



RESEARCH ARTICLE :

Effect of nano ZnO on growth and yield of finger millet (*Eleusine coracana* (L.) Garten.)

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SUMMARY : With the growing limitation in arable land and water resources, the development of agriculture sector is only possible by increasing resources use efficiency with the minimum damage to agro ecology through effective use of modern technologies. Among these, nano technology has the potential to revolutionize agriculture system. An investigation was initiated to examine the effect of nano scale zinc oxide particle on plant growth and development. In view of the widespread cultivation of ragi in India and other parts of the globe and view of the potential influence of zinc on its growth, this crop was chosen as the model system. A pot culture experiment was conducted during *Rabi* 2016-2017 with the foliar application of nano scale zinc oxide particle at lower rate dose compared to the chelated zinc sulphate recommended and we recorded higher grain yield (9.60 g plant⁻¹) and straw yield (15.87 g plant⁻¹) in T₇, which receive nano ZnO @ 500 ppm ha⁻¹ as foliar spray, respectively, compared to chelated zinc sulphate. The inhibitory effect with the higher dose nano particle concentration (nano ZnO @ 1250 ppm) reveals the need for judicious usage of this particle in such application, this study show that the use of nano fertilizers causes an increase in nutrient use efficiency, reduces soil toxicity associated with over dosage and reduces the frequency of the application. Hence, nanotechnology a high potential for achieving sustainable agriculture, especially in developing countries.

KEY WORDS :

Nanotechnology,
Nanoscale, Chelated
zinc sulphate, Zinc
oxide, Nano fertilizer

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