



## Characterization of clubroot resistance in *Brassica oleracea*

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### Abstract

Clubroot (*Plasmodiophora brassicae*) is a persistent and devastating soil-borne disease. Host plant resistance to clubroot is an important element in the integrated management of this disease. Recently, novel resistances have been introduced into commercial varieties of *B. oleracea*. It is expected that these novel resistances will be used in many new varieties. These new *B. oleracea* varieties need a valid description before they enter the market. Current race definition systems are not suitable for this purpose. Therefore, we developed a tailor-made, new race designation system for clubroot, enabling a relevant and reproducible description of clubroot resistant *B. oleracea* varieties. Four clubroot races and three differentials were defined. Stable isolates of the four races were used in a validation experiment in three laboratories. The differentials had reproducible, distinct reaction patterns. The isolates will be used for variety registration of *B. oleracea* varieties, including cauliflower, cabbage, Brussels sprouts, and Savoy cabbage.