Hydroponics: What Method of Hydroponics Would Increase the Growth Rate of a Lettuce Plant?

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Nations across the world cannot produce their own crops due to their non-arable land. The research conducted in this experiment put simple and efficient systems of hydroponics to the test. The three chosen systems were the Wick System, Deep Water Culture System, and the Drip System. All the systems had three trials that were under the conditions for six weeks. Data was recorded once a week and on the same weekday. The height of the plants were measured in centimeters each week. The first system, Wick, consisted of an empty water bottle. The hydroponic mix, clay pebbles, and felt. The other two systems, Drip and DWC included an air pump with air stones and a water pump. A solar panel was used to power all the pumps to shorten the risk of electrocution. The Drip System involved the actual dripping mechanism built by the researcher using tubing and t-connectors. The DWS System only allowed the plants' roots to soak in the hydroponic nutrient mix. Throughout the experiment, only the Drip System and DWC System showed success in rapid growth. The Wick System had unprosperous results. Out of the three trials, only one survived. At the end of the experiment, the Drip System reached a peak of 43.18 cm while the Wick and DWC System did not surpass 33.02 cm. It was concluded that the Drip System had the highest recorded growth out of all the systems.