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EFFICACY OF FUNGICIDES FOR MANAGING WHITE MOLD AND PROTECTING SOYBEAN YIELD: A META-ANALYSIS¹ / Eficácia de fungicidas no controle de mofo branco e aumento da produtividade da soja: uma metanálise. J. P. BARRO²; M. S. LEHNER²; E. M. DEL PONTE². ²Departamento de Fitopatologia, Universidade Federal de Viçosa, Campus Universitário, 36570-000, Viçosa, MG, Brazil. E-mail: jhonatan.barro@ufv.br

Several fungicides are recommended for the control of white mold (*Sclerotinia sclerotiorum*) but best options and the economic benefits have not been fully explored. A systematic review identified studies reporting fungicide trial data conducted from 2008 to 2014 across 16 locations in Brazil. Most data were extracted from a trial network report (Meyer et al., 2014). The performance of 5 fungicides, evaluated in at least 16 trials and applied twice (early flowering and 10 days later), were analyzed, totaling 42 trials: dimoxistrobin+boscalid (DIMO+BOSC), fluazinam (FLUZ), fluopyram (FLUO), procymidone (PROC) and thiophanate-methyl (T-MET). A network model was fitted the log of the means of white mold incidence (%) and sclerotia mass (g/ha) data and to the non-transformed mean yield (kg/ha) for each treatment, including the control. The % reduction in disease incidence relative to the control ranged from 37.6% (T-MET) to 70.4% (DIMO+BOSC); the latter not differing from FLUO (69.1%), FLUZ (67.3%) and PROC (63.7%). There was similar % reduction in sclerotia mass for DIMO+BOSC (76.3%), FLUO (72.1%), PROC (67.5%) and FLUZ (61.1%), all performing better than T-MET (40%). The mean yield gain ranged from 236 kg/ha (T-MET) to 615 kg/ha (DIMO+BOSC); the latter did not differ from FLUZ (575 kg/ha), FLUO (495 kg/ha) and PROC (453 kg/ha). The estimates of yield gains were used to estimate the probability of not offsetting the costs (P_{loss}) of two applications. Average costs of products and two applications (\$/ha) (PROC US\$ 105.4, FLUZ US\$ 100.2, DIMO+BOSC US\$ 96, T-MET US\$ 36.6) and soybean price (345 US\$/ton) were those of the 2016/17 season. The P_{loss} was lowest for DIMO+BOSC (29%), followed by the other fungicides, which were below 50% (35 to 41%). These results may be useful for decision making in disease management by taking both technical and economic decisions into account. Reference: Meyer et al. (Eds) Ensaios cooperativos de controle químico de mofo branco na cultura da soja: safras 2009 a 2012. Londrina: Embrapa Soja, 2014. Funding: FAPEMIG.

Key words: *Sclerotinia sclerotiorum*; *Glycine max*