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## Effect of organic nitrogen on the performance of potato in organic farming

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Crops grown under organic systems may suffer from insufficient nitrogen due to the mismatch between the N bioavailability and its demand dynamics by the plant. This work investigates the response of three potato varieties to a combination of organic fertilizers (compost and fish meal) for a nitrogen supply at the rates of 0, 30, 70, 90, 110, 130 and 180 kg ha<sup>-1</sup>. In addition, about 100 kg ha<sup>-1</sup> of nitrogen was supplied from inherent soil organic matter mineralization. Field trials were conducted during two cropping seasons on two plots left fallow for several years according to the requirements of organic farming. The results obtained show that the contribution of increasing doses of nitrogen has a significant effect on total dry matter, tubers dry matter, total nitrogen uptake, tubers nitrogen uptake, nutritional and morphological quality parameters and tuber yield. Tuber yield ranged from 34

t ha<sup>-1</sup> (control) to 52 t ha<sup>-1</sup> (230 kg ha<sup>-1</sup> of nitrogen). Moreover, the different cultivars have a significant effect on all the parameters studied apart from the yield and the nitrate content of tubers. The dose of 230-250 kg ha<sup>-1</sup> of nitrogen is recommended to achieve satisfactory yield (about 50 t ha<sup>-1</sup>) of the organic potato while producing good tuber quality under similar conditions.

### Speaker Biography

Ahmed Harraq have completed his PhD at the age of 49 years. He is a professor at National School of Agriculture of Meknes, department of agronomy and plant breeding, Morocco. His area of research is organic farming. He has several publications that deal with the mineralization of organic fertilizers and its effects on crops. Currently, he is conducting several green manure trials in organic farming.

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