

Resistance Induction in Plants by a Brassinosteroid-Containing Extract of *Lychnis viscaria* L.

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Resistance inducing effects of an extract of *Lychnis viscaria* L. seeds, containing different brassinosteroids (BR), were investigated. Application of aqueous solutions in concentrations from 0.5 to 10 mg/l (dry wt. of extract) resulted in an enhanced resistance of tobacco, cucumber and tomato to viral and fungal pathogens of up to 36% compared with water-treated control plants. No direct anti-fungal effects in mycelium growth assays with *Phytophthora infestans* could be observed. After treatment and inoculation with powdery mildew a stimulation of different PR-proteins (ca. + 20% for peroxidase, + 30% for chitinase and up to + 68% for β -1,3-glucanase) in cucumber was found. A chitinase in gel-electrophoresis assay showed a stronger induction of a distinct isoform under the same conditions.

Time course of peroxidase induction and changes of apoplastic protein patterns revealed by SDS-PAGE indicated an earlier triggering of defence responses after plant-extract treatment and pathogen attack, probably being responsible for the increased resistance. Involvement of the brassinosteroids in the plant extract is discussed to elicit or mediate the activation of defence-mechanisms.