

Taylor Huebner
Senior Division Plant Sciences
Does CO₂ Affect Plant Efficiency?

My project dealt with plants and whether or not increased levels of CO₂ increased their efficiency. I set up three different 10 gallon tanks all that had been sealed off except for the control. I then planted the bean plants. In one of the tanks I ran a chemical reaction to produce carbon dioxide, vinegar and baking soda. In the other tank I added no carbon dioxide, and in the last tank I left it untouched so that it had complete contact with the outside world. I then waited two weeks, and after that period of time I massed out the plants to see if the ones in the increased level of carbon dioxide weighed more, or if the ones in the decreased weighed less than the control tank plants. They both did. The same potting soil was used, same amount of water and the same amount of light was used for each of the tanks so that the only variable was the different amount of carbon dioxide in the tanks. I ran three trials and I found out that increased levels of carbon dioxide did in fact help the efficiency of plants. By comparing the plants with the increased carbon dioxide with the control plants I found that there was a significant difference in their masses. I used bean plants in my experiment because they sprout quickly and develop a lot of vascular tissue in the first two weeks of life.