

The inducible metabolites were analyzed in barley leaves inoculated with *Bipolaris sorokiniana*, the causal agent of spot blotch of barley. HPLC analysis revealed that *B. sorokiniana*-infected leaves accumulated 4 hydrophilic compounds. They were purified by ODS column chromatography and preparative HPLC. Spectroscopic analyses revealed that they were tyramine (1), 3-(2-aminoethyl)-3-hydroxyindolin-2-one (2), serotonin (3), and 5,5'-dihydroxy-2,4'-bitryptamine (4). Among these, 2 and 4 have not been reported as natural products. They showed antifungal activity in an assay of inhibition of *B. sorokiniana* conidia germination, suggesting that they play a role in the chemical defense of barley as phytoalexins. The accumulation of 1-4 was examined also in the leaves of rice and foxtail millet. Rice leaves accumulated 2, 3, and 4, whereas foxtail millet leaves accumulated 3 and 4 in response to pathogen attack, suggesting the generality of accumulation of 3 and 4 in the Poaceae species.

