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Enhancement of Cassava productivity in Egyptian new reclaimed lands by using different foliar application treatments

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Abstract : Two field experiments were carried out in newly reclaimed lands at El-Nobaria, northern Egypt during the two successive seasons of 2014 and 2015 aiming to enhance Cassava productivity by using different foliar application treatments. Six foliar spraying treatments, i.e., liquid bio-fertilizer, granular bio-fertilizer, mixed bio-fertilizers, urea, yeast and Moringa extract were compared to non-treated control. The experiments were carried out in a complete randomized blocks design with four replicates. Plant growth characters, i.e., plant height, number of leaves per plant and number of main stems and lateral branches, leaf area and chlorophyll content and tuber yield and tuber charactersas well as chemical contents of tuber roots were evaluated.

The results showed that, the monthly foliar spraying of all application treatments at 60, 90 and 120 days after Cassava planting increased all vegetative growth characters mentioned above and enhanced tuber roots productivity as well as improved chemical contents of Cassava tuber roots compared to non-treated control. The monthly foliar application of Moringa extract ranked the first to increase all vegetative growth characters, tuber yield and its characters, i.e., length and diameter as well as improved chemical contents of Cassava tubers, i.e., dry matter, starch, total carbohydrates, total fiber, N, P and K. Next to Moringa extract, spraying of yeast improved Cassava productivity, and then urea spraying came. The foliar application of mixed bio-fertilizers both of liquid and granular resulted in more stimulation in increasing Cassava productivity compared to single additive of liquid bio-fertilizer or granularbio-fertilizer.

Keywords: Cassava, foliar application, FZB24, Yeast, Urea, Moringa, Tuber yield and quality.

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