# **Conclusion**

After putting together my experiment and looking at the results

, I found that Eucalyptus leaves do hold allelopathic properties. Through out my results I found that not only do Eucalyptus leaves keep rye grass seeds from germinating, but they also stunt the growth of the rye grass blade and the roots. As seen in Figure 3.7 and Figure 3.8 it shows the decreasing size of the blade and the roots of the rye grass. This could be do to allelopathic chemicals located in the leaves of Eucalyptus trees.

It is also seen that allelopathic chemicals are found in Eucalyptus due to the number of seeds that germinated. In Figure 3.6 the number of seedling germination decreases as the level of concentration increase. This could also be do to allelopathy or simply because the Eucalyptus contaminated the water supply and did not allow the rye grass to consume needed supplies of water. A more accurate way to see whether Eucalyptus does hold allelopthic chemicals is to place the leave in the soil.  
  
In nature the leaves of Eucalyptus are decomposed in the soil rather than directly in the water supply. I found a more accurate way to test allelopathy in leaves would be to mix the leaves with the soil rather than the water supply. This would portray the way a rye grass consumes the allelopathic chemical (if any) in nature. Although some scientists proclaim that allelopathic chemicals can also be received by other plants, through rain. For example, when it rains, the drops of water hit a Eucalyptus tree first and then fall to the grown and affect the seedlings below them. My experiment portrayed the water supply rather than soil nutrients, but I think it would be beneficial to see if it has any effect through soil.

During my project I continuously talked to a college student at Colorado State, named Jeff G. Nelson. Jeff help a similar project except using different plants to test for allelopathic properties. I talked to Jeff about my results and told him they may not be accurate due to the fact that it did not directly portray natures way of allelopthy. He stated that another student was doing a similar project, but adding the leaves to the soil (through a blender). He found that it also affects the growth of seedlings, although it does not alter the germination of seedlings.

I come to understand that allelopathy can be found in many different plants and it is directly used as a source of competition. After researching and talking to another student I believe that allelopathy chemicals may be a successful tool for our gardens. If it stunts the growth of rye grass and (in Jeff’s case) kills plants and seedlings it maybe a successful way to kill weeds. Although I think I will leave that experimenting up to other professors and the USDA.

# **Suggestions**

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Let rye grass grow with uncontaminated water. After germination has occurred spray with mixture and see if it kills the rye grass already grown.  
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Use more than one kind of plant to test.  
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Use microscopes to see if there are any changes in the genetic makeup of plants after they consume water that has the Eucalyptus in it.   
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May be more beneficial to use a bigger sample size.  
\*

Add the leaves to the soil of germinating seeds.  
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\*\* Get suggestions from teachers or students!!!! (thanks Mr. Simms)