

SoildiverAgro project

Adoption of new management practices to increase crop production and quality



THE WHAT AND WHY

Extra phosphorus inputs do not contribute to increased yields in potato crop with acid soils and high P fertility

Phosphorus, together with nitrogen and potassium, is one of the essential macronutrients for plants. However, phosphorus is an element that is easily immobilised and the amount available can be very low compared to the total amount of phosphorus present in the soil, and poultry manure is one of the organic sources with the highest phosphorus content. In the region of A Limia, this fertiliser has been the main organic amendment used as fertiliser in potato crops. To know the presence of this element in the soils of A Limia, soil analysis of plots belonging to farmers of this region was carried out and a fertilisation test was carried out to evaluate the yields depending on the phosphorus dose applied. The analysis of phosphorus in soil according to Olsen's method of 1293 plots in 2015 and 1213 plots in 2016 showed that in the two years studied, more than 90% of the analysed plots had a P level higher than 25 mg/kg of soil and

were considered rich in P. Moreover, for the two years studied, more than 25% of the total analysed soils presented an amount of P higher than 200 mg/kg of soil. In the year 2021, a test was done in a field with acid soil (pH 5.6) and high fertility in P (135 mg/kg using Olsen method).

A plot without phosphorus application showed a production of 55t/ha compared to 52t/ha in the plot with conventional fertilisation and 47t/ha in the plot where 50% of the conventional amount was applied. Therefore, in the region of A Limia it is possible to reduce the quantities of phosphorus applied to potato crops. In this sense, promoting the adoption of strategies that mobilise soil phosphorus may be one of the most sustainable measures to improve farmers' profits and the health of the environment.



1. Correct development of potato crop variety Kennebec.



2. Production obtained from Kennebec variety.

KEYWORDS

Phosphorus, fertilization, potato, production, pH.

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