Lack of costs of herbivory-induced defenses in a wild wheat: Integration of physiological and ecological approaches

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Aphid infestation triggered a significant induction of hydroxamic acids (Hx) in wild wheat Triticum uniaristatum seedlings in comparison to control seedlings. We hypothesized that indirect costs of Hx induction (expressed in plant fitness parameters) would be found if such induction was a consequence of enhanced local synthesis of Hx at the infested tissue and would not if the significantly less costly translocation of Hx was established to be the process underlying the induction. Results obtained following whole-plant analysis after aphid infestation suggested translocation of Hx from the stem as the process underlying the observed Hx induction in the infested leaf. Then, as expected, non-significant differences in growth, size and survival between control and infested plants were found. The present work stresses the importance of unraveling the sources of induced defenses in the understanding of the observed patterns of defense allocation in plants. The consistency of the results obt