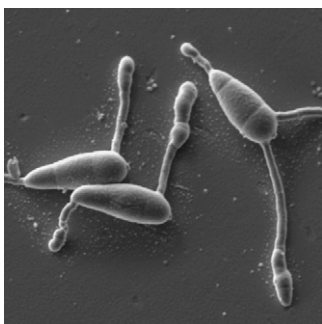


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ON THE COVER



The rice blast fungus *Magnaporthe grisea* is the most destructive pathogen of cultivated rice and infects more than 50 grass species, including wheat and barley. *M. grisea* infects its host by forming a specialized infection structure called the appressorium. Upon landing on a host leaf, a short germ tube emerges from the spore and attaches to the substrate, initiating appressorium formation. Turgor pressure generated within the appressorium drives an emerging penetration peg through the plant cuticle. Skamnioti and Gurr (pages 2674–2689) present genetic evidence that the *M. grisea* virulence determinant *CUT2* is essential for germling morphogenesis and successful plant penetration. The *cut2* mutant displays anomalous morphogenesis, forms fewer penetration pegs, and is poorly pathogenic. These defects are restored by synthetic cutin monomers, cAMP and DAG, suggesting that Cut2 is an upstream activator of cAMP/PKA and DAG/PKC signaling pathways. The cover image shows *cut2* mutant germlings, which form near straight germ tubes with small baguette-shaped appressoria. This contrasts markedly with wild-type germlings, which form a single short germ tube with a dome-shaped appressorium.

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