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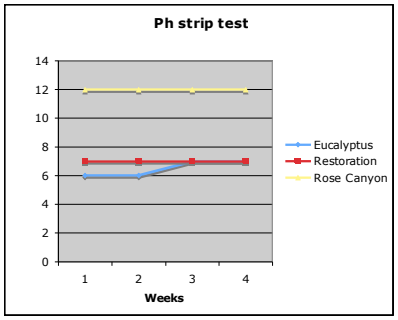
Will the removal of Eucalyptus trees alter soil pH?

Abstract:

We tested the ph of three different types of soil: Rose Canyon, Restoration and the Eucalyptus site attached to UC. The Restoration site was originally filled with Eucalyptus trees, but recently there was a removal of most of the invasive species such as Pampas Grass, and mainly Eucalyptus trees. We tested the soil using Ph testing strips and the Rapitest soil test kit. Soil pH is usually on a scale from 1-14. 1 being acidic, 7 being neutral, and 14 being very basic. We went out and tested the soil once every two weeks in a span of a month and a half. What we found out was that Eucalyptus trees make the soil acidic compared to Rose Canyon, which is very basic. The Restoration site was neutral and remained at neutral for the majority of the tests. We discovered that Rose Canyon is a very stable and healthy environment for the plant life that grows there. Another thing we discovered is that the soil acidity of Rose Canyon is very basic so hopefully over time, the Restoration site will change from neutral to basic to sustain the same type of ecosystem.

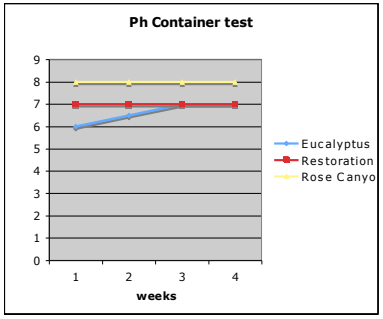
Introduction:

We are doing this experiment to see whether the removal of Eucalyptus trees in Rose Canyon will make a significant change in the ph of the soil. What we are trying to determine is if over time and through certain weather conditions the soil acidity will change to that of Rose Canyon's ph, meaning that the Restoration site will become as bio-diverse as Rose Canyon.



Results:

In our research we also discovered that the acid that Eucalyptus trees put into the ground to kill other plant life also makes the soil acidic. Our suggestions for future research is you should plan to test the soil over a large period of time to see any major differences. We could have expanded our project by watching how fast plants grow with different soil acidities.



Date	Type of test	Eucalyptus side	Restoration	Rose Canyon
March 20, 2013	pH strip test	6	7	12
	pH container	6.0-6.5	6.5-7	7.5
April 7, 2013	pH strip test	6	7	11/12
	pH Container	6.5	7-7.5	7-7.5
April 18, 2013	pH strip test	7	7	12
	pH container	7	7.5	7.5 >
May 10. 2013	pH strip test	6.5-7	7	12
(3 days of rain)	pH container	7	7.5	7.5 >

Discussion:

Eucalyptus trees are invasive species that survive by inserting an acid into the soil killing the plant roots that surround it. Therefore, the Eucalyptus side is slightly acidic. This would make sense then why the Restoration site, when it still had eucalyptus trees, did not have very many native plants and the ones that where there were sickly and dying. The native plants grow in a more basic soil pH and the eucalyptus trees where making the soil acidic. Much to our disappointment we had unexpected results in our testing. The Restoration site would have become more basic instead it stayed the same, at neutral. This could be because we did not have enough testing time or because the native plants can live in a large range of soil pH. Rose Canyon did maintain a steady pH and surprisingly the Eucalyptus side was the one that made a very small change. The soil became slightly more neutral. This could be because the Eucalyptus side is connected to the restoration side by a trail. During the three days of rain, before our last test, the soils could have mixed or the rain being neutral affected the soil.