



Surfactin Protects Wheat against *Zymoseptoria tritici* and Activates Both Salicylic Acid- and Jasmonic Acid-Dependent Defense Responses

Submitted by Matthieu Gaucher on Fri, 12/21/2018 - 09:38

Titre	Surfactin Protects Wheat against <i>Zymoseptoria tritici</i> and Activates Both Salicylic Acid- and Jasmonic Acid-Dependent Defense Responses
Type de publication	Article de revue
Auteur	Le Mire, Geraldine [1], Siah, Ali [2], Brisset, Marie-Noëlle [3], Gaucher, Matthieu [4], Deleu, Magali [5], Jijakli, M. Haissam [6]
Editeur	MDPI
Type	Article scientifique dans une revue à comité de lecture
Année	2018
Langue	Anglais
Date	2018
Numéro	1
Pagination	11
Volume	8
Titre de la revue	Agriculture
ISSN	2077-0472
Mots-clés	Biocontrol [7], induced resistance [8], surfactin [9], Winter wheat [10], <i>Zymoseptoria tritici</i> [11]
Résumé en anglais	<p>Natural elicitors induce plant resistance against a broad spectrum of diseases, and are currently among the most promising biocontrol tools. The present study focuses on the elicitor properties of the cyclic lipopeptide surfactin on wheat, in order to stimulate the defenses of this major crop against the challenging fungal pathogen <i>Zymoseptoria tritici</i>. The protection efficacy of surfactin extracted from the strain <i>Bacillus amyloliquefaciens</i> S499 was investigated through greenhouse trials. Surfactin protected wheat by 70% against <i>Z. tritici</i>, similarly to the chemical reference elicitor Bion®50WG. In vitro biocidal assays revealed no antifungal activities of surfactin towards the pathogen. A biomolecular RT-qPCR based low-density microarray tool was used to study the relative expression of 23 wheat defense genes. Surfactin significantly induced wheat natural defenses by stimulating both salicylic acid- and jasmonic acid-dependent signaling pathways. Surfactin was successfully tested as an elicitor on the pathosystem wheat-<i>Z. tritici</i>. These results promote further sustainable agricultural practices and the reduction of chemical inputs.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua18481 [12]
DOI	10.3390/agriculture8010011 [13]
Lien vers le document	https://www.mdpi.com/2077-0472/8/1/11 [14]
Titre abrégé	Agriculture

Liens

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- [3] <http://okina.univ-angers.fr/m.brisset/publications>
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- [13] <http://dx.doi.org/10.3390/agriculture8010011>
- [14] <https://www.mdpi.com/2077-0472/8/1/11>

Publié sur *Okina* (<http://okina.univ-angers.fr>)