AVRIL 2016 // PARIS FRANCE

9th INTERNATIONAL SYMPOSIUM ON SEPTORIA DISEASES OF CEREALS

LEAF BLOTCH ON DURUM WHEAT IN FRANCE: CHARACTERIZATION OF THE SPECIES COMPLEX RESPONSIBLE FOR THE DISEASE WITH A FOCUS ON PARASTAGONOSPORA NODORUM.

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DESCRIPTION RÉSUMÉE

Leaf blotch, caused by Zymoseptoria tritici and Parastagonospora nodorum is a major disease complex of wheat worldwide. In France, these diseases have been reported to cause yield losses up to 50% in bread wheat fields. Yield losses are mainly caused by Z. tritici on bread wheat. However, only little information is available in France for epidemics on durum wheat that are increasing in prevalence in recent years. We recently conducted a 3 years survey of leaf blotch on durum wheat and neighbouring bread wheat fields in France. Since Z. tritici and P. nodorum cause relatively similar symptoms on wheat, we tested the presence of these two fungal species in infected leaves using microbiological isolation methods and qPCR detection. Z. tritici was detected in all French regions on both durum wheat and bread wheat. On durum wheat, P. nodorum was detected in most French regions. On bread wheat P. nodorum was only quantified at low levels by qPCR. On both durum wheat and bread wheat, P. nodorum frequently co-occurred with Z. tritici at leaves and fields levels. French durum wheat cultivars were highly susceptible to the French P. nodorum isolates tested. Bread wheat, triticale and barley susceptibilities were cultivar and isolate dependant. These results show that control of leaf blotch on durum wheat, in France, needs to take into account the presence of P. nodorum. More detailed studies, about its response to current fungicides and about the necrotrophic effectors present in French populations will help manage leaf blotch on durum wheat.

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