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Responses of different potato (*Solanum tuberosum* L.) cultivars to nitrogen fertilizer under sandy soil conditions

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Abstract: An experimental trial was carried out in the two successive seasons of 2014 and 2015 to study the effect of cultivars (Spunta, Nicola, Cara and Diamant) and nitrogen application (140, 160 and 180 kg N/fed.) on growth, yield and quality of potato plants. Each of the four cultivars showed different response to nitrogen application. Results of this work showed that the best effect on plant vegetative growth (plant height, number of stems, fresh and dry weights of halum), yield and its component (number of tuber, total yield and average tuber weight) and tubers quality (dry matter, total carbohydrates, specific gravity and starch) was obtained by using the highest concentration of nitrogen (180 kg N/fed.) with Cara cultivar. In addition, the interaction between cultivar and nitrogen rate resulted are significant. The lowest results were recorded with cultivar Nicola treated with 140 kg of N/fed.

Keywords: potato (*Solanum tuberosum* L.), nitrogen fertilizer, sandy soil.

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