SENSITIVITY SITUATION OF *Phakospora pachyrhizi* TOWARDS FUNGICIDES: PHENOTYPIC, GENOTYPIC ASPECTS

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In contrast to most rust fungi, sensitivity towards fungicides has drastically changed in *Phakopsora pachyrhizi* during the recent 15 years. 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 and moderate resistance to QoI's. 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. The most recent findings on SDHI reduced sensitivity appeared only 4 years/seasons after the widespread usage of fungicides containing this mode of action. Strategies for resistance mitigation should integrate different aspects, such as a reduced number of SDHI applications, preferential use of more mixtures based on 2 MoAs compared to less sprays of 3 MoAs mixtures, adding of multi-sites to the spray program, increasing dosage of fungicides, alternations, positioning and other measures. These tactics need to be applied considering the specific characteristics of particular resistance or reduced sensitivity mechanisms. Possible scenarios for resistance management will be proposed, based on field experience and model simulations, in which different fungicide classes are implemented in control strategies.