



## Eucarpia Tomato 2022 - Abstract Submission

1 messaggio

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6 giugno 2022 09:34

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## Eucarpia Tomato 2022 - Abstract Submission

This is the abstract submission form for the Eucarpia Tomato 2022 meeting happening from May 31st to June 3rd in Valencia (Spain). Please submit one form per registered attendant (consult <https://eucarpia2022.webs.upv.es/registration/> for the registration instructions).

If you need to submit more than one abstract, please contact the organisers.

(Note: This form is editable, so you will be able to modify the abstract until the abstract submission closing date).

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**Title \***

If you title has some formatting, please use *<i></i>* and **<b></b>** to indicate italics and bold respectively (e.g. "Genetic Map of the species *Solanum arcanum*").

Strigolactones promote flowering through the miR319-*LANCEOLATE-SINGLE FLOWER TRUSS* module in tomato

**Authors \***

Please add the author names as Last Name, Initial of First Name (e.g. Doe, J.). Mark the presenting author with a \* and the corresponding author(s) with a # (e.g. Mason, N.\*, Wright, R., Waters, R.#, Gilmour, D.#). Specify the affiliation with a number between square brackets (e.g. Mason, N.\*[1], Wright, R.[2], Waters, R.#[1,2], Gilmour, D.#[1])

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**Affiliations \***

Add the affiliations with numbers and separated by semicolons (e.g. "1- Hampstead, London, U.K.; 2- Cambridge, Cambridgeshire, U.K.")

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### Abstract \*

Max. 250 words.

Strigolactones are a class of phytohormones with various functions in plant development, stress responses, and in the interaction with (micro)organisms in the rhizosphere. As developmental regulators, they control above and below-ground morphology, but while their effects on vegetative development are rather well studied, little is known about their role in reproduction. We investigated the mechanisms underlying reported defects by strigolactone-related mutants in solanaceous plants, using tomato as a model. The results showed that strigolactone levels in the shoot, whether endogenous or exogenous, inversely correlate with the time from germination to flowering, with the number of flowers and with the transcript levels of the florigen-encoding gene SINGLE FLOWER TRUSS (SFT) in the leaves. Genome-wide and targeted transcript quantifications coupled to metabolite analyses demonstrated for the first time that strigolactones induce the activation of the miR319-LA (LANCEOLATE) module in tomato leaves, and affect the gibberellin flowering pathway in tomato. The induction of SFT by exogenous strigolactones can occur both before and after floral transition, and is blocked in plants expressing a miR319-resistant version of LA under the control of the LA native promoter. Our study represents the first positioning of strigolactones in the context of the flowering regulation network in any plant species.

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### Preferred presentation type \*

- Oral presentation
- Poster session
- Both

Section under which the abstract will be submitted

	Primary (Preferred session)	Secondary (Alternative session)
Session 1. Genetic Resources.	<input type="radio"/>	<input type="radio"/>
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