**Conclusion**

    After weeks of grueling research we found our results came very close to what we had hypothesized and found that MTBE does, in fact, have a very harmful influence on plant growth.  As we expected, all of the plants exposed to extremely high levels of MTBE failed to survive.  We did find that MTBE could be toxic for plants at surprisingly low levels of concentration.  At only 10 ppb, the plants were noticeably affected.  To give a better idea of how small 10 parts per billion is, it is equal to 10 seconds of 32 years.  To produce the 10,000 ppb solution of MTBE for our experiment, we mixed just .005 mL MTBE with 500 mL of water which is less than one normal drop. Because of MTBE's potency it can cause great problems when entire underground tanks leak reformulated gasoline into the water supply.

One of the control plants in early development

    In the early phase of the experiment higher concentrations of MTBE didn't seem to have a significant effect on the germination of the quick plants.  Soon, however, it became apparent that even the slightest amount of the chemical would have an impact on the life span of the plants.  We discovered that even at levels lower than are accepted by the EPA, MTBE was a hazardous toxic agent.  Even though MTBE is hazerdous and toxic our experiment had an interesting side effect when using moderate concentrations.  While more of the control plants survived for a longer period of time, those plants exposed to moderate concentrations (10 ppb and 100 ppb) sprouted faster and grew more leaves. While there exist many variables that could have resulted in this, MTBE could possibly have been a factor in causing it.  The data is not sufficient enough to assume that MTBE caused this occurrence.

    Senator Dick Mountjoy, in a press conference in October of '97, released a study about the long-term effects of MTBE.  In one part of the study was a story of a couple living in Glennville, Kern County, whose water supply contained 20,000 ppb of MTBE.  Jim and Freida Kubas drilled their well in 1994, and after adding a filtering system, have been drinking and bathing in water contaminated with MTBE and benzene.  Jim has since developed respiratory problems and blistered arms.  Freida now suffers from severe headaches, nausea, gastrointestinal problems, and seizures.  It can clearly be seen how MTBE is becoming increasingly controversial in this country and especially the state of California.  At 10,000 ppb, half of the level of MTBE that was found in the Kubas's well, not one of the plants in our experiments survived.

    On top of the germination of the quick plants, we also tried to regenerate african violets in a petri dish, to have more controls and less variables than in our other experiment.  We also tried to test MTBE concentrations by growing corn seeds.  Unfortunatly these experiments were not as sucessful as we would  have hoped.  The corn completly failed due to human error.  The regeration experiment, in which we took extensive care not to contaminate the environment of the samples, was a failure due to fungus that colonized the leaves.

     It would not be an easy task to defend the implementation of MTBE into gasoline statewide in California after reviewing the information we have researched.  It is not surprising that the few people who do support MTBE's presence in reformulated gasoline are in some way affiliated with those who would profit from its production.  At first glance the California law requiring MTBE in reformulated gasoline was an innocent act.  After further investigation, however, it becomes quite clear that cleaning our air was not the only reason MTBE was required.  Little evidence exists of MTBE's influence on the reduction of air pollution, and most of what does exist was written by gasoline companies or their affiliates.  Surprisingly, MTBE is not supported by all oil companies.  Chevron not only admits MTBE is a health hazard, but even supported a bill to ban its use.  When even the gasoline companies who would profit from MTBE admit it is a hazardous substance, it is hard to see how anyone could believe it should continue to exist in our gasoline.  MTBE has already been banned in two states, and we feel it is only a matter of time before the people are sufficiently informed and the oil lobbyists are overwhelmed.

     Much can be learned from the events that have taken place since MTBE was first introduced.  These days every political action must be investigated to find the true motives behind them.  It is clear why many would quickly support a move that would help in the reduction of air pollution when automobiles are responsible for half of the air pollution in California.  One must also recognize, however, that alterior motives can be hidden with ease in such a bill.  When such blatant abuses of our system can be accomplished, it is necessary to question every political action, no matter how great it may at first appear.

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