Sustainable Salads for Small Spaces: The Comparison of Lactuca sativa Growth Between Traditional Farming and Aeroponic Growing

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Sustainable Salads for Small Spaces: The Comparison of Lactuca sativa Growth Between Traditional Farming and Aeroponic Growing. Teagan Chisholm-Godshalk, Westfield High School, Westfield, Massachusetts Aeroponics are known for their benefits of being able to be compactly produced and can grow anytime throughout the year. This project asks the question, will the harvest of the aeroponics successfully match or outgrow traditional farming? This study is crucial because it proves you can grow your own produce within a living space, so people can recycle used up items and grow multiple kinds of vegetables or fruits. The aeroponics was built by watching a Youtube video. The traditional methods were built by previous knowledge from my family. All items are on the board. Six aeroponics and six controls were all placed under an LED light for 18 hours a day, which lets the plants get sufficient lighting in winter. It was hypothesized “If lettuce is grown aeroponically, then the growth of the lettuce will match or surpass the traditional farming method because aeroponics is a more productive growing method”. This hypothesis was proven incorrect. This experiment ended with the traditional method being in the lead. Comparing the graph at the end, the average of the traditional method had surpassed the average of the aeroponic method. In conclusion, based on the results, aeroponics grows slower than the traditional method. Fast growing plants are essential; growing radishes would have been a benefit because of how fast they can grow. This experiment adds to the research already known because these aeroponics were grown in November-January, which is the off season. This research differs from past studies because both plants are grown in a house, not in a greenhouse or lab.

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