

Yield and yield components of minituber potato under direct cultivation and transplanting

H. Ghorbani¹, M. Barmaki¹ and Y. Kheirizadeh Arough^{1*}

(Received: Feb. 22-2014 ; Accepted: Apr. 24-2014)

Abstract

This research was performed to study the effect of direct planting and transplanting of potato minituber on its yield and yield components. The experiment was designed as a randomized complete blocks with nine treatments and three replications. Treatments were one direct and eight indirect planting. In order to prepare the nursery, two types of pots (peat and nylon) and four types of substrates including sand + peat moss (1:1), sand + Kimiya organic fertilizer (1:1), sand + vermicompost (1:1) and sand + farm soil (1:1) were used. Results showed that there was significant difference in regard to mean yield per plant, mean wet weight of tuber, number of tubers smaller and greater than 80 g, percent dry weight of tuber, biologic yield, starch percentage and nitrate content of tubers. The highest mean tuber yield per plant, number of tubers greater than 80 gr and biologic yield belonged to plants in nylon pots with substrate of sand + Kimiya organic fertilizer. The highest percentage of starch and tuber dry matter belonged to plants in peat pots with substrate of sand + soil. The highest mean wet weight of tubers belonged to nylon pots with substrate of sand + peat moss. The highest number of tubers lower than 80 g and the highest nitrate content was obtained by direct planting. The sand+ Kimiya organic fertilizer, which provides the necessary elements for plant growth, with more yield and number of marketable tubers, could be the best substrate as compared to other substrates used in this experiment.

Keywords: Substrate, Peat moss, Organic fertilizer, Vermicompost.

1. Dept. of Agron. and Plant Breed., Univ. of Mohagheh Ardabili, Ardabil, Iran.

*: Corresponding Author, Email: kheirizadeh@yahoo.com