MONITORING OF AUXIN MIMICS HERBICIDE-RESISTANCE IN *CONYZA* SPECIES IN BRAZIL

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Destaque: Halauxifen-methyl did not cause symptom of foliar necrosis and controlled the individuals that showed it soon after 2,4-D and dicamba spray.

Resumo: *Conyza bonariensis*, *C. canadensis* and *C. sumatrensis* are reported as the most prevalent *Conyza* species in Brazil. They are frequent weeds in the comercial soybean fields and biotypes can exhibit distinct herbicide-resistance patterns. The multiple-resistance of *C. sumatrensis* to 2,4-D, glyphosate and other herbicides is a threat to the soybean growers. Thus, the work aimed to assess the frequency of *Conyza* spp. resistant to auxin mimics herbicides at a regional scale. We sampled 178, 104 and 98 *Conyza* accessions in 2019/2020, 2020/2021 and 2021/2022 seasons, respectively, collecting viable seeds from surviving and mature plants in soybean fields across edaphoclimatic regions of Brazil. Plants were grown under greenhouse conditions and a total of 10 plants (8-16 cm) by accession were screened by 2,4?D (2,010 g ae/ha), dicamba (960 g ae/ha) and halauxifen-methyl (10 g ae/ha) at pre-defined discriminatory rates. Foliar necrosis was evaluated 8 hours after the application, while efficacy of control was rated 56 days after sprayed. Data were submitted to a cluster analysis by *k*-means and grouped into two different clusters at the individual level. Symptom of foliar necrosis equal or higher than 10% was only observed in the plants treated with 2,4-D and dicamba, and it was not always found a significant correlation between the variables foliar necrosis and efficacy weed control. The efficacy of control showed that there was differential sensitivity of the accessions to the three tested herbicides, and clusters were able to show individuals poorly controlled, especially for 2,4-D and dicamba in the first two seasons. Halauxifen-methyl did not generate (rapid) foliar necrosis and achieved at least 80% of control over the accessions that have showed this symptom by the other herbicides, contributing to the manage of poorly controlled accessions.

Palavras-chave: 2,4-D; dicamba; halauxifen-methyl ; good agricultural practices; integrated weed management

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