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- Kurzfassungen der Beiträge -



For BDV and WDV, successful transmission was reported by Ramsell et al. (2009) using this procedure. Efficiency ranged from 6 % (BDV) to 11 % (WDV). By agroinoculation it was also possible to infect wheat, oat and rye with BDV at low frequency. However, the infection rate achieved is by far too low to substitute inoculation by leafhoppers. Currently some other *A. tumefaciens* strains with enhanced virulence are being tested for their ability to improve the infection rate.

065 - Traczewska, A.; Häffner, E.; Diederichsen, E.  
Freie Universität Berlin

### **Rolle des Erecta-Gens bei der Ausbreitungsresistenz von *Arabidopsis thaliana* gegen *Verticillium longisporum***

Role of the erecta gene in conferring spreading resistance against *Verticillium longisporum* to *Arabidopsis thaliana*

Oilseed rape is one of the most important crops in Germany. As a consequence of the increasing cultivated area a number of diseases have gained significance. *Verticillium longisporum* is a soil-borne fungal pathogen which spreads in the xylem vessels of the host plants and causes premature ripening and yield losses. It is specialized for Brassicaceae. As there are no efficient fungicides against this disease, resistance breeding is of major importance. *Arabidopsis thaliana* is a model organism in plant genetics belonging to the Brassicaceae. It is a host of *V. longisporum* and is used to search for genetic factors influencing *V. longisporum* resistance. Resistance against *V. longisporum* can be dissected into different components. Spreading resistance is the capacity of the host to prevent systemic fungal spread in the xylem. In a preceding QTL mapping study, a region on chromosome 2 has been identified in *A. thaliana* which influences spreading resistance against *V. longisporum*. The erecta gene, encoding an LRR receptor-like kinase, colocalises to this region. The susceptible parent of the mapping population, Landsberg erecta (Ler), carries a loss-of-function erecta allele, whereas the resistant parent Burren (Bur) has a functional erecta gene. This makes erecta a candidate gene for the spreading resistance QTL. To investigate the role of erecta in conferring spreading resistance, different erecta mutants of *A. thaliana* and their corresponding wildtype lines were tested for resistance against *V. longisporum*. A greenhouse testing procedure with root-dip inoculation was applied and different disease and resistance parameters like systemic spread, stunting and chlorosis were recorded in order to assess a potential erecta influence also on other *Verticillium* resistance traits. The differences in colonisation resistance between mutants and wild type controls did not allow a clear cut decision whether erecta is responsible for the colonisation phenotype.

066 - Delbrügge, C.<sup>1</sup>; Büttner, C.<sup>2</sup>; Diederichsen, E.<sup>1</sup>  
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### ***Verticillium* Resistenz in verschiedenen Kulturarten – eine Literaturübersicht**

*Verticillium* Resistance in different crop species – a literature survey

Verschiedene Arten aus der Pilzgattung *Verticillium* (Ascomycota) verursachen bei sehr vielen verschiedenen Kulturpflanzen Krankheitssymptome, die mit Ertragseinbußen einhergehen. In dieser Arbeit sollen die in der Literatur beschriebenen Resistenzen gegen *Verticillium* in verschiedenen Kulturarten zusammengefasst und vergleichend gegenüber gestellt werden.

067 - Sharma, K.; Bruns, C.; Finckh, M.  
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### **Die Resistenzinduktion gegenüber *Phytophthora infestans* bei Tomaten durch BABA und Pflanzenstärkungsmittel wird durch Inokulation mit Isolatmischungen verstärkt**

The effectiveness of BABA and plant strengtheners in inducing resistance in tomatoes against *Phytophthora infestans* is increased when isolate mixtures are used

Resistance against *Phytophthora infestans* is well inducible in tomato (*Lycopersicon Lycopersicon* L.). There is evidence that some plant strengtheners based on plant, fungal and compost extracts may boost up plant's defense reactions towards pathogens through induction of resistance. While inducibility is variety and isolate specific, pathogen populations in the field are usually made up of different genotypes. A trial was conducted to compare