicted results due to possible errors and limitations throughout the study.

Originally, there was three soil PH meters, but one was discarded due to malfunctions. This could be prevented by trials to make sure that all of the equipment was working one hundred percent before brought out for research. Works Cited Page Wang, Bing, Guo Bin Liu, Sha Xue, and Bingbing Zhu. "Changes in Soil Physico-chemical and Microbiological Properties during Natural Succession on Abandoned Farmland in the Loess Plateau. "?? Http://wenku. baidu. com. 19 May 2010. Web. 30 Sept. 2011.