

SENSITIVITY SHIFT IN SOYA RUST UNDER SELECTION OF DIFFERENT FUNGICIDE CLASSES (QoI, DMI and others) -

Dr. Helge Sierotzki, Stefano Torriani
Syngenta Crop Protection

After the first appearance early 2000's, the increasing fungicide usage to control epidemics exerted augmented selection on the populations, leading to reduced sensitivity to DMI's, moderate resistance to QoI's and recently reduced sensitivity to SDHIs has been observed as well. The SDHI reduced sensitivity appeared only 4 years/seasons after the widespread usage of fungicides containing this mode of action. The current studies aim to characterize the fungicide sensitivity phenotype using bioassays based on spore germination and detached leaf assays. Resistance factors, cross resistance and possible impact on performance are determined. Furthermore the genetic background will be elucidated in order to associate amino acid changes to isolates with reduced sensitivity to the SDHI, DMI and or QoI modes of action. The fungal populations are highly conserved, displaying only minor variation within them. This indicates that Brazilian and global populations are rather homogeneous and ample exchange occurs between different regions. Possible scenarios for resistance management will be proposed, based on field experience, lab experiment results and model simulations, in which different fungicide classes are implemented in control strategies.