Alternative source of potassium fertilization in bean crops

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Introduction

The common bean (*Phaseolus vulgaris* L.) is a very important crop in national agricultural scenario, as part of the daily diet of people in different regions of Brazil.

Alternative sources of potassium fertilization in beans as a substitute for potassium chloride, fertilizer widely used in this crop, is an important factor for the reduction of costs to the farmer.

The objective of this study was to evaluate the use of phonolite rock as a substitute for potassium chloride in planting fertilization for bean crop.

Results

Table 1 - Seed production in kg.ha^{-1}, number of pod per plant, number of seed per pod, Alfenas-MG, 2013.

Sources / Dosages	Seeds in each pod	Production (kg.ha^{-1})
20 kg.ha^{-1} KCl	37	2174
20 kg.ha^{-1} Phonolithic rock	35	2272
40 kg.ha^{-1} KCl	37	2355
20 kg.ha^{-1} Phonolithic rock	39	2159
Statistical CV	13%	18%

Materials and Methods

The experimental design was randomized block design with 5 blocks, each block consisting of 4 plots totalizing 20 plots in four treatments. The treatments were 20 kg K_2O.ha^{-1} (KCl), 40 kg K_2O.ha $^{-1}$ (KCl), 20 kg K_2O.ha $^{-1}$ (phonolite rock) and 40 kg K_2O.ha^{-1} (phonolite rock).

Conclusions

The use of crushed phonolithic rock is technically feasible as an alternative source of potassium fertilization, where potassium chloride is traditionally used, because when the two sources of potassium fertilization were used in the bean crop, no significant differences were observed in the evaluated parameters.

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