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Oilseed rape ringspot disease in France - an overview

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Background:

Mycosphaerella brassicicola (Duby) Lindau, the cause of ringspot disease of crucifers, has been first described in France in 1826. Since then, it has been observed on cabbage, cauliflower and oilseed rape, in all other countries of western Europe with a temperate and humid climate. However, in France, the ringspot disease occurrence and severity have increased since mid-2000s. In Brittany and Poitou-Charentes ringspot is nowadays the first oilseed rape disease, above sclerotinia rot. *Mycosphaerella brassicicola* can lead to yield loss from 0.2 t/ha to 0.7 t/ha depending on the disease intensity. This loss is directly linked to a decreased photosynthetic activity on the pods which affects the thousand-seeds-weight. A few questions remain regarding early impact on leaf photosynthetic activity.

Objective:

Assess strategies (number, best spraying timing, etc.) as well as fungicide or biocontrol inherent efficacities (not shown here) are two goals pursued by this research. Overall, Terres Inovia aims to refine its advice for ringspot disease management for producers to reason the control of oilseed rape diseases while maintaining a satisfactory level of profitability.

Methods:

In the last years (2021 & 2022), Terres Inovia has set up three trial sites yearly in previously ringspot infected areas (Poitou-Charentes, Brittany).

Results:

Ringspot harmfulness has been mild in 2021 and 2022, leading to 0.2 to 0.3 t/ha of yield loss. This observation suggests that either the disease couldn't properly develop on pods due to unfavourable climatic conditions for M. brassicicola to grow or that the maturity of oilseed rape was early, pods drying up quickly: the disease couldn't therefore express its harmfulness. Therefore, in both years, efficacity assessment on pods wasn't reliable enough to discriminate the strategies: only leaf efficacity and yield are described below.

In 2021, early fungicide spraying at BBCH31 to BBCH53 stage showed respectively a low or none efficacity on leaves whatever the assessed solutions were, when recorded at BBCH65. At BBCH71, both trials showed that the two spraying programs (BBCH31/53 and BBCH65) were most efficient than the one spraying programs (at BBCH65). However, no significant yield difference was observed between those two types of fungicides spraying programs.

In 2022, at BBCH65, a good visual efficacity was recorded for the early fungicide spraying (at BBCH31/53) but no significant difference was any longer observed at BBCH71 for both type of spraying programs (two or one spraying). Moreover, there wasn't any significative yield difference between the programs.

Conclusions:

Those results strongly suggest that, in most situations, the one spraying program at BBCH65 is sufficient to manage ringspot on leaves and contain the pathogen progression toward the pods. The good visual efficacity rates obtained by the two spraying programs didn't convert into a higher yield compared to the one spraying programs. This can indicate a low harmfulness of the disease in the early stage of the crop and therefore advocate that ringspot affects yield when it migrates to the pods. Unfortunately, the disease intensity on pods was too weak to allow a discrimination between the solutions assessed. Studies are on-going in 2023, to confirm these results.