

The influence of previous experience and starvation on aphid feeding behavior

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It was hypothesized that (1) previous experience of aphids on a host plant leads to differences in their feeding behavior relative to aphids without previous experience on it and that (2) a change in the physiological state of the aphid modifies their experience-induced behavior. Using electronic recording, the feeding behavior of the aphid *Sitobion fragariae* (Walker) on wheat *Triticum aestivum* L. and oat *Avena sativa* L. was examined, comparing aphids with or without previous experience on a given host and with or without a period of starvation before assessing probing behavior. All comparisons were performed within a single aphid clone to minimize the effect of genetic variation. Feeding behavior on wheat was significantly affected by previous experience and starvation. The effect of previous experience interacted with the host plant where feeding behavior was tested. Aphids feeding on wheat following previous experience on wheat showed a longer time and a higher number of path way ac