A LOOK AT THE SOIL MICROBIOME

Plant pathogens, such as the *Pseudomonas syringae* pv. *tomato* ❶, can enter through leaf pores known as stomata, which control respiration and release of water ❷. In response to infection, plants release L-malic acid ❸ from their roots, a food source for the beneficial bacterium *Bacillus subtilis* ❹. The bacteria release toxins that suppress the root's antimicrobial defenses ❺ and stave off other potentially pathogenic bacterial strains ❻, allowing *B. subtilis* to colonize the roots. *B subtilis* colonization, in turn, causes the plant to produce abscisic acid, which leads to stomatal closing ❼, helping prevent further infection. Similarly, when plants are infected with the tomato blight fungus *Alternaria solani* ❽, nearby plants can initiate their own defenses by sensing warning signals transmitted between the plants via a plant root-fungal symbiotic system, the mycorrhiza, containing the beneficial fungus *Glomus mosseae* ❾.