



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Daniela C. Abrams	Project Number J1601
Project Title The Growth Rate of Poa pratensis in Pure Humus and Pure Humus Mixed with Sand	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The experiment was done by comparing Kentucky bluegrass, or <i>Poa pratensis</i> and measuring how it grew in pure humus, or potting soil and a mixture of pure humus and sand.</p> <p>Methods/Materials I used six plastic pots and filled half of them with pure humus. With the other three pots I added pure humus mixed with sand. I watered the grass every day. I observed the six pots in a period of seven weeks, and looked at the root size, the width, and the length of the grass.</p> <p>Results The grass did not sprout until the third week of the experiment. Until about the sixth week the pots with grass in pure humus was much taller and fuller than the other pots of grass. During the last week all of the grass in the pots with pure humus died, so by the end of the experiment the grass in the pots with the mixture of pure humus and sand had outgrown the other pots.</p> <p>Conclusions/Discussion The first six weeks of the experiment, the pots in the pure humus grew taller in size than the pots with the pure humus mixed with sand because the pure humus contained more certain types of important nutrients and moisture. The moisture in the soil helps the pure humus keep all of its water inside it, so the roots could absorb all of the water in the pots. Unlike pure humus, the water that goes into the pots with a mixture of pure humus and sand drains out of the pot much faster because of sand's such large pores. Since the speed of the water is so quick, the soil and roots do not have enough time to absorb all of the water. Water that goes into the pots with pure humus travel very slowly because of the small pores, so since the water's speed is so slow the roots and soil have more time to absorb all of the water in the pot. Therefore, the grass planted in pure humus get more water than the grass planted in the mixture of sand and soil, but because it rained during the sixth week too much water entered the pots causing them to flood. Then, because of its large pores the excess water was able to drain out of the pots with the mixture of soil and sand. With the pots with pure humus the pores were too small so all of the water stayed in the pots killing all of the grass.</p>	
Summary Statement The experiment is about the difference in growth of grass planted in two different types of soil, potting soil and potting soil mixed with sand.	
Help Received Mrs. Weitkamp helped design charts; Mom helped design display board	