

Cell Phone Radiations Affect Early Growth of *Vigna radiata* (Mung Bean) through Biochemical Alterations

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Z. Naturforsch. **65c**, 66–72 (2010); received July 18/August 23, 2009

The indiscriminate use of wireless technologies, particularly of cell phones, has increased the health risks among living organisms including plants. We investigated the impact of cell phone electromagnetic field (EMF) radiations (power density, $8.55 \mu\text{W cm}^{-2}$) on germination, early growth, proteins and carbohydrate contents, and activities of some enzymes in *Vigna radiata*. Cell phone EMF radiations significantly reduced the seedling length and dry weight of *V. radiata* after exposure for 0.5, 1, 2, and 4 h. Furthermore, the contents of proteins and carbohydrates were reduced in EMF-exposed plants. However, the activities of proteases, α -amylases, β -amylases, polyphenol oxidases, and peroxidases were enhanced in EMF-exposed radicles indicating their role in providing protection against EMF-induced stress. The study concludes that cell phone EMFs impair early growth of *V. radiata* seedlings by inducing biochemical changes.

Key words: Cell Phone Radiations, Seedling Growth, Biochemical Changes