



RESEARCH PAPER

Effect of Nano Urea on growth, yield and nutrient use efficiency of Okra under tropical island ecosystem

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Abstract : The field experiment was conducted during 2021-22 at Garacharma, ICAR-CIARI, Port Blair to study the effect of nano urea (liquid) on the growth and yield of okra under island conditions. The treatment combinations consist of basal applications of fertilizers and foliar spray of nano urea in two concentrations (2 % and 4% concentrations). The results revealed that nano spray resulted in higher okra yield (9.6 %) than NPK addition through chemical fertilizers. While increased concentration of nano spray (4%) had significant impact on the growth and yield parameters due to increased availability of N within the plant system. Though Rs. 600- 1200 respectively were incurred as additional cost on account of application of nano spray (0.2 - 0.4%), the nano spray (N₆₆ PK and 0.4 % Nano urea) contributes to additional okra yield (1.32 t ha⁻¹, 9.6%), additional monetary benefit (Rs.65,561) than only NPK addition through chemical fertilizers (100 % RDF). Further, there is significant difference between Nano spray at 0.2 % and 0.4% spray though higher concentration of (0.4%) nano spray gave 7.5-16 % higher yield and 17- 29 % higher netreturn. Further, the increased efficiency of nano urea resulted in saving of nitrogen fertilizer to the extent of 25-34%. At the same time nano urea had no significant negative impact on soil properties and socio-root micro environment by the accumulation of excess mineral N. Hence, it can be concluded that spraying of nano urea is proved to be beneficial for island ecosystem as it lead to increased yield and saving of chemical fertilizer thereby reducing the accumulation of N in the environment.

Key Words : Nano urea, Okra, Tropical island ecosystem

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