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Influence and interaction of Iron and Cadmium on photosynthesis and antioxidative enzymes in two rice cultivars

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ABSTRACT

In this study, a soil pot experiment was conducted to investigate the changes in photosynthesis and antioxidative enzymes in two rice varieties (Shendao 6 and Shennong 265) supplied with iron (Fe), cadmium (Cd), and Fe and Cd together. The concentrations of Fe and Cd in the soil were 0, 1.0 g $Fe \cdot kg^{-1}$ and 0, 2.0 mg $Cd \cdot kg^{-1}$, respectively. Photosynthetic indices and antioxidative enzyme activities were recorded at different rice growth stages. At the early stage, Cd showed a transient stimulatory effect on the photosynthetic rate of Shennong 265. For Shendao 6, however, Cd showed a transient stimulatory effect on photosynthetic rate, intercellular CO_2 concentration, stomatal conductance and transpiration efficiency. In addition, the