

# 不同NH<sub>4</sub><sup>+</sup> / NO<sub>3</sub><sup>-</sup>比例的氮素营养对棉花氮素代谢的影响

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## 摘要

The influence of different NH<sub>4</sub><sup>+</sup> / NO<sub>3</sub><sup>-</sup> ratios on nitrogen metabolism of cotton was studied under controlled hydroponics. The results showed that compared with single nitrate nutrition, solutions with 25/75, 50/50, 75/25 and 100/0 of NH<sub>4</sub><sup>+</sup> / NO<sub>3</sub><sup>-</sup> significantly increased the soluble protein accumulation in leaves and roots of cotton, and the maximum content of soluble protein in leaves and roots appeared respectively in the solution with 50/50 and 75/25 of NH<sub>4</sub><sup>+</sup> / NO<sub>3</sub><sup>-</sup>. The soluble protein content in roots was increased with the increase of NH<sub>4</sub><sup>+</sup> percentage, but was slightly less in the solution of 100/0 than 75/25, which was probably related to the excess NH<sub>4</sub><sup>+</sup> limiting boot metabolism. With the increase of NH<sub>4</sub><sup>+</sup> percentage, the nitrate content in petiole and the nitrate reductase activity in functional blade declined, but ammoniac nitrogen content increased in every organ of cotton. These results showed that foreign nitrogen affected the nitrogen metabolism of cotton in a different way, and the nitrogen absorption by cotton was probably related to different forms of foreign nitrogen.

## 关键词

分类号

## Abstract

## Key words

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