The Effect of Fertilizers on the Germination of Vigna radiata Seeds

Chen, Julia (School: North Quincy High School)

Fertilizers (chemical substances that are added to soil) supply plants with nutrients to promote faster and better germination and growth. The research was carried out to determine the most effective fertilizer for the germination and beginning growth of Vigna radiata (mung bean seeds) out of organic, inorganic, nitrogen: urea, and phosphorus: triple superphosphate fertilizer. It was hypothesized that if different fertilizers were added to help with the germination and early growth of mung bean seeds, then organic fertilizers would lead to the best results, producing the tallest plants in height (cm). To test this hypothesis, a total of 3 sets of experiments were carried out. Mung bean seeds were soaked in water for 24 hours overnight before being placed in garden soil. After the seeds were placed in soil, they were left to grow for a total of 8 days with assigned fertilizers (organic, inorganic, nitrogen, or phosphorus) added on the third day. Continuous water was added every 24 hours. After experimentation, it was found that phosphorus fertilizer produced the tallest plants with a height average of 6.47 cm. Organic fertilizers held the second-best results reaching a height average of 4.56 cm. The data displayed that inorganic and nitrogen fertilizers did not appear to be necessary for germination or early growth. It was determined that phosphorus fertilizer was the most effective fertilizer for the germination and beginning growth of mung bean seeds, suggesting that this fertilizer can be used to achieve the best results in agriculture and farming.

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