

CHAPTER 42

PLANT MOLECULAR BIOLOGY

Doctoral Theses

362. SARIN (Lakshmi Pasricha)
Role of Salicylic in Flowering in Lemnaceae During Biotic Stress and Characterization of a Developmental Mutant of Lemna Gibba.
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Abstract

Focuses on the identification of bacterial strains and the mechanism by which they could trigger induction of flowering in *lemna gibba* G3 (a long-day strain) and *lemna paucicostata* 6746 (a short-day strain). Whether these bacterial strains and elicitors induce flowering by altering the endogenous levels of salicylic acid was one of the major points of interest in this investigation. Deals with the characterization of a spontaneous mutant of *lemna gibba* G3, which displays increased frond size and root length, and alteration in flowering behaviour. Since most of the experimental work done deals with the role of salicylic acid in regulating flowering and also various other growth parameters, this thesis begins with an overview of the role of salicylic acid in regulating plant development, with greater emphasis on its role in floral induction, thermogenesis during inflorescence development, and in conferring disease resistance by triggering pathogenesis-related protein genes.

Contents

1. Review of previous work: current status of research on salicylic acid-an emerging plant growth regulator. 2. Materials and methods. 3. Characterization of a spontaneous mutant of *lemna gibba* G3 that displays altered frond morphology and flowering behaviour. 4. Salicylic acid : An endogenous signal for induction of flowering in duckweeds during biotic stress. 5. Summary and conclusion. Bibliography.