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Development and Rooting Capacity of Rice Nursling Seedlings Grown under Different Raising Conditions

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Abstract:

To reduce the raising period of rice nursling seedling and to obtain enough plant length (7 cm) for mechanical transplanting, nursling seedlings were raised under different light conditions and for different raising periods. The length of nursling seedlings which was raised in the dark (yellow nursling seedlings ; YNS) for 7 days was 9.6 cm long. While that raised in the natural light (green nursling seedlings ; GNS) for 2 days at 25°C and then placed in a vinyl house for 3 days was 5.5 cm long. The length of YNS raised for 4 days was 4.1 cm, which is not the adequate size required for mechanical transplanting. The differences between root numbers as well as that between the longest root length of YNS and GNS at 5 and 10 days after transplanting were not significant. The amount of dry weight increase of YNS until 10 days after transplanting was lower than that of GNS. There was high correlation ($r=0.984$) between the increase of dry weight and consumption of endosperm nutrient for all kinds of seedlings. In all treatments, a high correlation ($r=0.994$) was also observed between the increase of total dry weight and consumption of endosperm nutrient until 5 days after transplanting. The growth and development of seedlings at this interval depended on the nutrient in the endosperm. Based on these results, yellow nursling seedling might have been used as rice seedling.

Keywords:

Endosperm, Green nursling seedlings, Nursling seedlings, *Oryza sativa* L., Plant length, Rice, Transplanting, Yellow nursling seedlings

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