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# Environmental Impact Assessment of Non-ionizing Electromagnetic Radiation in the Atmosphere: Effects on Plant Growth Hormones in Germination Processes

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**Abstract**

The environmental exposure to non-ionizing radiation emitted by communication systems is increasing day by day. The intensity of this emitted electromagnetic radiation depends on the energy level of the exposure, which significantly impacts all living creatures within Earth's biosphere. The substantial increase in higher amounts of electromagnetic radiation levels contributes to radiation pollution, a distinct form of environmental contamination that necessitates research into its impact on all the living creatures inhabiting the environment, including its influence on plant growth hormones. This research study investigates the effects of 2.45 GHz radiation exposure on the germination process of high-quality pea seeds, while simultaneously assessing the influence of electromagnetic fields on plant growth hormones. The germinating seeds are observed in controlled environments over a 7-day period and subjected to varying intensities of electromagnetic radiation exposure along with monitoring of all the influences from the external environment. The experimental findings reveal that the germinating seeds exposed to electromagnetic radiation from the router exhibited growth retardation ranging from 21.5% to 57% depending upon the intensity and duration of electromagnetic radiation exposure. The study could act as a proof of concept to an extent in proving that the long term exposure of EMR can inhibit at least the plant growth hormones. These findings highlight the need for a more profound understanding of the environmental consequences of electromagnetic radiation and its intricate relationship with plant growth hormones. This research could also act as scientific evidence proving the ill effects of electromagnetic radiation towards living beings.

**Keyword:** Electromagnetic Radiation, Non-ionizing radiation, Radiation Pollution, Router, Germination, Growth Hormones, Growth Retardation

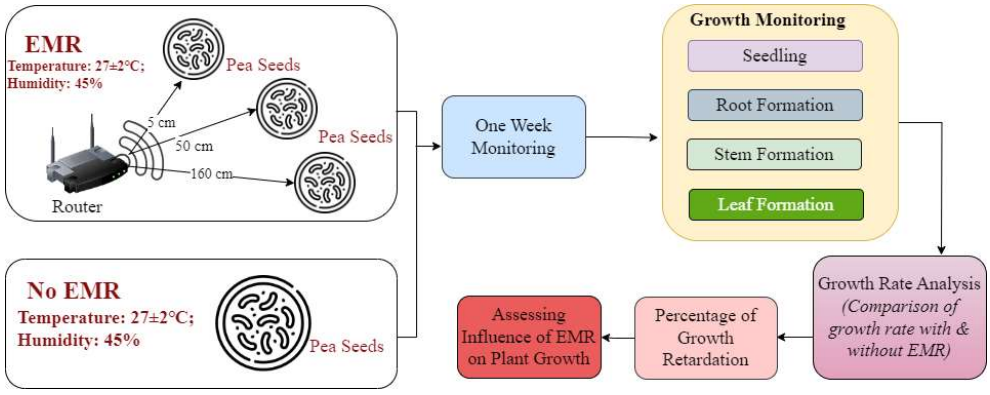


**Figure**: Assessment of Influence of Electromagnetic Radiation on Plant Growth.