

Virulence Patterns of *Bremia lactucae* in Israel

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The variation and distribution of virulent phenotypes of *Bremia lactucae* Regel, the causal agent of lettuce downy mildew, were studied during 2002–2003 in lettuce fields (*Lactuca sativa*) in Israel. A total of 21 isolates of *B. lactucae* were collected from nine locations in three regions of Israel: Galilee, the Coastal Plain, and the Shefela. The isolates were examined for the presence of 21 virulence factors (v-factors) and their combinations with differential sets of lettuce lines/varieties. There were clear differences in v-factors, and a broad diversity of v-phenotypes among the isolates was found. Although 17 different v-phenotypes and 20 v-factors were detected, a composite of similar v-phenotypes generally occurred between isolates within the three regions. They differed mostly in the presence or absence of only a few v-factors. The Coastal Plain region averaged the highest virulence complexity (0.63), significantly different from that of the Shefela (0.45) and of Galilee (0.4). Comparison of the Israeli *B. lactucae* isolates that were tested in this study with data of other countries showed that factor v18, which did not occur in the Israeli populations, was detected only in Czech and German pathogen populations.

KEY WORDS: Diversity; *Lactuca sativa*; lettuce downy mildew; virulence complexity.

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