THE EFFECT OF A MAGNETIC FIELD ON
PLANT GROWTH AND REPRODUCTION

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ABSTRACT

Research on organisms from protozoans to birds indicates that magnetic fields are perceived by organisms and influence biological functions. Several claims of the medical benefit of magnetic fields have also been advanced. We tested the influence of a magnetic field on the germination, growth and reproduction of mustard plants, *Brassica rapa*. We placed large bar magnets at the bottom of pots and covered them with soil. We established three treatment groups: 1) pots with the north pole of the magnet up; 2) pots with the south pole up; and 3) control pots with no magnet. We planted five seeds in each pot and placed the pots in random arrangements in a greenhouse. The plants grew under the natural photoperiod of a South Dakota summer. We watered and fertilized the plants regularly and recorded several measurements of plant growth. When the plants flowered, we hand-pollinated each plant. After seed maturation, we harvested the seed pods and counted the number of seeds produced by each plant. Seeds in the pots with a south magnetic field tended to germinate earlier than other treatments, but this difference was not significant. There was no difference among the treatments in final plant size, the number of leaves produced, or the dry weight of plants. The size and number of seeds also was not significantly different with respect to treatment. We conclude that the constant magnetic field produced by a dipole bar magnet did not have a significant effect on the growth and reproduction of mustard plants.