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## Abstract:

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We report the characterization of seedlings of LM10 which is one of the four short-root mutants derived from an M<sub>2</sub> population of rice (Oryza sativa L., cv. IR8) seeds treated with NaN<sub>3</sub>. The morphological characteristics in the M<sub>3</sub> generation of LM10 was the same as their  $\rm M_2$  and there was no segregation in M<sub>3</sub>. The lengths of the seminal root, the crown root and the lateral root of LM10 seedlings were significantly shorter than those of IR8, but the number of crown roots and the density of lateral roots were higher in LM10. There was no difference in plant length between the two. The embryo and the radicle length of the mature embryo were shorter in LM10, but no difference was observed in the plumule. The cortex cell length of the maturation zone was remarkably shorter in LM10 than in IR8, though cell division of the meristem zone was normal in the two. Although it is well known that the shoot and root growth of the wild-type are inhibited by light exposure compared to dark, root growth of IM10 was accelerated by light exposure, but shoot growth was inhibited. These results indicated that LM10 is different from mutants reported previously in rice and represents a new mutant concerning root growth of rice. Keywords:

Mutant, Oryza sativa L., Photomorphogenesis, Rice, Root, Short-root

[Full-text PDF (1523K)][References]

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