

# SUPER VEGETABLES

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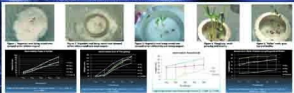
## ABSTRACT

The effect on germination of salad seeds and growth of plants, have been the object of numerous researches. The main objective of this work is to quantify the possible effect of magnetic treatment on the germination of salad seeds and first stages of growth of the seedlings subjected to a stationary magnetic field. Effect of vegetable seeds to stationary magnetic fields on germination and early growth has been studied. Seeds will be magnetically exposed to one of two magnetic field strengths, weak and strong for different periods of time. Mean germination time and the time required to attain 10, 20, 50, 75 and 90% of seeds to germinate were recorded. Growth data recorded after 10 hours after seeding and complete until 90 hours after seeding allowed to compare the effect observed in germination tests. Treated plants grew higher than control.

## THEORY

Magnetic field strength is a measure of the intensity of a magnetic field, given in teslas (T), the standard unit. One tesla is equal to one weber per square meter, where one weber is equivalent per second it required to induce an electromotive force of one volt. Another way to define a tesla is that a magnetic field of 1 tesla will exert force of 1 newton on a wire of length 1 meter carrying 1 ampere of current. This is a lot of force for a magnetic field to exert, as a newton is the force necessary to accelerate a 1 kg weight at one meter per second squared. The Earth's magnetic field strength is equivalent to 1/30,000th of a tesla. Though the magnetic field strength of planets is relatively weak, much stronger magnetic fields can be generated through artificial means.

Various definitions of seed germination have been proposed, and it is important to understand their definitions. Seed physiologists define germination as the emergence of the radicle through the seed coat. To the seed analyst, germination is the emergence and development from the seed embryo of those essential structures which, for the kind of seed in question, are indicatory of the ability to produce a normal plant under favorable conditions.



## RESULT

From the germination rate of 'Celer', 'Kangkung', 'Kailan' and 'Magnetized Water' graphs, it shows that magnetic field can improve germination of vegetable seeds incredibly. Seeds which are treated using magnetic can make plants growth speedier. The properties of magnetic intensity and density can lower or provide less water necessary for the development of stem length. Plants and trees basically require mineral and nutrient obtained from the soil for growth and food production. Watering plants with magnetized water dissolves more nutrients because it lowers the surface tension of water and this allows more minerals to be expanded in concentration. This would cause more minerals to pass through the cell wall of the roots. Magnetized water is more "active" particles were necessary to be dissolved at the root zone, enhancing the plant growth stimulation. Hence these are the responsibility growth rate of factors.