The Impact of Root Depth in Regards to Carbon Dioxide Absorption in Brassica Rapa Subspecies Pekinensis Plants

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The uprise of climate change induces a harmful increase in carbon dioxide. One deleterious effect of excess atmospheric CO2 is, notably, the decrease in access to quality air, leading to egregious deaths. This study's main objective is to lessen the impacts of climate change, specifically by targeting dangerous levels of carbon dioxide. The experiment was conducted to determine if deeper roots significantly improve CO2 absorption in Brassica Rapa Subspecies Pekinensis plants, commonly referred to as Napa cabbage plants. In each trial, there was one experimental group of Napa Cabbage plants with roots elongated by surrounding wide craft sticks that restrict horizontal growth and one group of Napa Cabbage plants with unaltered roots. Dry ice was introduced to each group's atmosphere to raise the CO2 levels to approximately 5060 ppm. The research included three trials of introducing CO2 to the two described groups of Cabbage plants while recording the CO2 levels until the sensor reported 400 ppm. On average, the deeper roots took 1,474.67 seconds (24.6 minutes) to absorb the excess CO2, while the shorter roots took a larger average of 2,598.33 seconds (43.3 minutes). Consistently, the deeper roots were found to enhance the plants' capability in combating climate change and absorbing CO2 quicker, as shown with the comparison of their averages. Overall, the trials indicated the significance of deep roots in accelerated, efficient CO2 absorption. By utilizing this research, and revolutionizing agricultural practices to assimilate this technique, deaths from climate change could be avoided.

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