

Research paper

Correlation Studies between Fertilizer, Tuber Yield and Some Yield Components for Irrigated Potato Grown on Clay Soils of River Nile State, Sudan

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ABSTRACT

Potato cultivar Diamant was grown for two consecutive seasons (2004/5 - 2005/6) at Darmali Irrigated Karu Soils (clay 42-52%) to test different correlations between fertilizer, yield and some yield components (crop-ground cover and number of stolons/plant). Twenty out of 72 experimental plot units were arranged in split plot design and considered for correlation analysis to obtain different correlation coefficients between the above mentioned traits. Results revealed that in all tested traits, correlations were positive in various degrees, however, in some of them it was not significant. Fertilizer showed highly significant and positive correlation with crop cover and yield. With regard to stolons, the relation though positive, was not significant in the two seasons. Yield-crop cover correlations were significantly positive for the two seasons, while, yield-stolon correlations were positive but only significant for season 2004/5. Crop cover-stolons correlations were not significant, though positive for the two seasons.

Keywords: *Fertilizer, potato, River Nile State, tuber yield*