

La calidad del producto
resultado de la innovación a lo largo de la cadena

El producto de calidad:



... No es resultado del azar

*... No es resultado
de la mera prueba y error*

*... Ni siquiera es resultado
del esfuerzo desordenado*

*... Por lo tanto,
¿De qué es el resultado
el producto de calidad?*

«DECODIFICANDO» LA CADENA DE VALOR



CENTRO de INVESTIGACIÓN en
BIOTECNOLOGÍA AGROALIMENTARIA



SEMILLA

Mejora genética para:

- ▶ Mayor productividad
- ▶ Mayor resistencia a stress biótico y abiótico
- ▶ Mayor calidad organoléptica
- ▶ Mejores cualidades nutricionales



Theor Appl Genet (2013) 126:83–92
DOI 10.1007/s00122-012-1961-0

ORIGINAL PAPER

Genetic mapping of two QTL from the wild tomato *Solanum pimpinellifolium* L. controlling resistance against two-spotted spider mite (*Tetranychus urticae* Koch)

Maria Salinas ·



Plant Growth Regul (2011) 65:213–221
DOI 10.1007/s10725-011-9589-7

ORIGINAL PAPER

The role of ethylene and brassinosteroids in the control of sex expression and flower development in *Cucurbita pepo*

Susana Manzano ·



Evolutionary Biology (2014) 330:349–362
DOI 10.1007/s11692-014-1155-8

Received: 22 November 2013
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Communicated by

Received: 16 January 2014
© Springer Science+Business Media Dordrecht 2014

Abstract Parthenocarpic trait for off-season squash. Genetic mapping of the activity of ethylene and brassinosteroids in the control of sex expression and flower development in *Cucurbita pepo* L. revealed that ethylene and brassinosteroids are involved in the control of sex expression and flower development in this species. The ethylene response element (ERE) and brassinosteroid response element (BRE) motifs were found in the promoter region of the *SlGAI1* gene, which is involved in the control of sex expression and flower development in this species. The ethylene response element (ERE) and brassinosteroid response element (BRE) motifs were found in the promoter region of the *SlGAI1* gene, which is involved in the control of sex expression and flower development in this species.

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Plant Science
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Mutation at the tomato EXCESSIVE NUMBER OF FLORAL ORGANS (ENO) locus impairs floral meristem development, thus promoting an increased number of floral organs and fruit size

Antonia Fernández-Lozano^{1,1}, Fernando J. Yuste-Ibañeta^{1,1}, Fernando Pérez-Martin¹, Benito Pineda¹, Vicente Moreno¹, Rafael Lozano^{1,1}, Trinidad Angosto¹

¹Centro de Investigación en Biotecnología Agroalimentaria (BIOTAL), Universidad de Almería, 04130 Almería, Spain
²Instituto de Biología Molecular y Celular de Sevilla (IBMC), Universidad Pablo de Olavide, 4610 Sevilla, Spain

ARTICLE INFO
ABSTRACT

1. Introduction
Plants have the unique ability to produce new organs continuously due to the indeterminate growth of undifferentiated stem cells located in specific regions, the meristems. Reproductive development starts when the shoot apical meristem (SAM) changes its developmental pattern giving rise to the inflorescence meristem (IM), which produces several floral meristems arranged in a species-specific phyllotaxis. In contrast to the SAM, the floral meristem (FM) shows determinate growth leading to the development of a specific number of organs with particular size and shape before ceasing its meristematic activity [1]. This developmental process, named floral determinacy, is critical for the reproductive success of plants, and requires a precise temporal and spatial control of gene expression to regulate the cessation of stem cell activity in the FM. In Arabidopsis, the homeobox gene WUSCHEL (WUS) is necessary to maintain the stem cell domain in the shoot and floral meristems [2]. The floral identity gene LEAFY (LFY) and WUS are expressed after floral induction and they activate the MADS box gene AGAMOUS (AG), which in turn plays an important role for both FM determinacy and floral organ identity [1–3]. In addition, WUS expression decreases when AG expression is activated. Thus, repression of WUS by AG is necessary to terminate stem cell activity at the appropriate time for floral development, allowing the cells in the centre of the flower to differentiate into carpels [4]. Tomato (*Solanum lycopersicon* L.) is a major crop plant that

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Euphytica (2014) 200:349–362
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Received: 22 November 2013
© Springer Science+Business Media Dordrecht 2014

Abstract In this study, we evaluated the effect of ethylene and brassinosteroids on the sex expression and flower development in *Cucurbita pepo* L. cv. ‘Gala’.



Received: 16 January 2014
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Abstract Parthenocarpic trait for off-season squash. Genetic mapping of the parthenocarpic trait in *Cucurbita pepo* L. cv. ‘Gala’.

Communicated by J. M. Martínez.

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ARTICLE INFO
Received 18 October 2014
Revised 12 December 2014
Accepted 12 December 2014
Available online 15 December 2014

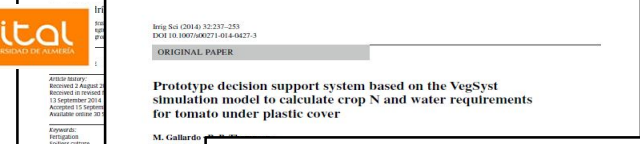
ABSTRACT
A novel tomato (*Solanum lycopersicon* L.) mutant, affected in reproductive development, excessive number of floral organs (*ENO*), is described in this study. The *eno* plants yielded flowers with a higher number of floral organs in the three innermost floral whorls, and larger fruits than those found in wild-type plants. Scanning electron microscopy analysis indicated that the rise in floral organ number and fruit size correlates with an increased size of floral meristems at early developmental stages. It has been reported that mutation at the *EXCESSIVE NUMBER OF FLORAL ORGANS* (*ENO*) gene causes the development of flowers with supernumerary organs; however, complementation test and genetic mapping analysis proved that *ENO* is not an allele of the *PA5* locus. Furthermore, expression of *ENO* in *Arabidopsis thaliana* (*AtENO*) and *Arabidopsis thaliana* (*AtENO*), the two main regulators of floral meristem activity in tomato, is altered in *eno* but not in *pa5* flowers, indicating that *ENO* could exert its function in the floral meristems independently of *PA5*. Interestingly, the *eno* mutation delayed the expression of *IMA* leading to a prolonged expression of *SWW5*, which would explain the greater size of floral meristems. Taken together, results showed that *ENO* plays a significant role in the genetic pathway regulating tomato floral meristem development.
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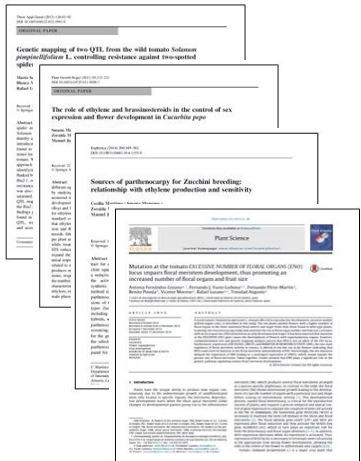
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INPUTS

Mejora genética

Investigación en
manejo agronómico para:

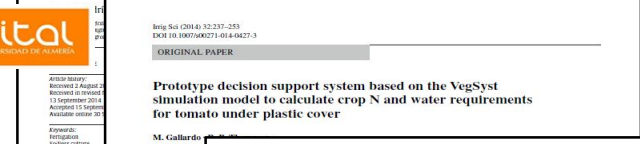
- ▶ Mejor utilización del agua
- ▶ Mayor productividad
- ▶ Mejora de fertilizantes
- ▶ Reducción de lixiviación



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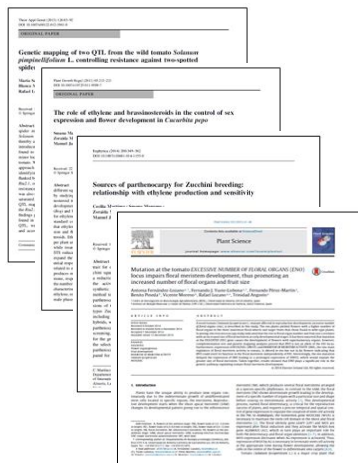
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SEMILLA

INPUTS

ENTORNO

Mejora genética

Manejo
agronómico

Investigación en
estructuras productivas
para:

- ▶ Mayor eficiencia energética
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- ▶ Menores costes de producción



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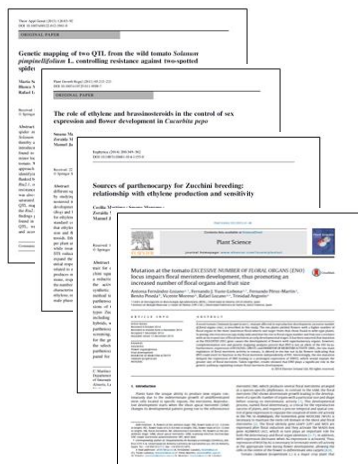
Mejora genética

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Estructuras
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Investigación en
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para:

- ▶ Garantizar inocuidad de los alimentos
- ▶ Desarrollar métodos sostenibles de control biológico



Abstracted Methods
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Ana C. Galindo, Ana María Michonowicz, Jan Scholten, Maaike de Krom, Abdel-Atif Abdou, R. Prasadhar, Alina

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Comparis tomato-pa
Amalia Bots-Buiz · Laura Gálvez-Palón · Miguel de Cara-García · Daniel Palomero-Lamas · Francisco Camacho-Ferre · Julio César Tello-Marquina

Journal of Theoretical Biology
Functional response and population dynamics for fighting predator, based on activity distribution

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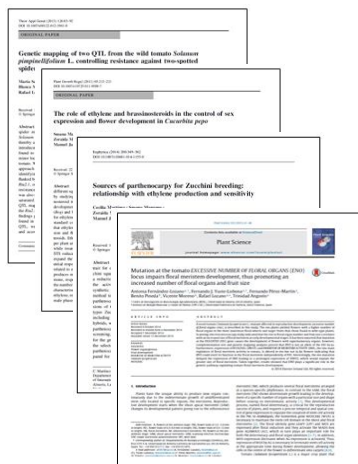
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MERCADO

Mejora genética

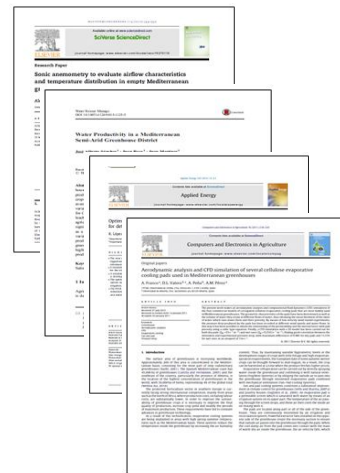
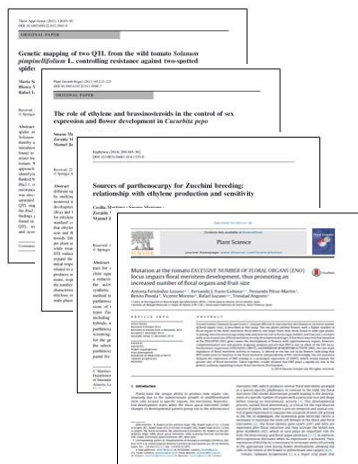
Manejo
agronómico

Estructuras
productivas

Seguridad
alimentaria

Investigación
sobre
mercados:

- ▶ Calidad postcosecha
- ▶ Distribución
- ▶ Consumidor



Original Article
Nutrient composition and antioxidant activity of eight ton (*Lycopersicon esculentum*) varieties
J.L. Gull-Guerrero · M.M. Rebolloso-Fuentes

Produ Perfor Coope Spanish Horticultural Sector
Emilio Galdeano-Gómez, José Céspedes-Lorente and Manuel Rodríguez-Rodríguez

Envi Produ Anal
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Transport Policy
Logistics network and externalities for short sea transport: An analysis of horticultural exports from southeast Spain
Juan Carlos Pérez-Mesa¹, Emilio Galdeano-Gómez², José A. Salinas Andújar³

«DECODIFICANDO» LA CADENA DE VALOR



CENTRO de INVESTIGACIÓN en BIOTECNOLOGÍA AGROALIMENTARIA



SEMILLA

INPUTS

ENTORNO

SEGURIDAD

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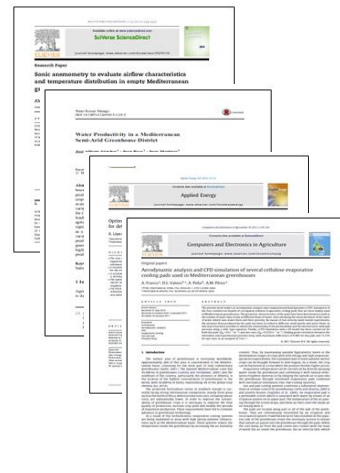
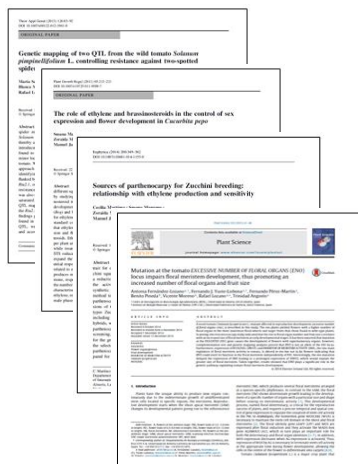
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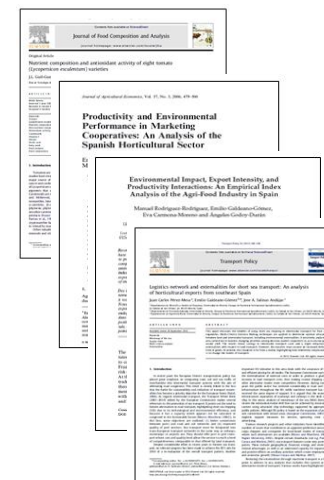
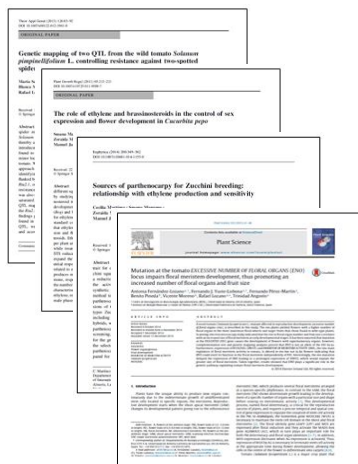
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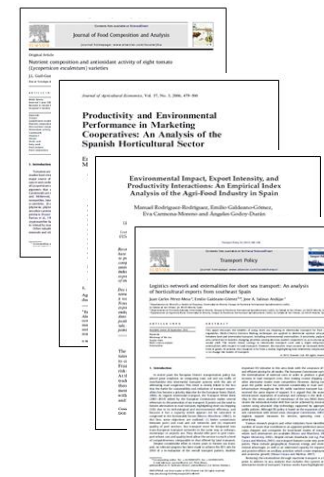
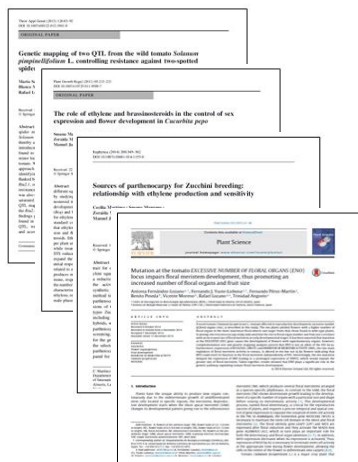
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SINTETIZANDO EL RESULTADO DE LA I+D+i

El resultado
de este esfuerzo
coordinado en
I+D+i es:



El producto de calidad
*Es decir, el producto
sabroso, seguro y saludable
que el consumidor busca*

SEMILLA

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ENTORNO

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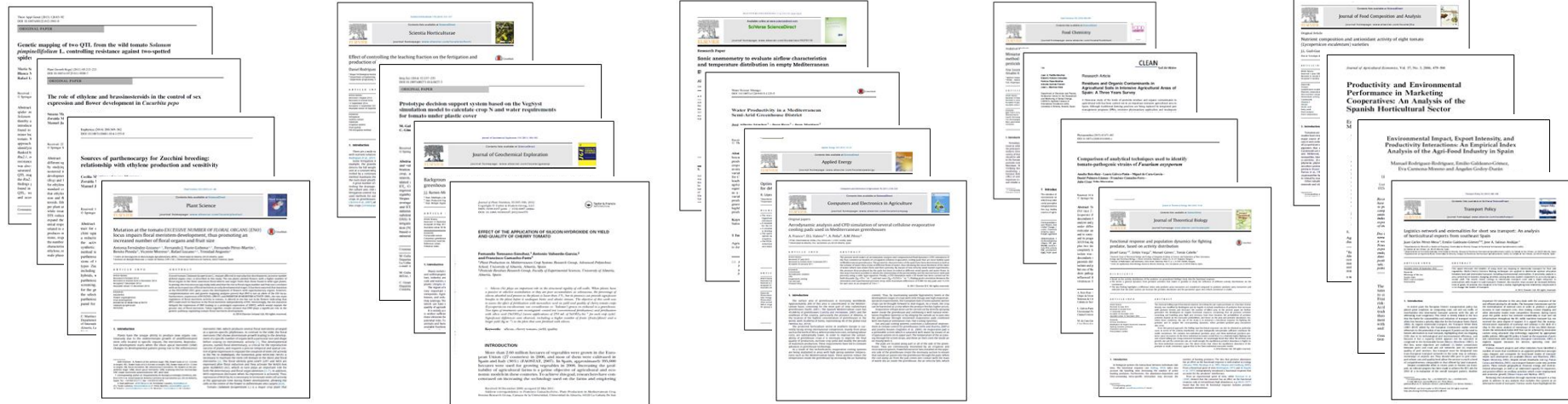
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CENTRO de INVESTIGACIÓN en
BIOTECNOLOGÍA AGROALIMENTARIA

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