

Effect of Organic Fertilization and Intercropping of Potato (*Solanum Tuberosum*) With Faba Bean (*Vicia Faba*) on Potato's Yield

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Abstract : The introduction of agroecological practices in ecosystems can contribute to meeting the challenges posed by the diversion of current agricultural production systems towards efficient production methods that are more respectful of the environment, including a reasoned use of inputs and resources. Intercropping is one of these practices that requires the production of two or more crops on the same plot and during the same growing season. Organic fertilization also can contribute to increase the yield due to the potential availability of nutrients. The objective of this work is to study the effect of intercropping and organic fertilization, which are two important practices of agroecology, on potato yield. Intercropping of potato and faba bean was carried out at the Agroecology and Environment platform (ENA, Meknes). The soil is silty-clay, the climate is warm with an average temperature of 17.1 °C, and the annual average rainfall of 511mm. Four treatments were tested: Potato sole crop (T1), potato + organic fertilization (T2), Potato + faba bean (T3), Potato + faba bean + organic fertilization (T4). The results showed that there is a significant effect of the treatment on the evolution of the agronomical characters studied, especially the number of leaves and the yield. The number of stems at t0 was equal to 1 in all treatments; it began to grow after 30 days from the date of sowing with a slight increase in treatments containing organic fertilization (T2-T4), then it stabilized 60 days after sowing. In terms of the mean value of the number of leaves, a significant difference was noted between the treatments, the highest value was recorded in treatment T2. The T2 treatment showed the highest average yield, followed by the control (T1). As for the yield, treatments T2 and T1 recorded the highest number of tubers. In order to evaluate two of the practices of agroecology, this work focuses on the evaluation of the effect of intercropping and organic fertilization on the growth and yield parameters of the potato. The results obtained show that agroecological practices have a significant effect on the measured parameters.

Keywords : agroecology, intercropping, organic fertilization, potato yield

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