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Effect of heavy metals on seed germination and seedling growth in wheat

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Abstract : *This study was carried out to determine the effect of different concentrations of Mercury, Zinc and Cadmium on seed germination and seedling growth of wheat, Triticum aestivum. Seeds were grown at 0.0, 0.1, 0.5, 1.0 μ M concentrations of the three metals. All the three metals showed toxic effect on various growth indices of Triticum aestivum. Increasing concentration of mercury significantly decreased seed germination as compared to control. Zinc treatment at 0.5 μ M showed marked effect in Triticum aestivum seedlings as compared to control. Seedling and root growth*

was significantly decreased in seeds treated with Cadmium. Results of this study showed that the contamination of soil with heavy metals increased the heavy metal content in root, shoot and seeds of wheat plant.

Keywords: *Heavy metals, Wheat, Germination, Seedling growth.*

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Introduction:

Wheat is the first important and strategic cereal crop for the majority of world's populations. It is the most important staple food of about two billion people (36% of the world population). Worldwide, wheat provides nearly 55% of the carbohydrates and 20% of the food calories consumed globally. It exceeds in acreage and production every other grain crop (including rice, maize, etc.) India is now included in the group of wheat exporting countries and with the opening of international trade, there is greater opportunity to capitalize on this aspect.

Heavy metals such as Cd, Hg and Zinc are non-essential elements for plants. If plentiful amounts are accumulated in the plants, heavy