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|  |  | The outcome of our experiment supports our hypothesis, that EMFs cause significant effects on the growth of *Brassica rapa*.  During early growth, the ELF EMF may have caused a color difference between the experimental and control plants. During later growth, some of the plants were stunted and dead due to natural selection. Almost all the deformed pods of the experimental setup were found within the experimental bucket, where the ELF EMF was greatest. On the other hand, those outside the bucket were normal. This illustrates how the ELF EMFs affected the plants at the pods. ELF EMFs may have caused mutation or may have affected the enzymes necessary for proper seedpod formation.  Although Mark Davies found no evidence of the effect of EMF on mustards, our experiment corroborates his work, as there is no significant difference apparent between the control and the experimental in early growth. But, in later growth, which Davies did not study, an effect is clear from our experiment as a distinct deformation of seedpods is visible. This conflict of observations supports the hypothesis developed by McLeod et. al: "What ones sees in field exposure experiments may well depend on when one looks" [4].  As stated in Smith’s work, ion cyclotron resonance may be useful in understanding the effect of ELF EMFs on living beings. Ions play a crucial role in biological functions, such as the hydrogen pump that produces adenosine triphosphate (ATP) in cells. The ion cyclotron resonance theory describes the influence of magnetic fields on certain ions, such as calcium and potassium. Depending on the influence of the ELF EMF, the hydrogen pump may either work more efficiently or less efficiently, producing greater amounts or fewer amounts of ATP, respectively, and therefore, influencing plant growth, physiologically.  DNA has the code for proteins. These proteins, also called enzymes, control all chemical reactions in the cell. ELF EMFs may alter the ability of these enzymes to function properly by altering their conformation. For example, alterations in ethylene, a plant growth hormone, may suppress lateral bud elongation and hasten fruit ripening. Conformational changes of ethylene resulting from exposure to magnetic fields are a possible mechanism for the deformation of seedpods.  Although not as powerful as gamma rays, long term exposure to ELF EMFs may cause mutations, too. Mutations are alterations in nucleotide sequences of DNA that code for genes. Excessive mutations will cause physical deformation to occur and may also lead to evolution. Also, low-frequency electromagnetic fields may cause nondisjunction to occur. This will form an offspring which may be a polyploid, having a greater number of chromosomes than his parents. Such mutations may result in a new species.  Overall, from this experiment the following conclusions can be made:   |  |  | | --- | --- | |  | ELF EMFs have a physiological effect on plants | |  | The effect is more pronounced in seedpods. | |  | The seedpods are heavier with abnormal growth in the experimental, while they are longer and slender in the control. |   Since millions of miles of high-voltage transmission wires crisscross over thousands of acres of farmland, the effects of EMF on all species of plants may prove priceless to the agricultural industry. As Smith commented:  There is a great deal at stake, with respect to apparent adverse health effects of ELF power frequency fields, for agricultural practices, and for the economic health of the electric power industry around the world. We need to be able to say with confidence what is and what is not safe for humans, and what does or does not affect the environment adversely. [4]  Like Smith’s findings, this study opens up opportunities for future experimentation in the field of electromagnetic effects on plants. |