

Leaf blotch diseases in barley and wheat in the Nordic - Baltic region: occurrence and yield impact

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Abstract: Three leaf blotch diseases in wheat, septoria tritici blotch, tan spot, and stagonospora nodorum blotch (acronyms: STB, PTR, SNB), are largely considered as chronic diseases in the Nordic – Baltic region. In barley, the most common leaf blotch diseases in the area are net blotch and scald. There is a wide variation in incidence and severity of these diseases between years and cultivation areas. The variation is related to climatic conditions and cultivation history and methods. Fungicides are used as an acute control measure when preventive actions have been insufficient to maintain disease severities at levels that are acceptable to the grower. The use of fungicides varies in the region, with a higher frequency of treatments in the southern areas and a lower frequency further north. While in some areas the main questions relates to the number of treatments, doses and timings, other areas might not need to apply fungicides at all.

The ongoing research project Spot-IT (IT-solutions for user friendly IPM-tools in management of leaf spot diseases in cereals 2017 - 2020) aims to provide cereal farmers with better models for predicting leaf blotch diseases in wheat and barley. In this study, data from past fungicide efficacy field trials from Denmark, Finland, Lithuania, Norway and Sweden were compiled and analysed in order to produce a comprehensive record of correlations between disease progress, and yield losses in the Nordic – Baltic region. The data was collected in 2006-2017 from spring barley, winter wheat (Denmark, Lithuania, Sweden) and spring wheat (Finland, Norway). The aim of our project is to use this information and knowledge to increase the understanding of leaf blotch diseases in cereal production in the Nordic-Baltic region and to define the economic thresholds for disease management and decision support on a multi-national level. The first results from the analysis will be presented.

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