

# Effect of Resistant and Susceptible Soybean Cultivars on the Nymphal Development, Fecundity and Mortality of *Euschistus heros* (Hemiptera: Pentatomidae)

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The association of resistant varieties and biological control has great interest and potential to be used for pest management. The aims of this work were to evaluate the effect of cultivars Silvânia (susceptible to stink bug attack), Dowling e IAC100 (resistant) on *E. heros* nymph development and to investigate the influence of the flavonoids on the resistance [1]. Nymphs of stink bug were placed in Petri dishes on a diet of soybean pods and observed daily. After adult emergence, they were weight and then put in pairs for mating. The nymph mortality, the adult longevity, fecundity and the eggs fertility were evaluated for each cultivar. To quantify the flavonoid compounds, extracts of immature seeds (cv Silvânia and Dowling) undamaged and damage by herbivory, were analysed using high performance liquid chromatography (HPLC). The nymphs reared on cv Dowling did not complete their biological cycle. Survivorship curves of immatures in cv. Sylvania and IAC100, analysed by Kaplan-Meier Survival Distribution, did not show significant difference. The medium weight of adults on others cultivars was not different. The medium male longevity on cv IAC100 was 11.0 days, while on cv Silvânia was 35.8 days; for females was 13.4 days on cv IAC100 and 40.6 days on cv Silvânia. The female fecundity (105.7 eggs/female) and egg fertility (66.3 nymphs) on cv Silvânia were higher than on cv IAC100 (10.2 eggs/female e 5.8 nymphs). Total amount of flavonoids compounds was higher in cv Silvânia than in cv Dowling, but did not differ when compared between herbivory damage and undamaged plants in the same cultivar. These results suggest that the cv IAC100 and Dowling present direct defense (constitutive) against *E. heros*, and that the herbivory damage did not induce flavonoids production.

[1] Piubelli, G. C., Hoffmann-Campo, C. B., Moscardi, F., Miyakubo, S. H., Oliveira, M. C. N. 2005. Are chemical compounds important for soybean resistance to *Anticarsia gemmatilis*? *J. Chem. Ecol.* 31: 1509-1525.

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