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[\[PDF \(1362K\)\]](#) [\[References\]](#)**The effects of exopolysaccharide production and flagellum on motility, biofilm formation, survival and virulence of *Pseudomonas syringae* pv. *theae***T. TOMIHAMA¹⁾, Y. NISHI²⁾ and K. ARAI³⁾

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ABSTRACT

In spontaneous and mutagen-induced mutants of *Pseudomonas syringae* pv. *theae* for EPS production and/or flagellum, EPS production was correlated with the formation of a biofilm on an abiotic surface, formation of a bacterial aggregate and survival on nonwounded leaf surface, but was not required for virulence. The presence of a flagellum was correlated with swimming motility, biofilm formation on an abiotic surface, aggregate formation on the leaf surface, survival on a wounded leaf site and propagation within the leaf tissue. In addition, interactions between EPS production and flagellum were important for biofilm formation and survival on nonwounded leaf surfaces. A factor(s) other than EPS production and flagellum was required for swarming motility, and swarming motility and virulence were strongly correlated. These data indicate that EPS production is important for survival on nonwounded leaf surfaces, and the flagellum is needed for *P. syringae* pv. *theae* to survival on the wounded leaf and to propagate within the leaf tissue.

Key words: *Pseudomonas syringae* pv. *theae*, exopolysaccharide (EPS), flagellar motility, bacterial swarming, biofilm, survival on phyllosphere, virulence

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