The Effects of Various Disinfection Agents on the Germination of Phaseolus vulgaris

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In this experiment my goal was to see how the development of Phaseolus vulgaris seeds would be affected by disinfecting them prior to germination with vinegar, lemon juice, aloe vera juice, and isopropyl alcohol, as opposed to just water. I did this to study the effects of seed disinfection to provide data aimed at promoting well-grown healthy food to supply the market. To conduct my experiment, I had gathered my materials and disinfected five beans in each of the five disinfectants, for a total of 25 beans grown in the experiment. Data was collected on the germination rate every 12 hours, at 8:00 AM and 8:00 PM across a period of seven days. The results demonstrated that the disinfectants promoted germination among the samples. Those seeds soaked in vinegar had the fastest germination rate, followed by those disinfected with aloe vera juice. Those disinfected with lemon juice demonstrated minimal differences in germination as compared to the control group soaked in water. Those disinfected with isopropyl alcohol demonstrated the lowest germination rate and stunted growth habits. One sample having been disinfected with isopropyl alcohol never germinated, and instead its shell only cracked. The other samples disinfected with isopropyl alcohol demonstrated stunted growth habits. The vinegar and aloe vera samples also demonstrated stronger growth showing bigger more vigorous roots than their counterparts soaked in water, lemon juice, and isopropyl alcohol.

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