Host plant changes produced by the aphid Sipha flava: Consequences for aphid feeding behaviour and growth

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Induced plant responses may affect the behaviour and growth of the attacking herbivore insect. The aphid Sipha flava (Forbes) produces reddish spots on the infested leaf of its host plant Sorghum halepense (L.). In order to assess the consequences on the aphid of this presumptive induced plant response, we studied the feeding behaviour and growth of S. flava on previously infested and non-infested leaves of S. halepense. Considering that the reddish pigment could play a defensive role, its effect on aphid survival was determined in artificial diets. In addition, changes in the histology of the leaf and the chemical nature of the induced pigment were also studied. Aphids devoted a significantly shorter total time to non-penetration activities in infested than in non-infested leaves. Time before the first phloem ingestion tended to be shorter in infested leaves. The mean relative growth rate of S. flava nymphs was significantly higher on infested than on non-infested leaves. Survival of