

ROSAROS

Project title: Implication of reactive oxygen species in the control of branching in plants.

Acronym: ROSAROS

Project duration: 36 months – Start date: 01/10/2017 End date 30/09/2020

Key-words: Reactive oxygen species – NADPH oxydase – Branching - Bud

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Summary:

Plant shape is an important parameter for consumer choice of ornamental plants. Nowadays, the preferences are oriented towards compact and highly ramified plants that better fits urban life mode. These plants require several pruning and/or chemical treatments to obtain the requested shape. These treatments are costly and not environmental friendly. Thus, alternative methods to obtain such plant shape are under investigation. In rose bush, bud outgrowth that control plant shape could be modulated by environmental factors such as light or nutrition. The precise understanding of the bud outgrowth mechanism appears as a critical step to develop alternatives based on environmental factors to pruning and chemical treatments. In the present project, we propose to append the existing molecular bud outgrowth model based on light/hormones/nutrients interactions with the contribution of oxidizing metabolism that is recently proposed to play an active role in plant development, including bud outgrowth.