



Fig. 1 The results of the infection assay of three *H. schachtii* populations on *A. thaliana*

## 171 - Virulence characterization of cereal cyst nematode populations (*Heterodera avenae* Wollenweber) from Egypt and host responses of wheat cultivars

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The cereal cyst nematode (CCN), *Heterodera avenae* Wollenweber, causes serious economic losses in cereal crops. The use of resistant germplasm to control CCN is considered cost effective and environmentally friendly. The use and effectiveness of resistant wheat cultivars varies according to the virulence phenotype of the nematode population. *Heterodera avenae* has been reported in wheat fields in Egypt. As yet there is no information available on the virulence and damage potential of these populations on wheat cultivars. In this study, *H. avenae* populations from five different locations representing the main wheat growing areas in Ismailia province and West Sinai, were characterized on a set of differential wheat cultivars and local Egyptian wheat varieties. Different growth parameters were recorded to determine the damage potential of *H. avenae* populations on wheat cultivars. All the tested wheat cultivars from Egypt were susceptible to *H. avenae* populations, while the differential cultivars 'Loros x Koga' and 'Aus 10894' were moderately resistant. The Egyptian populations of *H. avenae* could be assigned to pathotype Ha13. The local cultivar 'Sakha 93' was the only wheat cultivar that could be classified as tolerant to *H. avenae* populations in pot experiments. The reduction in grain yield of the Egyptian wheat cultivars by *H. avenae* ranged between 15 - 42% under greenhouse conditions. There is a need to search for sources of resistance to CCN among Egyptian wheat germplasm or to introduce resistant germplasm from another cereal for Egyptian breeding programs.