

 **O.18 - Control of wheat diseases – optimizing control strategies**

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Wheat is the most important cereal crop grown in the EU. The yield levels and cropping conditions vary considerably between the different EU countries. Septoria leaf blotch, brown rust, take-all and fusarium head blight are considered as the most important diseases in the main wheat growing countries in terms of yield loss and quality of grain. Yellow rust, powdery mildew, tan spot and eyespot are also regarded as important diseases however the distribution is much more regional. Use of cultivars with effective resistance genes are well known as an important measure to reduce the risk of disease development and yield losses. The genetic resources used across Europe vary to a great extent as very few cultivars are grown in more than one country. Even the most resistant cultivars often give profitable yield responses from fungicide treatment, indicating that the resistance genes rarely cover all potential diseases that can attack the crop. Several cultural measures are known to help reduce disease pressure. These include factors such as delayed sowing, ploughing rather than non-inversion tillage, crop rotations avoiding wheat and maize as previous crops, reduced nitrogen input and reduced seed rates. Several of these factors have however significant impact on the potential yield and are therefore only incorporated to a limited extent. The approach for chemical control of diseases varies significantly between countries. The frequency of chemical control varies from 0 to 4 treatments per season, depending on the region and problems. The group has collected examples of strategies which can help to reduce the dependency on fungicides. These include: constant focus on growing disease-resistant and high-yielding cultivars; adjustments of cultural factors like delaying sowing and reducing nitrogen applications; encouraging the farmers (or advisers) to use of control thresholds in combination with field scouting; apply reduced and appropriate doses when ever possible and optimize net yield rather than gross yield; support farmers' decisions during the season by including monitoring data. In order to achieve a broader acceptability of sustainable strategies, policy-makers, stakeholders and extension services should encourage the implementation of IPM strategies. At present farmers lack motivation and incentives to change their present disease control behaviour. Major changes in the way things are done today would require major changes in policy.