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[1] 匡恩俊, 刘峰, 高中超. 黑土层厚度及心土培肥对大豆产量的影响[J]. 大豆科学, 2012, 31(02): 266-269. [doi:10.3969/j.issn.1000-9841.2012.02.021]

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## 黑土层厚度及心土培肥对大豆产量的影响

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摘要: 在盆栽试验条件下, 以典型岗地白浆土土层结构为基础, 通过改变黑土层的厚度研究了心土层对大豆产量的贡献; 并通过混施磷肥和钙肥, 研究了心土培肥的效果。结果表明: 随着黑土厚度的增加, 大豆株高和产量显著增加, 白浆土心土对大豆产量的贡献很低, 仅为4.7%; 各心土培肥处理比心土混层增产9.7%~18.1%, 比白浆土原状土壤增产16.0%~34.1%, 土壤施磷后增加了Ca<sub>2</sub>-P、Ca<sub>3</sub>-P和Al-P的含量。因此, 白浆土心混施钙磷肥对大豆有显著的增产效果。

Abstract: Albic luvisol widely distributed in Sanjiang Plain of Heilongjiang province, and the soil fertility degraded seriously after decades of reclamation. In the present study, based on the vertical distribution of typical highland Albic luvisol, which was black soil (A, 0-18 cm), albic horizon (Aw, 18-36 cm) and illuvial horizon (B, >36 cm), indoor stimulation experiments of (i) increase the depth of black soil from 20 to 60 cm with 20 cm as interval and, (ii) mix the layer of Aw and B and applied phosphate and calcium fertilizer were carried out, to elucidate the contribution of subsoil to soybean yield and the soil amendment effect in Albic luvisol. With the increase of black soil layers, the plant height and yield of soybean increased, and the calculated contribution rate of subsoil to soybean yield was only 4.7%. Soybean yield of subsoil fertilizer treatments were 9.7%-18.1% higher than subsoil mixing, and 16.0%-34.1% higher than control. Subsoil fertilizing phosphate increased content of Ca<sub>2</sub>-P, Ca<sub>3</sub>-P and Al-P. Results suggest that the subsoil fertility of Albic luvisol is lower and subsoil applying phosphate and calcium can improve soil fertility, hence increase soybean yield.

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