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STATUS OF RESISTANCE TOWARDS SDHIS IN FRENCH POPULATIONS OF *Sclerotinia sclerotiorum* AND CHARACTERIZATION OF RESISTANT STRAINS. Anne-Sophie Walker*, Christiane Auclair*, Florent Rémuson#, Annie Micoud#, Julien Carpezat†, Martine Leflon† and Annette Penaud† * INRA, UR1290 BIOGER-CPP, F-78850 Thiverval-Grignon, France, #Anses, Unité Résistance aux produits phytosanitaires, F-69364 Lyon, France, †Terres Inovia, Laboratoire de Pathologie Végétale, F-78850 Thiverval-Grignon, France, E-mail: walker@versailles.inra.fr

Sclerotinia sclerotiorum is one of the main disease on oilseed rape and is mostly controlled by single applications of azoles, QoIs or SDHIs. In France, the first strains of *S. sclerotiorum* resistant to boscalid were detected within two seasons after commercial use of boscalid in 2008, even if this resistance kept at low frequency until the recent years. Nevertheless, since a few years, the joint monitoring carried out by Anses, Terres Inovia and INRA revealed an increasing proportion of locations with resistant sclerotia, sometimes correlated with poor efficacies of boscalid. Resistant strains exhibit cross-resistance between several SDHIs, including boscalid, fluopyram and most pyrazoles SDHI, with low to high resistance factors, according to the molecule. Up to 9 amino-acid substitutions were revealed, by HRM PCR, in resistant strains, either in the B, C or D subunits of succinate dehydrogenase, the target of SDHIs. As new SDHIs were recently introduced or will be introduced in the French market to control *S. sclerotiorum* and may co-select resistance with boscalid, all this information has to be considered manage SDHI resistance, especially in the areas where the resistance is well propagated (Eure et Loire and Loir et Cher departments) and to delay resistance in the other areas where resistance is still low.

Keywords: *Sclerotinia sclerotiorum*, SDHI, boscalid, fluopyram, target site resistance, monitoring, phenotyping, HRM PCR