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| Hypothesis/Prediction  In looking at these studies and many others, phytoremediation has many useful applications towards clean up of our environment. Many other plants have proven useful, ranging from potato to rye grass. We hypothesize that plants that have shown to be useful in the filtering of polluted soils and the breakdown of organic pesticides may also show abilities to degrade, decompose, and accumulate MTBE through phytoremediation. In our experiment we chose to work mainly with legumes because of their availability and ease to work with. Although a study by the University of Iowa showed that poplar was successful in phytoremediating contaminated water with MTBE, we hope that our research will offer another approach through the use of soybean and broad bean. We believe that soybean and broad bean may have more useful applications because of their rapid growth and establishment as widely used agricultural crops. Poplar trees might be limited because of their longer growth periods for maturity and large size; logically, a field of beans would be much easier to remove and grow than a grove of trees. In our research, we found that broad bean was found effective for remediation of sulfonamides, and soybean was helpful for benzene�s, insecticides, and hydrocarbons.  However, approaching our experiment was difficult. The main obstacle we faced was that little to nor prior research had dealt with the use of MTBE and phytoremediation. Fortunately, the previously mentioned study on poplar tree cuttings on MTBE proved to be a useful aid. One of the major problems encountered in our experiment was the high volatility of MTBE. When we attempted to weigh out samples of the chemical, the MTBE would evaporate so quickly that the amount used was not accurate. Due to this rapid vaporization, it was not practical to apply it to our experiment. The study conducted by the University of Iowa avoided this obstacle by constructing an air-tight apparatus that would help contain the MTBE. Expanding from their approach, we devised a simpler, yet practical apparatus for conducting our experiment by using an air-tight glass jar, and a Teflon septum membrane for sampling the solution through a syringe. If the plants used in our experiment are effective in the phtyoremediation of MTBE, we should see a greater decrease in MTBE concentration with our plant trials versus our control setup ( consisting of a glass rod in place of the plant).  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |