

Root growth dynamics and grain yield of ten new plant type of rice lines under aerobic and flooded condition

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Abstract	<p>Root growth dynamics of ten New Plant Type (NPT) of Rice lines under aerobic and flooded condition have been evaluated. This pot experiment involved two factors, i.e. NPT of rice (10 lines) and soil condition (aerobic and flooded). Variations between lines were found in root fresh weight, root volume and shoot dry weight. Aerobic condition significantly scaled down all parameters observed, except for root length. The interaction between NPT of rice line and soil condition was only significant in root dry weight. From the ten NPT rice lines evaluated, root dry weight of six lines (G1, G3, G7, G8, G9, G10) were significantly decreased in aerobic condition, whereas line G2 and G4 did not show any significant reduction. The other two lines (G5 and G6), on the contrary, showed higher root dry weight in flooded condition, but the values were lower than that of line G2. The highest harvest index (HI) value in flooded condition was shown by line G6, whereas in aerobic soil condition it was shown by line G4 and G5. The correlation value between shoot dry weight and grain weight per clump ($r = 0.65$) was strong, and it was significantly and positively correlated.</p>
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