

#### **DI 05 Assessment of the level of submergence tolerance in some traditional rice cultivars at post-germination stage**

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Twenty one Sri Lankan traditional rice cultivars were evaluated for submergence tolerance at post germination stage. Experiment was carried out according to the randomized complete block design (RCBD) with 4 replicates and 20 plants for each replicate. Dormancy broken surface sterilized seeds were first kept for germination at 35°C under dark condition. After seven days initial length of seed hypocotyl was measured. After that germinated seeds were submerged by 10 cm deep water height in test tubes (15 cm long, 2 cm diameter) and kept 7 days under complete submerged condition. After 7 days hypocotyl length and seedling survival percentage were recorded. Control experiment was also carried out in the same time. *EATSamba* (100%), *Hondarawala* (95%), *Dik wee 328* (87.5%), *Jamis wee* (85%), *Kahata Samba* (82.5%), were recorded more than 80% survival percentages at complete submergence stress for 7 days. Among survived plants, most of the cultivars elongated rapidly during the stress period. *Muthu Samba* (7.08 cm) recorded the highest hypocotyl length while *Bala Ma wee* recorded the lowest hypocotyls length (0.98 cm). The greatest hypocotyl gain during submergence stress compare to that of control plant was recorded by *Muthu Samba* (4.4 cm) while *Halabewa*, *Indurukaraya*, *Madael Kalutara* and *Bala Ma-Wee* reduced the hypocotyl length (<1 cm) compared to that of control specimen. There was a positive correlation ( $r=0.62$ ) in between survival rate and hypocotyl elongation in traditional rice cultivars at post germination stage.

**Keywords:** submergence tolerance, traditional rice, post germination stage