

研究报告

## 菜园土壤无机氮解吸特性对硝态氮流失潜能的影响

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**摘要** 根据土壤氮素解吸模型, 通过盆栽试验研究解吸特征参数对土壤渗漏水硝态氮浓度的影响. 结果表明: 土壤氮素可解吸量 $Q$ 、土壤溶液氮初始浓度 $C_i$ 和 $C_1/\lambda$  比值与土壤渗漏水硝态氮浓度呈非线性关系, 在较低氮解吸特征值时则呈线性关系, 由此提出“双速率转折点”概念评价土壤硝态氮流失潜能. 当耕层土壤氮素解吸特征值超过“双速率转折点” $X_0$ 时, 硝态氮浓度的增加速率将以非线性形式迅速提高, 反之将稳定在较低水平.

**关键词** [土壤](#) [硝态氮](#) [流失潜能](#) [双速率转折点](#)

分类号

## Desorption characteristics of inorganic nitrogen in vegetable garden soil and their effects on soil $\text{NO}_3^-$ N loss potential

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### Abstract

With pot experiment and soil nitrogen desorption model, this paper studied the characteristics of nitrogen desorption in vegetable garden soil, and their effects on the  $\text{NO}_3^-$ -N concentration of soil leachate. The results showed that soil leachate  $\text{NO}_3^-$ -N concentration had a non-linear relationship with the parameters  $Q$ ,  $C_i$  and  $C_1/\lambda$  of soil nitrogen, but the relationship became linear when these eigenvalues were relatively low. A conception of bi-curve cross point was put forward to assess the soil  $\text{NO}_3^-$ -N loss potential. When the eigenvalues were higher than the bi-curve cross point  $X_0$ , the  $\text{NO}_3^-$ -N concentration in soil leachate would be increased rapidly in non-linear form, while on the contrary, the increase would be maintained at a lower level.

**Key words** [soil](#)  [\$\text{NO}\_3^-\$ -N](#) [loss potential](#) [bi-curve cross point](#)

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