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■ Japanese journal of crop science

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[\[Full-text PDF \(736K\) \]](#) [\[References \]](#)**Studies on the Effect of the Relative Humidity of the Atmosphere on the Growth and Physiology of Rice Plants : X. Effect of ambient humidity on the translocation of assimilated ^{13}C in leaves**

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Abstract:

^{13}C -labelled CO_2 was fed to rice seedlings for 60 min in the light under low (60%) or high (90%) humidity. The amount of ^{13}C assimilated by the leaves under high humidity was much greater than that by the plants under low humidity. The ^{13}C -labelled CO_2 was fed to the plants for 60 min at 75% humidity and then the plants were kept at 60 or 90% humidity under illumination. In 10 hours after the end of ^{13}C feeding, the amount of ^{13}C and ^{13}C content increased in the roots of the plants kept under high humidity. On the other hand, they increased in the 6th leaf and the transfer of ^{13}C to the roots was very low in the plants kept under low humidity. These results support our previous observations that dry matter production of the plants grown under high humidity was higher than that of the plants grown under low humidity, that the dry matter increase of roots in the plants grown under high humidity was higher than that of the plants grown under low humidity and that the stress caused by low humidity increased the partition of dry matter to the top of plants.

Keywords:

^{13}C - CO_2 feeding study, Photosynthetic product, Relative humidity, Rice, Translocation

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