

研究报告

## 镉和铅污染对烤烟根区土壤微生物及烟叶品质的影响

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### 摘要

通过盆栽试验,研究了Cd和Pb污染对烤烟根区微生物和烟叶品质的影响.结果表明,随着Cd、Pb处理浓度的增加,烤烟根区4种微生物数量均呈减少趋势;低浓度Cd( $\leq 10 \text{ mg}\cdot\text{kg}^{-1}$ )和Pb( $\leq 300 \text{ mg}\cdot\text{kg}^{-1}$ )下,烤烟根区4种微生物数量降幅最大;烤烟烟叶中品质指标糖/碱比和氮/碱比升高,化学成分组成趋于不协调,不利于烟叶香味的形成.烟叶K含量与Cd和Pb污染浓度呈负相关,与Cd污染下根区钾细菌数量呈显著(或极显著)正相关,与Pb污染根区钾细菌数量相关不显著.

关键词 [Cd和Pb污染,烤烟,根区,土壤微生物,品质](#)

分类号

## Impacts of Cd and Pb pollution on soil microbes in tobacco root zone and on tobacco leaf quality

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### Abstract

A pot experiment was conducted to study the impacts of Cd and Pb pollution on soil microbes in tobacco root zone and the quality of tobacco leaves. The results indicated that the higher concentrations of Cd and Pb in soil, the less soil microbes in tobacco root zone. When the levels of Cd and Pb were  $\leq 10$  and  $\leq 300 \text{ mg}\cdot\text{kg}^{-1}$ , respectively, the individuals of soil microbes decreased acutely. As for the quality indexes of tobacco leaves, the ratios of reductive sugar/nicotine and total-N/nicotine increased, and the main components became disharmony, which was disadvantage for the fragrance forming of tobacco leaves. The K content in tobacco leaves had a negative correlation with soil Cd and Pb concentrations, but a significantly positive correlation with the quantity of potassium bacteria in root zone under Cd pollution. No significant correlation was observed between the K content in tobacco leaves and the quantity of potassium bacteria in root zone under Pb pollution.

Key words [Cd and Pb pollution](#) [Tobacco](#) [Root zone](#) [Soil microbe](#) [Quality](#)

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