

研究报告

硼对吲哚乙酸在植物体内运输的影响

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摘要 以绿豆为指示作物, 研究缺硼对侧芽生长及³H-吲哚乙酸 (IAA) 在完整植株体内运输的影响. 结果表明: 缺硼诱导侧芽生长, 导致³H-IAA移动峰靠近植株顶端, 茎中³H-IAA的放射性活度也低于供硼充分的植株, 说明缺硼抑制了³H-IAA在植株体内的极性运输; 无论缺硼与否侧芽中均未检测到³H-IAA, 所以侧芽的生长与³H-IAA在其中的积累没有关系, 表明硼并不是通过调节IAA在侧芽中的积累, 而是通过调节IAA在主茎的移动流调控侧芽生长; 给缺硼植株供硼24 h能够恢复IAA在植株体内的极性运输能力.

关键词 [硼](#) [IAA](#) [极性运输](#) [顶端优势](#)

分类号

Effects of boron on indole-3-acetic acid transportation in intact *Phaseolus aureus* plant

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Abstract

With intact *Phaseolus aureus* plant as test material, this paper studied the effects of boron deficiency on its axillary bud growth and polar auxin transportation. The results showed that boron deficiency induced axillary bud growth significantly, while applying indole-3-acetic acid (IAA) could suppress the axillary bud growth induced by the decapitation of boron sufficient plant. When the plant deficient in boron was decapitated, applying IAA could delay the axillary bud growth. Compared with boron sufficient plant, the plant deficient in boron had an inhibited auxin basipetal movement in terms of the shorter distance of ³H-IAA peak from apex, and less total radioactivity detected in stem. No radioactivity was found in the axillary buds in any of the treatments, suggesting that the basipetal IAA transportation in stem rather than the IAA accumulation in bud was required for the inhibition of bud growth. A 24 h boron supply to the boron deficient plant could restore its ³H-IAA transportation.

Key words [boron](#) [IAA](#) [polar auxin transport](#) [apical dominance](#)

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