

Effect of gramine on the feeding behavior of the aphids *Schizaphis graminum* and *Rhopalosiphum padi*

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The effects of the indole alkaloid gramine on the behavior of the aphids *Schizaphis graminum* and *Rhopalosiphum padi* feeding on barley seedlings and on artificial diets were studied. On barley cv. F. Union, which lacks gramine, *S. graminum* ingested from phloem tissue for 30-80 min and non-phloem for 20-40 min, over a period of 3 h. In cultivar Datil 'S', gramine was found only in the epidermis and parenchyma mesophyll cells. On this cultivar, the non-phloem wave form of *S. graminum* was not observed. On F. Union, *R. padi* ingested non-phloem with short periods of ingestion from phloem. On cv. Datil 'S', this aphid did not show the non-phloem wave form. In experiments performed with cv. F. Union seedlings that contained exogenous gramine *S. graminum* did not ingest from phloem. Exogenous gramine was found only in the vascular bundles. It is suggested that gramine content and location may affect the feeding behavior of aphids in barley.

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