

# **Biocontrol Strain *Pseudomonas* sp. W34: Specific Detection and Quantification in the Rhizosphere of *Cucumis sativus* with a DNA Probe and Genotypic Characterization by DNA Fingerprinting**

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Z. Naturforsch. **54c**, 359–370 (1999); received December 10, 1998/January 27, 1999

*Pseudomonas* sp. W34, Biocontrol, *Cucumis sativus*, DNA Fingerprinting, DNA Probe

A DNA probe specific for biocontrol strains of *Pseudomonas* was produced by screening randomly amplified polymorphic DNA (RAPD) PCR fragments. Specificity of the probe was assessed by dot blot and colony hybridization. It was used to specifically determine the population of these strains on roots of *Cucumis sativus* cv. Delikatess. Two polymorphic RAPD fragments of 750 bp, and 550 bp showed identical specificity. The biocontrol strain *Pseudomonas* sp. W34 was shown to be competitive in the rhizosphere of cucumber and to maintain a stable population for at least 10 days when inoculated on the seed.

The phylogenetic relationships between the biocontrol and reference strains were analyzed at the strain level by means of RAPD and repetitive sequence-based PCR genomic fingerprinting (rep-PCR), and at higher taxonomic levels by means of amplified 16S ribosomal DNA restriction analysis ARDRA. It was shown that the antagonistic strains are closely related, forming a separate cluster from other non-antagonistic and reference *Pseudomonas* strains, their taxonomic placement remaining uncertain.

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