

Possible involvement of the phloem sealing system in the acceptance of a plant as host by an aphid

Caillaud, C. M.

Niemeyer, H. M.

Possible reasons for the rejection of some lines of *Triticum monococcum* (Tm44 and Tm46) by the aphid *Sitobion avenae* were explored. In all *T. monococcum* lines studied, whether unfavourable (non-host/resistant plant) or favourable (host/susceptible plant), the concentrations of hydroxamic acids, a family of aphid-resistance factors in cereals, were significantly lower than the levels in the favourable host-plant *Triticum aestivum* cv. Therefore, hydroxamic acids did not account for the host/non-host patterns observed. Phloem sap was collected by stylectomy from young seedlings of favourable and unfavourable plants. In non-aphid-resistant genotypes, the success in stylectomy, the proportion of amputated stylets resulting in long (> 1 min) exudations, the average duration of exudation, and the final volume of sap exuded, were higher than in the aphid-resistant genotypes. It is concluded that aphid interference with the phloem sealing system of the plant is a likely mechanism of rejection o