



**UvA-DARE (Digital Academic Repository)**

**Locus-dependent selection in crop-wild hybrids of lettuce under field conditions and its implication for GM crop development**

Hooftman, D.A.P.; Flavell, A.J.; Jansen, H.; den Nijs, H.C.M.; Syed, N.H.; Sørensen, A.P.; Orozco-ter Wengel, P.; van de Wiel, C.C.M.

*Published in:*  
Evolutionary Applications

*DOI:*  
[10.1111/j.1752-4571.2011.00188.x](https://doi.org/10.1111/j.1752-4571.2011.00188.x)

[Link to publication](#)

*Citation for published version (APA):*

Hooftman, D. A. P., Flavell, A. J., Jansen, H., den Nijs, H. C. M., Syed, N. H., Sørensen, A. P., Orozco-ter Wengel, P., & van de Wiel, C. C. M. (2011). Locus-dependent selection in crop-wild hybrids of lettuce under field conditions and its implication for GM crop development. *Evolutionary Applications*, 4(5), 648-659. <https://doi.org/10.1111/j.1752-4571.2011.00188.x>

**General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

**Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

**Table S1** Calculations for Locus based expected segregation ratios (E) for the BC<sub>1</sub> and BC<sub>1S1</sub> generations, based on extrapolated observed segregation patterns of the control (S<sub>1</sub>) generation for co-dominant and dominant marker (parentage of locus). The BC<sub>1</sub>-generation is expected to have the same level and direction of background segregation distortion as the S<sub>1</sub>-generation; in the BC<sub>1S1</sub> generation the background segregation distortion is assumed to have occurred for an additional meiosis event with the same level and direction of distortion. For AFLP loci the expected ratio in the BC<sub>1S1</sub> is additionally corrected for the proportion of offspring derived from heterozygous plants and homozygous plants. Included are the expected neutral Mendelian segregation ratios. For the S<sub>1</sub> generation the observed segregation ratio of homozygous *L. serriola* alleles is standardized to *L. serriola* = 1.

|   | Mendelian <sup>†</sup> | Co-dominant                              | Dominant ( <i>L. serriola</i> ) | Dominant ( <i>L. sativa</i> )               |
|---|------------------------|--|---------------------------------|---|
| <b>BC<sub>1</sub></b>                                 |                        |  |                                 |   |
| <b>E<sub>L. serriola</sub> (E<sub>ser(B)</sub>)</b>   | 1; -; 1                | 1  | -                               | 1   |
| <b>E<sub>heterozygotes</sub> (E<sub>het(B)</sub>)</b> | 1; -; -                | $\left(\frac{O_{het}}{2}\right)$         | -                               | -   |
| <b>E<sub>L. sativa</sub> (E<sub>sat(B)</sub>)</b>     | -; -; 1                | -  | -                               | $\left(\frac{O_{sat}}{3}\right)$            |
| <b>BC<sub>1S1</sub></b>                               |                        |  |                                 |   |
| <b>E<sub>L. serriola</sub></b>                        | 5; 7; 5                | $(E_{het(B)} + (1 + O_{het} + O_{sat}))$ | 7                               | 5   |
| <b>E<sub>heterozygotes</sub></b>                      | 2; -; -                | $(E_{het(B)} \times O_{het})$            | -                               | -   |
| <b>E<sub>L. sativa</sub></b>                          | 1; 1; 3                | $(E_{het(B)} \times O_{sat})$            | $(3 \times O_{sat})^2$          | $\left(\frac{O_{sat}}{3}\right)^2 \times 3$ |

*O<sub>het</sub>*: observed segregation ratio of heterozygotes in the control generation relative to *L. serriola*

*O<sub>sat</sub>*: idem for homozygous *L. sativa*.

<sup>†</sup>: Mendelian expected segregation for co-dominant; dominant (*L. serriola*); dominant (*L. sativa*)