

## ASSESSMENT OF APHID SALIVA ROLE AS PLANT DEFENCE ELICITATION BY MULTIPLE APPROACHES

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Interactions between plants and insects are numerous, complex and varied. Indeed, feeding behaviors of many insects are directly linked with defensive compounds in host plants. Until now, most studies were based on plant defense mechanisms associated with chewing insects. According to a theory, each species of herbivore insects produces its own particular molecular signature, especially concerning saliva. The role of insect saliva is crucial concerning establishment of defense mechanisms in plants because composition of saliva allows plants to recognize insects. Up to now, only few studies focused on the identification of elicitors in aphid saliva and the determination of elicitation activity. For this study, we used several approaches on tobacco and *Arabidopsis thaliana* whole plants and cell cultures to assess the potential elicitation activity of *Myzus persicae* saliva. After evaluating the early defensive responses of the plants using cell cultures by following the pH evolution and oxidative burst, protein pattern changes in the plants were assessed by developing two dimensions differential in gel electrophoresis (2D-Dige) coupled with mass spectrometry for protein identification. Both models, whole plants and cell cultures were shown to be considered in combination to provide the larger information's in plant defense elicitation. Association of results from the different approaches, the early plant responses and the identified protein shown to be differentially expressed after aphid saliva application, is discussed in term of the development of efficient and fast ways to assess the role of plant defense elicitors such as the ones from insect sucking feeding insects.