

Effects of Pb Pollution on Seed Vigor of Three Rice Cultivars [PDF]

ZHANG Sheng HU Jin CHEN Zhen-hua CHEN Jian-feng ZHENG Yun-ye SONG Wen-jian

(Department of Agronomy, Zhejiang University, Hangzhou 310029, China)

摘要: An experiment was conducted to study the effects of different Pb concentrations on rice seed germination and seedling growth in three cultivars (Jiayu 293, Jiayu 948 and Xieyou 963). The method of qualitative traits combining with quantitative traits by orthogonal polynomials was applied to analyze rice seed vigor by regression model. The seeds from different rice cultivars had different sensitivity to Pb poison. In the Pb concentration of 100-700 mg/L, Pb significantly decreased root length and shoot height, and the degree of the restraint would aggravate with the increasing of Pb concentration. However, Pb did not reduce root dry weight and shoot dry weight, which indicated that different physiological characteristics had different sensitive reactions to Pb. The predicting equations of regression were developed, which could be used to predict the effects of different Pb concentrations on rice seed vigor.

关键词: rice; lead; seed vigor; pollution; regression analysis

Rice Science. 2005, 12(3): 197-202

.....  
.....