

Can plants respond to root exudates of touched neighbours?

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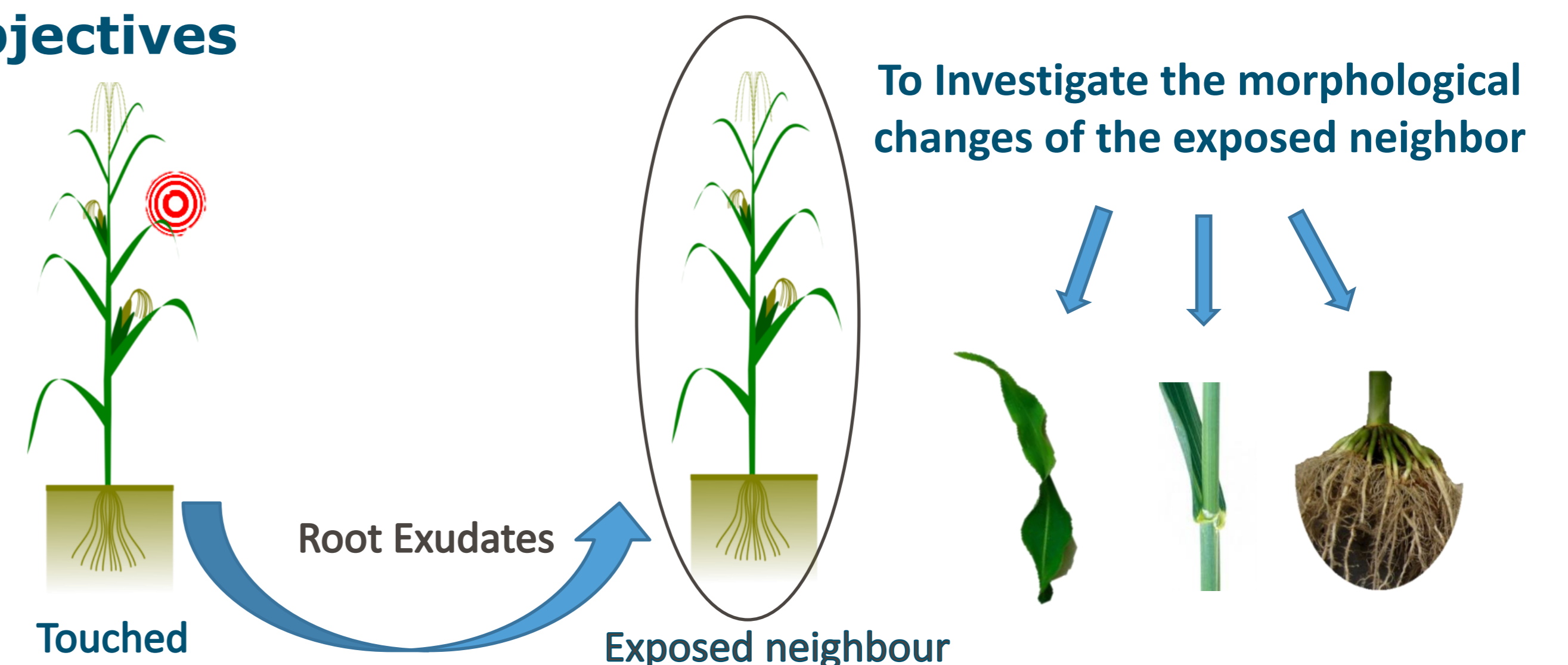
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Introduction

In nature, plants live together in communities composed of one or more species, and they incessantly communicate through a various mechanisms (e.g. Volatile organic compounds, light cues and root exudates) to interact with their neighboring plants. Leaves touching between undamaged neighboring plants considered as the most common daily base mechanical stimuli to which an individual plant has to respond.

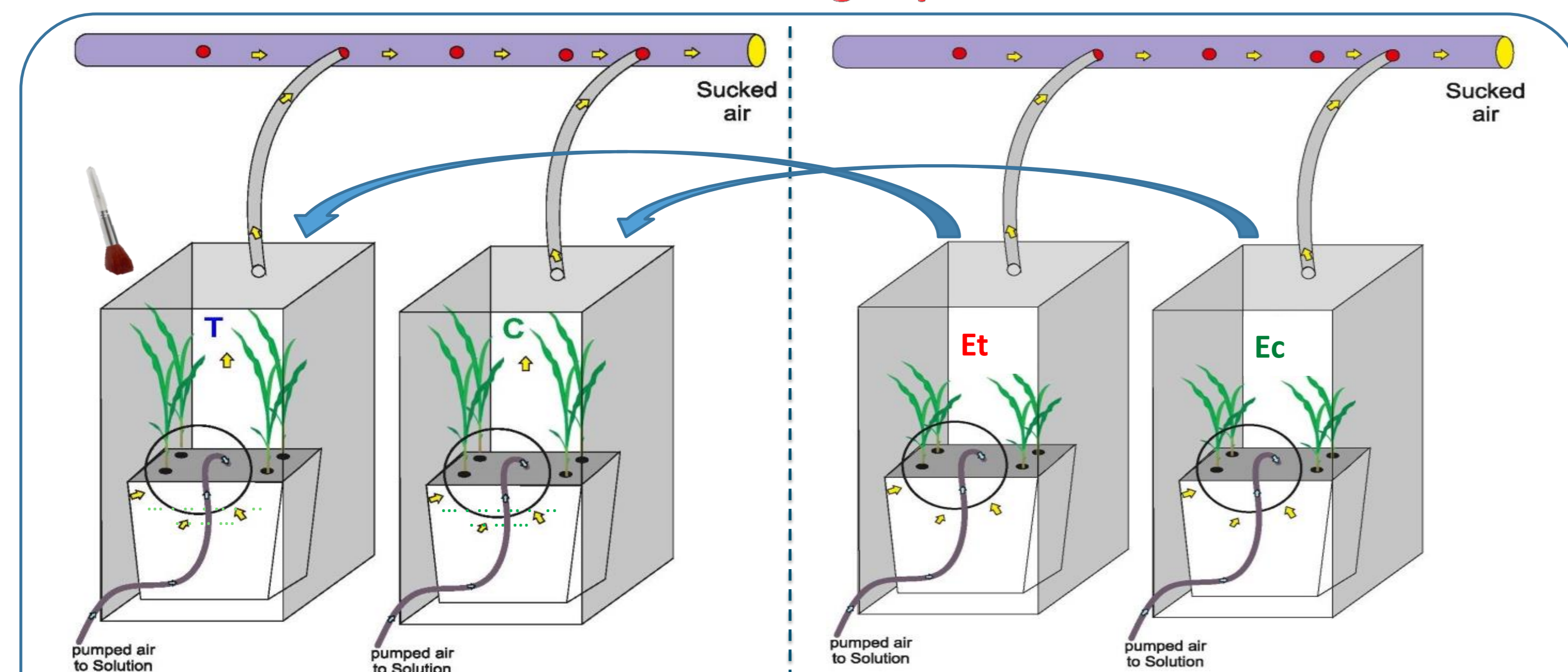
The ecological significance of plants interaction through root exudates as a response to mechanical stimuli has not been yet investigated.

Objectives



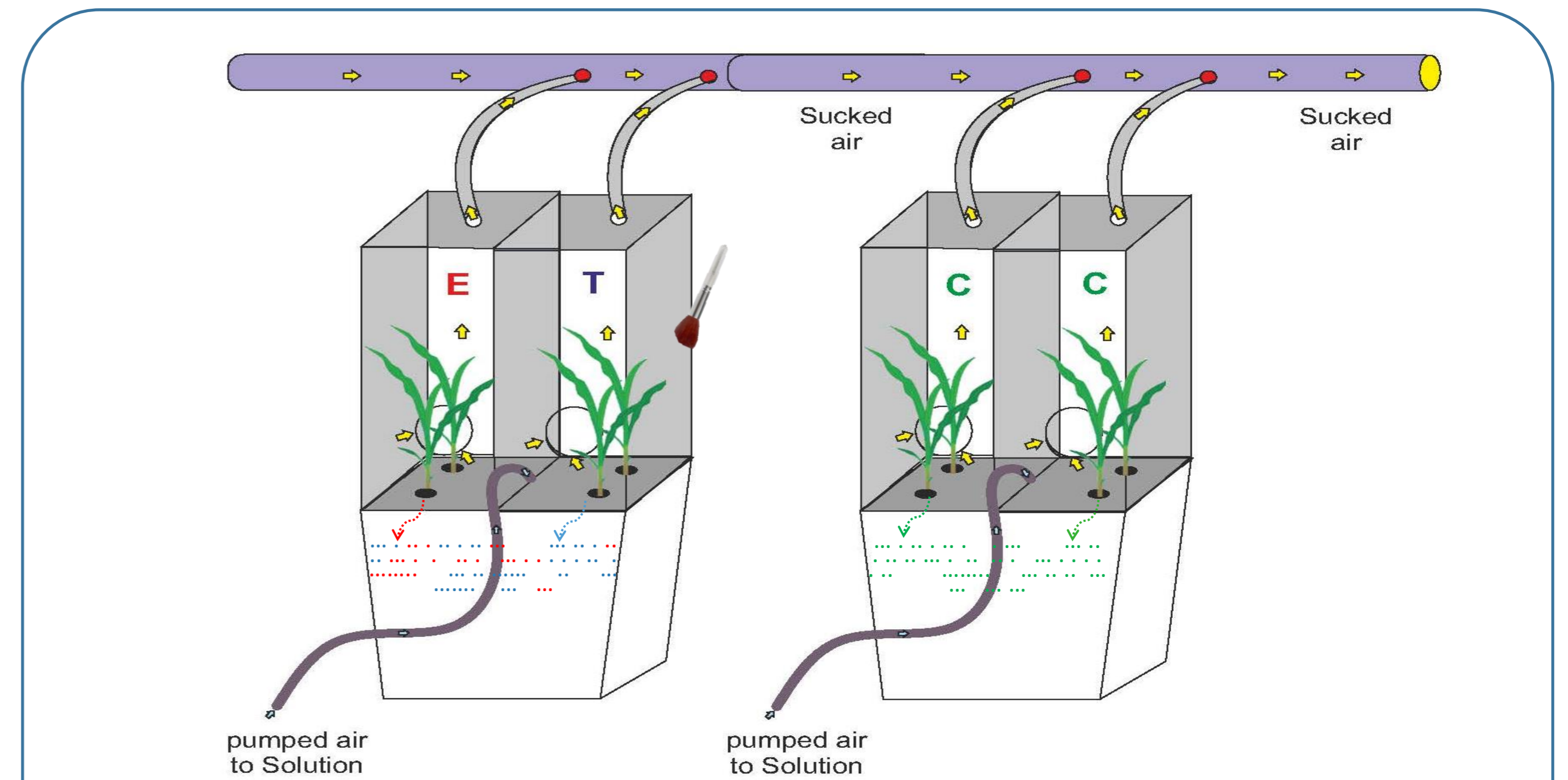
Methods

"The Transferring experiment"



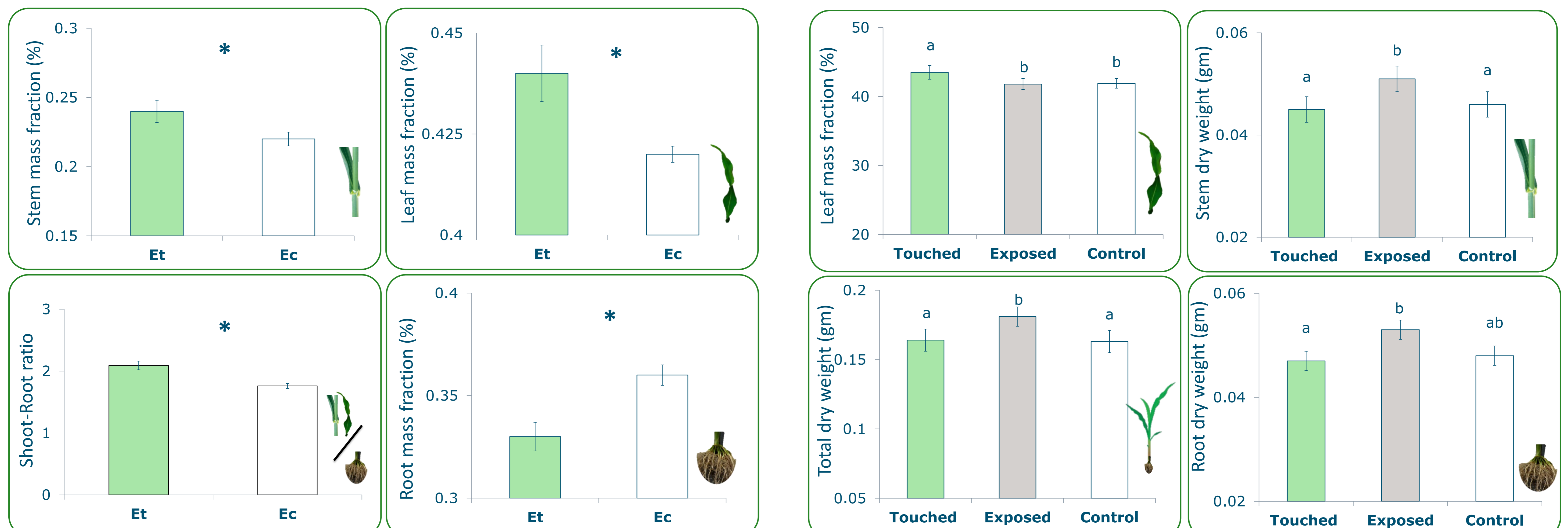
Treated maize plants (T) growing in Hoagland solution were brushed for 1 min over a period of 7 days, and then replaced with new plants (Et) to be exposed for 6 days to the former growing solution. Controls were plants (Ec) that transferred and exposed to the growing solution of the untreated ones (C).

"The sharing experiment"



Treated maize plants (T) shared the same growing solution with untouched neighbouring plants (E). Control was untouched plants (C) shared the same solution

Results



Conclusions

Through root exudate interaction, plants can acclimate and respond to the physiological and morphological statuses of their mechanically stimulated (Touched) neighbors from the same genotype.

References

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