

Ethylene production and peroxidase activity in aphid-infested barley

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The purpose of this work was to investigate whether ethylene is involved in the oxidative and defensive responses of barley to the aphids *Schizaphis graminum* (biotype C) and *Rhopalophum padi*. The effect of aphid infestation on ethylene production was measured in two barley cultivars (Frontera and Aramir) that differ in their susceptibility to aphids. Ethylene evolution was higher in plants infested for 16 hr than in plants infested for 4 hr in both cultivars. Under aphid infestation, the production of ethylene was higher in cv. Frontera than in Aramir, the more aphid susceptible cultivar. Ethylene production also increases with the degree of infestation. Maximum ethylene evolution was detected after 16 hr when plants were infested with 10 or more aphids. Comparing the two species of aphids, *Schizaphis graminum* induced more ethylene evolution than *Rhopalosiphum padi*. Infestation with *S. graminum* increased hydrogen peroxide content and total soluble peroxidase activity in cv. Frontera, w