



**FIGURE S2** | Soil bacterial (**a**) and fungal (**b**) community composition at dominant phylum level under different P fertilizer application systems. P0 and FP represent 0 and 120 kg  $P_2O_5$  ha<sup>-1</sup> of P fertilizer application rates, respectively. P1, 30% reduction in P fertilizer application (84.0 kg  $P_2O_5$ /hm<sup>2</sup> of microbial blended fertilizer); P2, 30% reduction in P fertilizer application (67.2 kg  $P_2O_5$ /hm<sup>2</sup> of microbial blend fertilizer + 16.8 kg  $P_2O_5$ /hm<sup>2</sup> of diammonium phosphate); P3, 30% reduction in P fertilizer application (microbial inoculum seed dressing + 84.0 kg  $P_2O_5$ /hm<sup>2</sup> of diammonium phosphate).