



Evaluation of level of submergence tolerance in traditional rice cultivars at post-germination stage

Ranawake, A.L., Dahanayaka, N. and Senadhipathy, D.D.

Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka.

✉ lankaranawake@hotmail.com

Sri Lanka rice growing lands are distributed mainly in the inland valleys, coastal planes and lower undulating terrain in the D2. These areas are easily submerged by unexpected and uncontrollable floods during two monsoon seasons. Submergence tolerant rice cultivars are important in these regions for sustaining production. Level of submergence tolerance depends on the rice cultivar, growth stage and quality of water. In the present study some traditional rice cultivars were screened for submergence tolerance at post germination stage. Experiment was carried out according to the randomized complete block design with 4 replicates and with 20 seeds for each replicate. Dormancy broken surface sterilized seeds were first kept for germination at 35⁰C in the dark for 7 days and length of hypocotyl was measured. Germinated seeds were then submerged to a 10cm depth in test tubes and germinated for 7 days under complete submergence. Hypocotyl length was again measured and length gained by the hypocotyls during the submerged period was calculated. Analysis of variance showed that *Randhunipagal*, *Valihandira*, *Matholuwa*, *Kahata wee*, *Mas Samba* and *Surumaniyan* are tolerant to complete submergence for 7 days.

Keywords: rice, submergence tolerance, post germination