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Title of Entry	: Drought Tolerant Nepalese Rice Landraces
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Abstract : Drought Tolerant Nepalese Rice Landraces Seema Baniya and Lal B Thapa Central Department of Botany Tribhuvan University, Kirtipur, Kathmandu, Nepal Correspondence: baniya003@gmail.com Abstract Nepal is considered as a hotspot of landrace rice varieties. Effect of climate change has created adverse impact on rice crop affecting rice cultivation and production. Countries like Nepal having rice as the major food crops have been facing food insecurity due to climate change related events such as drought. Local farmers are seeking the varieties which have drought tolerant ability. Rice landraces have been facing various climatic events since long time ago and during the course they might have developed certain traits to adjust in adverse environmental conditions. Therefore, neglecting the landraces without knowing their specific trait is not fair. Our study focus to identify drought tolerance ability of selected rice landraces of Gorkha district, Nepal. The varieties were Jhapamansuli, Aapjhutta, Kartika and Anadi. We compared drought tolerance ability of them to improved varieties viz. Khumal-8, Khumal-10, Khumal-11 and Chainung-242. Pot experiment was conducted by exposing plants in water stressed condition in a greenhouse. Seedling survival was estimated, concentration of proline accumulated in the leaves and mycorrhizal association were estimated as the indicators of drought resistant factors. The seedling survival was found highest in landrace varieties Jhapamansuli and Aapjhutta in comparison to other landraces and improved varieties. Both the varieties showed the highest percentage of weekly survival as well. Comparing root and shoot biomass between stressed and unstressed plants both the varieties showed lowest percentage of differences while in other varieties the differences were greater. It became evident, from analysis of proline and mycorrhizal association, that both the landraces have got drought tolerance ability by accumulating high amount of proline and mycorrhizal association. It was concluded that Jhapamansuli and Aapjhutta are drought resistant varieties and they can be utilized as probable donors for producing new breeds of improved rice. Keywords: Drought tolerance, landraces rice varieties, climate change

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