

Supakorn Pornkhuntod 2011: Effect of Magnesium Chloride on Ribulose Bisphosphate Carboxylase Activity, PS II Electron Transport, Total Soluble Sugar Content and Some Nutrients Accumulation of Rice (*Oryza sativa* L.) cv. Hom Supanburi. Master of Science (Botany), Major Field: Botany, Department of Botany. Thesis Advisor: Associate Professor Wallop Arirob, Dr.Agr.Sci. 132 pages.

The effect of $MgCl_2$ on ribulosebisphosphate carboxylase activity, total soluble sugar content, Hill reaction, and some accumulation of chemical elements (e.g. Magnesium, Potassium, Calcium, Manganese and Iron) in Hom supanburi rice. Was done the results showed that $MgCl_2$ at the concentration 50, 75, 150 μM increased ribulosebisphosphate carboxylase activity in vegetative phase at the 5th days after spraying . 150 μM $MgCl_2$ increased over all ribulosebisphosphate carboxylase activity (20.43% comparing with control). In reproductive phase, 50 μM $MgCl_2$ increased 10.00% of the ribulosebisphosphate carboxylase activity when compare with control. Hill reaction in both phase were increased after spraying with $MgCl_2$ at 50, 75, and 150 μM , respectively. However, the optimal concentration of $MgCl_2$ in vegetative phase on showed and good respond in all concentrations of reproductive phase. The optimal concentration of $MgCl_2$ increased the accumulation of sugar content in both vegetative part and reproductive part. Magnesium, Calcium and Iron concentrations in shoots, leaves, and roots and Manganese concentration in leaves tend to increased comparing with control. While Manganese concentration in shoot and root and Potassium concentration in all parts of rice tend to decrease when compared with control.

Student's signature

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