



Is there variety × isolate interaction in the polygenic quantitative resistance of carrot to *Alternaria dauci* ?

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Résumé en anglais	<p>Horizontal and polygenic resistance is race-nonspecific and, therefore, more durable, unlike vertical resistance, which is race-specific and unstable. However, this division is perhaps not so obvious since some cultivar × isolate interactions have already been observed for plant species with partial resistance. Carrot is known to be partially resistant to <i>Alternaria dauci</i>, but it is relevant for breeders to study cultivar × isolate interactions in order to develop durable resistant varieties. For this purpose, 12 highly diverse carrot genotypes and one segregating population were inoculated in a tunnel or in a glass house with 11 isolates of <i>A. dauci</i> that also represented a high diversity in terms of geographical origin, aggressiveness and genetic diversity. Disease severity values were assessed three times in the tunnel in a one-year experiment (2002) and twice in the glass house in an experiment over two consecutive years (2011 and 2012). The interaction of isolate with genotype was non-significant in the tunnel, and the same result was obtained in the glasshouse for both years of study except for the first scoring date in 2011, suggesting that the partial resistance of carrot to <i>A. dauci</i> is probably mainly explained by major QTLs that confer resistance to a large number of isolates and, potentially, some minor isolate-specific QTLs as well.</p>
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Liens

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