

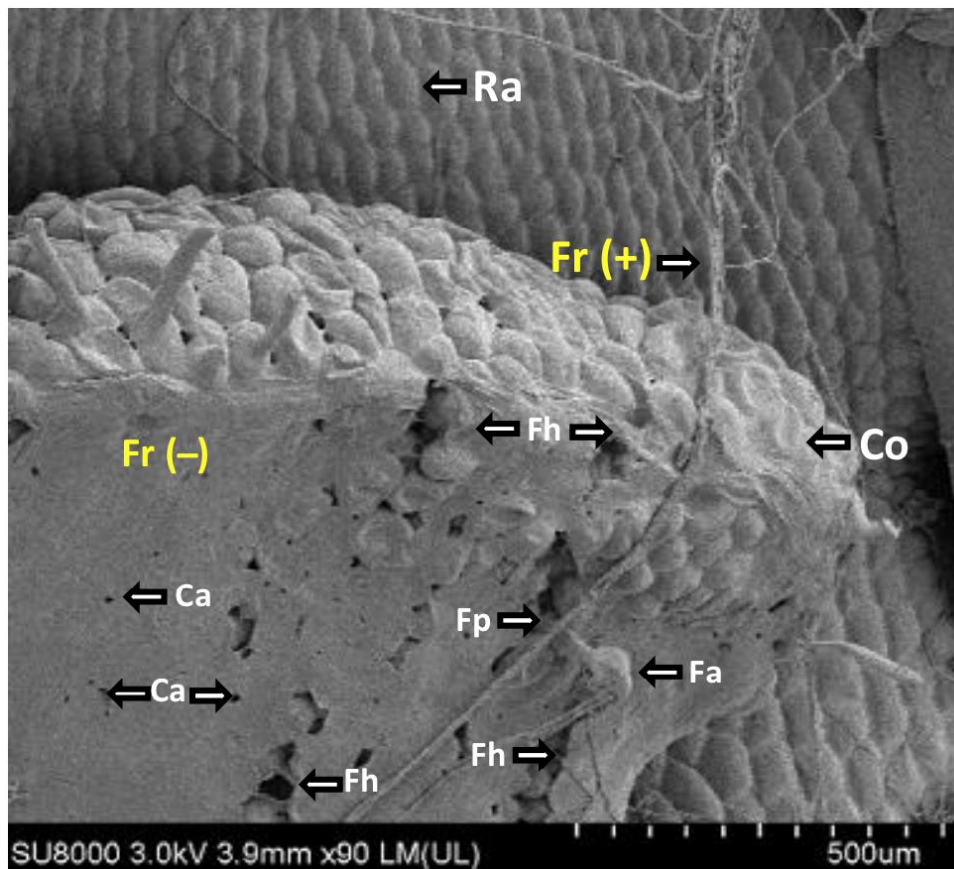
Supplementary Information

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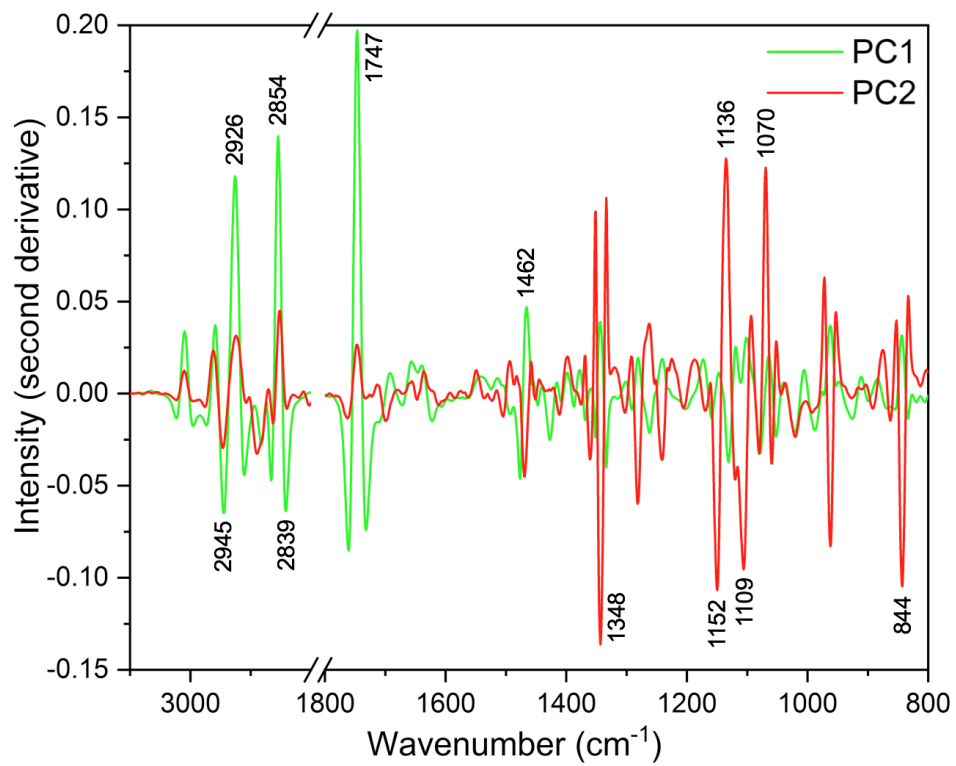
Spectroscopy and SEM imaging reveal endosymbiont-dependent components changes in germinating kernel through direct and indirect coleorhiza-fungus interactions under stress

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Supplementary figures S1



Supplementary Figure 1. Comparison between SMCD 2206 colonized (Fr +) vs. non-colonized (Fr -) coleorhiza zones. Ra: radicle (plant embryonic root), Co: coleorhiza, Ca: coleorhiza aerial small (Fr +) openings, Fr: fungal *rhizomorph* or "root-form" hyphal aggregation, Fa: fungal appressorium or special hyphal pressing organ, Fp: fungal penetration hypha specific for infection, Fh: fungal colonization hyphae within large openings associated with direct *Penicillium*-polymer (Fr +) contact zone.



Supplementary Figure 2. PCA analysis – loadings plot.