The Role of the *BLADE-ON-PETIOLE* Genes in the Regulation of Plant Growth and Development

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Doctoral Thesis
Swedish University of Agricultural Sciences
Umeå 2008

Acta Universitatis agriculturae Sueciae
2008:69

ISSN 1652-6880
ISBN 978-91-86195-02-1

Tryck: Arkitektkopia, Umeå, Sweden, 2008

Abstract

Holmlund, M. 2008 The Role of the *BLADE-ON-PETIOLE* Genes in the Regulation of Plant Growth and Development. Doctor's dissertation, ISBN: 978-91-86195-02-1, ISSN:1652-6880

Plants need to adjust their growth and development in response to changes in environmental factors such as light intensity, light quality, temperature and water availability. Here I describe the identification of the *BLADE-ON-PETIOLE* (*BOP)* genes and their role in the regulation of the growth of lateral organs and stem vascular tissues.
I show that the *BOP* genes affect leaf lamina formation through the repression of *KNOX* genes and *JAGGED*, and suppress the formation of bracts through an interaction with the flower meristems-identity gene *LEAFY*. I also show that the *BOP* genes provide a direct link between light signal transduction and the regulation of plant development.

Keywords: Development, *BOP1, BOP2*, *LEAFY, KNAT1, PIF4*

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