ROLE OF MODIFIED CHITOSAN POWDER ON THE PRODUCTION OF QUALITY RICE SEEDLINGS OF BRRI DHAN29

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Executive Summery

Chitosan functions as a growth stimuli and stress responsive components in nature. Role of modified chitosan (CHT) powder on the production of quality rice seedlings of BRRI dhan29 was examined in the field of Sher-e-Bangla Agricultural University, Dhaka. Six different treatments of the modified CHT powder and three replications were used in the experiment. The treatments were as follows: T_1 = 100 g powder/m^2, T_2 = 200 g powder/m^2, T_3 = 300 g powder/m^2, T_4 = 400 g powder/m^2, T_5 = 500 g powder/m^2, T_6 = 0 g powder/m^2. A significant variation was observed in the seedling's height, biomass production, dry matter production and chemical properties of the seedbed soils due to the application of chitosan powder in the seedbed. The maximum seedlings height, fresh weight, oven dry weight was observed in the treatment T_4 and the minimum level in the treatment T_6 (control). On the other hand, the maximum level of organic carbon, organic matter and soil p^H was recorded in the treatment T_5 and the minimum level in the treatment T_6 (control). The powder increased the level of organic matter in a dose dependent manner. Quality of the Boro rice seedlings were improved due to the application of chitosan powder and the seedlings strength were increased in a dose dependent manner. All the treatments were produced good quality Boro rice seedlings having more chlorophyll level and seedlings strength than the control treatments. Our results indicated that treatment T_4 showed the superior results than other treatments. These results could be due some nature of soil alkalization and other some macro-micro nutritional supplementation which might be improved the strength of the seedlings. Taken together, the modified CHT powder could play a significant role in the quality Boro rice seedling production that might be help to increase the grain yield.

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