

*Xanthomonas oryzae* pv. *oryzae* is the causal agent of bacterial blight of rice. We have used enhanced green fluorescent protein-tagged *X. oryzae* pv. *oryzae* cells in conjunction with confocal microscopy to monitor the role of several adhesin-like functions in bacterial adhesion to leaf surface and early stages of leaf entry. Mutations in genes encoding either the *Xanthomonas* adhesin-like protein A (XadA) or its paralog, *Xanthomonas* adhesin-like protein B (XadB), as well as the *X. oryzae* pv. *oryzae* homolog of *Yersinia* autotransporter-like protein H (YapH), exhibit deficiencies in leaf attachment or entry. A mutation in the *X. oryzae* pv. *oryzae* *pilQ* gene, which is predicted to encode the type IV pilus secretin, appears to have no effect on leaf attachment or entry. The *xadA*- mutant is deficient in the ability to cause disease following surface inoculation while the XadB, YapH, and PilQ functions are less important than XadA for this process. The *xadA*- and *xadB*- mutants have no effect on virulence following wound inoculation whereas the *yapH*- and *pilQ*- mutants are always virulence deficient following wound inoculation. Overall, these results indicate that multiple adhesin-like functions are involved in promoting virulence of *X. oryzae* pv. *oryzae*, with preferential involvement of individual functions at different stages of the disease process.