

研究论文

# 大豆几种光周期处理效应的植物激素解析

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**摘要** 研究了大豆光照后效应、开花逆转、光周期对源库关系的调控、摘荚后光周期反应等现象中, 内源激素的变化及几种外源生长物质对大豆发育的效应。结果表明, 开花前对超早熟大豆品种东农36进行短日处理, 明显加快开花后发育速度, 降低叶片中的ABA和ZR<sub>s</sub>含量;幼苗期(VE-V<sub>2</sub>)对晚熟品种自贡冬豆进行10 d左右的短日处理, 尔后置15 h长日照下, 叶片IAA含量高于全期长日处理, ABA含量低于全期长日处理。在短日照下4类激素含量的叶/粒比低于长日处理, 这一现象可能与短日条件下百粒重增大有关。对摘除花荚的植株进行短日处理, 可显著提高叶片中ABA和IAA含量。短日下喷施GA<sub>3</sub>, 长日下喷施PP333, S3307等GAs合成抑制剂和ABA, 均未明显影响大豆的发育进程。讨论了大豆生长发育化学调控的复杂性。

**关键词** [大豆](#) [光周期](#) [后效应](#) [开花逆转](#) [源库关系](#) [植物激素](#)

分类号

## Phytohormonal Analysis of Some Photoperiod Effects in Soybean

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**Abstract** The changes of endogenous hormones in photoperiod after-effect, long day (LD) induced flowering reversion, photoperiod regulation on source-sink relation, photoperiod response of depodded plants and effects of some exogenous growth substances on soybean development were studied. Pre-flowering short day (SD, 12h) treatment promoted post-flowering development of super-early soybean variety Dongnong 36 and decreased the contents of ABA and ZR<sub>s</sub> in leaves after flowering. The seedlings of Zigongdongdou(a late variety) induced in SD from VE(emer-gence) to V<sub>2</sub>(second-node stage) and then transferred to long days (LD, 15h) had higher IAA and lower ABA in the leaves, compared with that in continuous LD. The ratio of hormonal contents in leaves to that in seeds was lower in SD than in LD. The increase of seed weight in SD might be related to more partitioning of hormone to seeds. When the plants were depodded, the contents of ABA and IAA in the leaves increased in SD. Applications of GA<sub>3</sub> in SD, PP333, S3307 and ABA in LD didn't greatly influence for the development of soybean. The chemical control of soybean development was discussed.

**Key words** [Soybean](#) [Photoperiod](#) [After-effect](#) [Flowering reversion](#) [Source-sink relation](#) [Phytohormone](#)

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