

棉田土壤上几种磷肥用量估算法的比较研究

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Comparative study on phosphate fertilizer application estimation method in cotton field soil

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摘要 本文通过田间试验和室内模拟试验研究了不同磷肥估算法在棉田土壤上的应用。结果表明：肥效函数法、土壤吸附等温线法、土壤磷酸盐吸收系数法和磷指标法均能应用于棉田土壤，砂壤质棉田由此估算的施磷量分别为P₂O₅ 148、173、168和150 kg/hm²，壤质棉田施磷量分别为P₂O₅ 138、160、153和172 kg/hm²，其中以土壤磷酸盐吸收系数法操作最简便且精度与肥效函数法相当。

关键词：棉田 磷肥估算法 需磷量

Abstract: In this paper, different evaluation method on amount of phosphate application cotton field soil was studied by field experiments and laboratory simulations. The results show that the calculated phosphoric fertilizer application amounts of loamy sand cotton field were P₂O₅ 148, 173, 168 and 150 kg/ha using the method of fertilizer efficiencies function, phosphate adsorption isotherm, phosphate adsorption coefficient and phosphate fertilizer index, respectively; and the phosphoric fertilizer application amounts on loamy cotton field were P₂O₅ 138, 160, 153 and 172 kg/ha respectively. Based on our experiments, the method of phosphate adsorption coefficient was recommended because of its easy operation and high precision.

Keywords: cotton field phosphate estimation method phosphate fertilizer requirement

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