

[P3] Abiotic Stress for Crop Production

Thu. Sep 9, 2021 12:15 PM - 2:00 PM Room 3 (Poster) (Abiotic Stress for Crop Production)

12:15 PM - 1:00 PM

[P3-23] Identification of Rice Varieties Showing Superior Salt Removal Ability in Leaf Sheath and Its Contrasting Varieties

*Nominated for Presentation Awards

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In rice plants, salt sensitivity is associated with the accumulation of Na^+ and Cl^- in the shoots, especially in the photosynthetic tissues. Therefore, salt removal ability at the leaf sheath is an important mechanism of salt tolerance. For further research of molecular mechanism and molecular breeding, we aimed to screen rice varieties showing high Na^+ and/or Cl^- removal ability and its contrasting varieties. Salt removal ability at the leaf sheath can be evaluated by the sheath : blade ratios of Na^+ or Cl^- concentrations. In our study, 20 rice varieties were grown hydroponically under control and saline conditions, and the sheath : blade ratios of Na^+ or Cl^- concentrations were measured. We screened a superior rice variety IR-44595 that showed higher Na^+ removal ability in leaf sheath, and the contrasting variety 318. Regarding Cl^- , OKSHITMAYIN showed a superior removal ability in leaf sheath compared with WC 4419. Moreover, we determined the Na^+ accumulation pattern in leaf sheath of IR-44595 and 318. The highest Na^+ concentration was found in the basal part of leaf sheath of both varieties. Cl^- accumulation pattern in the leaf sheath of OKSHITMAYIN and WC 4419 is now under investigation. Also, candidate genes encoding Na^+ or Cl^- transporters that contribute to Na^+ or Cl^- removal ability in leaf sheath of above varieties will be discussed in the conference.