



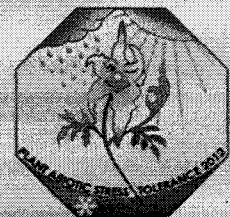
**International Conference**

# **Plant Abiotic Stress Tolerance II**

**Programme and Abstracts**

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**[www.vipca.at/PAST12](http://www.vipca.at/PAST12)**



## **N 123. Response of Upland Rice Cultivars to Drought**

**Alexandre Bryan Heinemann, Luis Fernando Stone**

Water deficit is one of the most important abiotic stresses limiting upland rice yield in the Brazilian savannahs. Two greenhouse experiments were to compare the response of normalized transpiration rate (NTR) of three modern and one traditional cultivars to soil water deficit during the vegetative and reproductive growth stages. This information will support breeding strategies to improve rice yield in a drought-prone target population environments (TPE) in Brazil. NTR and the total fraction of transpirable soil water (FTSW) were adjusted according to a sigmoid non-linear model. The  $p$  factor was calculated by assuming that it occurs when NTR is equal to 0.95. Modern cultivars had a higher value of  $p$  for the reproductive phase than for the vegetative phase. These cultivars are better adapted to express their potential yield in regions with low water deficit intensity and occurrence. Traditional cultivar is enabling to better support adverse conditions of water stress. It can be concluded that there is need to precisely characterize drought patterns in TPEs. This information can focus the breeding program to improve drought tolerance in modern upland rice cultivars.

## **N 124. *In vivo* Characterization of a Salt and Mechanical Wound Inducible Promoter**

**Tariq Mahmood<sup>1</sup>, Faiza Munir<sup>2</sup>, Ishrat Naveed<sup>2</sup> and Syed Muhammad Saqlan Naqvi<sup>3</sup>**

<sup>1</sup>Department of Plant Sciences, Quaid-i-Azam University, Islamabad-45320, Pakistan; <sup>2</sup>Department of Biotechnology, Quaid-i-Azam University, Islamabad-45320, Pakistan; <sup>3</sup>Department of Biochemistry, University of Arid Agriculture Rawalpindi, Pakistan

Genetic transformation is a powerful tool for the production of crop plants with enhanced resistance to abiotic stresses. However, in most of them the transgene is driven by a powerful constitutive promoter such as cauliflower mosaic virus 35S. It is also a major concern in consumer's mind to reject the genetically modified food. In contrast, the use of salt/ mechanical injury inducible promoters of plant origin has distinct advantages because they became activated only when the plant is under stress (salt/drought/mechanical injury). Keeping in view the importance of plant origin promoter elements a study was designed to functionally characterize a salt and mechanical injury inducible promoter for its utilization in the production of transgenic plants with elevated tolerance to abiotic stresses. A salt/drought/mechanical injury inducible promoter was isolated and transformed in tobacco and potato and have shown promising results in salt and wound stresses. Further, expression analysis of this promoter is under way.