



HAL
open science

Population genetic structure and host specialization in the fungal plant pathogen *Zymoseptoria tritici*

Lilian L. Gout, Johann J. Confais, Marie Massot, Aurélie Ducasse, Romain
Valade

► **To cite this version:**

Lilian L. Gout, Johann J. Confais, Marie Massot, Aurélie Ducasse, Romain Valade. Population genetic structure and host specialization in the fungal plant pathogen *Zymoseptoria tritici*. ECFG13 European conference on fungal genetic, 2016, PARIS LA VILLETTE, France. p.275, 2016. hal-02800481

HAL Id: hal-02800481

<https://hal.inrae.fr/hal-02800481>

Submitted on 5 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

POSTER SESSION ABSTRACTS
Session CS2 Pathogenesis and symbiosis
CS2M141

Monday 4th April
14:00 - 16:00

GOUT Lilian (3), CONFAIS Johann (1), MASSOT Marie (1), DUCASSE Aurélie (1), VALADE Romain (2).

(1) BIOGER, INRA, AgroParisTech, Thiverval-Grignon, France,

(2) ARVALIS, Pathologie Végétale, Thiverval-Grignon, France,

(3) BIOGER, AgroParisTech, INRA, Thiverval-Grignon, France

Population genetic structure and host specialization in the fungal plant pathogen *Zymoseptoria tritici*

Zymoseptoria tritici causes Septoria tritici blotch of wheat, one of the most important diseases of this crop worldwide. Yield losses can reach 50% in disease-conducive climates and epidemics occur regularly both on hexaploid bread wheat (*Triticum aestivum*) and tetraploid durum wheat (*Triticum turgidum* ssp. *durum*). Isolates of *Z. tritici* exhibit both cultivar specificity (ability to infect only some cultivars of either bread or durum wheat) and host species specificity (ability to only infect one or the other wheat species). In France, the major bread wheat growing areas are located in the northern regions of the country whereas durum wheat is mainly cropped in the southern regions. Besides these traditional growing regions, both species are also cultivated in the 'Centre' region and in the southwestern region of France. In this study, we exploited these contrasted agrosystems to investigate, at a population level, the extent of host specialization in *Z. tritici* and to test whether this specificity towards bread or durum wheat had a significant effect on the genetic structure of the fungal populations. A set of 700 isolates were sampled from naturally infected fields of bread and durum wheat in four main French growing regions and genotyped using 12 microsatellite markers. The level of host specialization of 72 isolates from these populations was also determined by cross inoculation experiments on a panel of bread and durum wheat varieties.
