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Differences in Growth and Translocation after Heading between Two Strains of *Oryza glaberrima* Steud. and Two Cultivars of *Oryza sativa* L.

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Abstract:

An experiment was designed to know the differences in growth and translocation between *Oryza glaberrima* Steud. and *Oryza sativa* L. Two strains of *O.glaberrima* and two cultivars of *O.sativa* were used. They were grown in pots and under flooding condition. Growth was recorded from before heading. At heading and thereafter every week, one plant of each strain or cultivar was transferred into an assimilating chamber controlled at 45klux and 30°C and treated with $^{13}\text{CO}_2$ for one hour. The plant was sampled after 48 hours. The ^{13}C ratio of each plant part was determined. Heading period (days from the first panicle emergence to 50% heading) was longer for *O.glaberrima* than *O.sativa*. The life span of leaves at the same position was shorter for *O.glaberrima* than *O.sativa*. *O.glaberrima* completed their dry matter accumulation to panicles in earlier stage of ripening compared to *O.sativa*. The ^{13}C ratio of the panicles of *O.glaberrima* was greatest one week after heading, and that of *O.sativa* was greatest 3 or 4 weeks after heading. These results justify the facts that dry matter accumulation to panicles of *O.glaberrima* was great in the early stage and very little in the late stage of ripening, while that of *O.sativa* was great even in the late stage of ripening.

Keywords:

Annual, $^{13}\text{CO}_2$, *Oryza glaberrima*, *Oryza sativa*, Percentage of reproductive tiller, Perennial, Translocation

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