

No risk, no gain? Limited benefits of a non-costly herbivory-induced defense in wheat

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Following a short-term infestation by aphids, wheat seedlings show an increase in their concentration of hydroxamic acids (Hx), secondary metabolites conferring resistance against insects. The benefits for a wheat cultivar of Hx induction after aphid infestation were addressed. Benefits were evaluated in terms of i) the negative effect upon aphid performance, and ii) the enhancement of the competitive status of an inducible cultivar compared with a non-inducible one, in the presence of aphids. A slight effect of Hx induction on early aphid settlement was observed, although it was not statistically significant. Likewise, non-significant differences were found in time to first reproduction, fecundity, adult weight, nymph survival, and intrinsic rate of population increase ($r(m)$), between control and previously infested plants. Therefore, no effect of Hx induction on aphid performance was detected. Issues on the magnitude of the induction as well as on its duration are raised in order to