Allocation of herbivory-induced hydroxamic acids in the wild wheat Triticum uniaristatum

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We characterized the induction of hydroxamic acids (Hx) by aphid infestation in the wild wheat Triticum uniaristatum by addressing the following questions: i) Do different leaves have similar responses to aphid damage?, ii) Is the Hx induction localized or systemic?, iii) How long does the induction last?, and iv) Is the degree of damage related to the magnitude of induced Hx? Based on earlier results on this wheat/ aphid system (lack of costs of Hx induction) we expected to find the plant exhibiting cost-saving patterns of response to herbivory. Aphid infestation in the primary leaf led to induced levels of Hx, but no differences in Hx levels were found after infestation of the secondary leaf. Induction of Hx was restricted to the infested leaf (primary leaf). Induced Hx levels exhibited by the primary leaf at the end of aphid infestation were not observed 2 days later. Finally, different aphid densities (between 10 and 40 aphids per leaf) did not produce significant differences in Hx