Entry No. IRRC-0536

Category	: International Rice Research Conference
Select Theme	: Systems physiology
Keyword 1	: Salinity tolerance
Endorsement email	:
Keyword 2	: Submergence and flood tolerance
Keyword 3	: Nutrients (such as mineral uptake, translocation, and regulation)
Title of Entry	: Early Seedling Growth of Rice under Salinity and Submergence
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: As with the increased concern about climate change, salinity and waterlogging arise as the mai constraints that decrease crops yield in many areas. The research aimed to study the growth responses of rice seedling while exposed to salinity in a combination with submergence. Two experiments were conducted in a glass house at Faculty of Agriculture, Gadjah Mada University In both experiments, different germination methods were employed. In the first experiment, seeds were submerged in aerated solution and laid on a moist germination paper. In other experiment, germination was conducted in the presence and absence of aeration. All treatments were carried out both in saline and non-saline conditions. The results showed that growth responses of rice seedlings had been linearly inhibited by salinity level. However, increasing salinity level significantly reduced growth variables in transpiring rice plants, but not in non-transpiring plants. Furthermore, seedling resistance to salinity decreased at lower oxygen concentration. Overall, the results indicated that different germination methods significantly affected rice tolerance to salinity during early seedling growth.

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