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长期定位施肥对土壤铁、锰形态及剖面分布的影响

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Effects of long-term fertilization on forms of Fe and Mn and their distributions in soil profiles

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摘要 | 参考文献 | 相关文章

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摘要 本文采用改进的BCR连续提取法，对沈阳农业大学棕壤肥料长期定位试验地31年不同施肥处理土壤铁和锰含量变化及其剖面变异规律进行研究。结果表明：与试验前相比，耕层土壤两种元素水溶态和弱酸溶态含量都有所增加，而可还原态和残渣态含量则有不同程度的减少；铁和锰都以残渣态和可还原态为主。在空间分布上，两种元素弱酸溶态和可氧化态含量随土层的加深而减少，残渣态则相反。研究表明，有机肥能在一定程度上改变铁和锰在各形态间的分配，并且有机肥能活化残渣态铁和锰。

关键词： 棕壤 长期定位施肥 铁 锰 形态

Abstract： The BCR Continuous Extraction was used to study the iron and manganese content changes and their profile variations in brown soils after 31-year fertilization treatments in long-term localization experimental field of Shenyang Agricultural University. The results show that compared with the baseline, the contents of the Water soluble and the Weak acid soluble Fe and Mn are increased, while the contents of their oxidizable and the residual forms are decreased. The main forms of both elements are residual and oxidizable. As for the profile distribution, with increase of soil depth, the contents of the weak acid soluble and the reducible Fe and Mn are reduced, while the contents of residual pools are increased. It is concluded that manure can alter the forms of Fe and Mn and manure can activate the residual Fe and Mn.

Keywords： brown soil long-term fertilization iron manganese form

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