



Selectivity of ACC-ase inhibitor herbicides in rice varieties

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Rice production in Uruguay is known due to very high yields and low inputs, associated with diversified systems that include rotations with pastures and other crops. *Echinochloa crus-galli* is the main weed in these systems, and usually is controlled with ALS, carotenoid-pigment synthesis or photosynthesis inhibitors, and/or synthetic auxins. Some ACCase inhibitors without safeners are available but much less used due to possible injury to rice. Moreover, resistance issues over some of the above mentioned herbicides are evolving. Therefore is crucial to learn more about the possibility to use ACCase herbicides in order to have alternative safe products for the crop. Selectivity of two doses (a commercial rate X and 1,5 X) of cyclohexanediones (DIMs) and aryloxyphenoxy-propionates (FOPs) herbicides and a control without herbicides were tested in three rice varieties (two *indica* and one temperate *japonica* types) at two growing stages (2 leaves and 1 tiller) in an uncontrolled environment. Germinated seeds were transplanted into 1500 cm³ pots, standing four plants each. A spraying precision chamber equipped with a 8002 flat nozzle, delivering 113 lha⁻¹ at 200 kPa was used. Plant Height and visual score of injury were evaluated at 27 and 56 days after application (DDA). Finally, plant dry matter aboveground was measured at 113 DAA. Differences between herbicides were observed in all varieties, as well as among doses and application time. Metamifop was very well tolerated by all varieties, no matter doses or rice stages. INIA Tacuarí –temperate japonica- tolerated profloroxim at commercial rates in both stages, but not setoxydim; INIA Olimar –indica- was affected by DIMs in early stages but not later, whereas the new variety, INIA Merín –indica-, sustained growth with profloroxim at a commercial rate while could not cope with setoxydim. Information about how new varieties respond to known herbicides and how common varieties respond to new herbicides is key to improve our toolbox towards delaying herbicide resistance.

Palavras-chave: profloroxim, metamifop, setoxydim, indica, temperate japonica

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