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Effects of the Tillering Nodes on the Main Stem of a Chinese Large-Panicle-Type Rice Cultivar, Yangdao 4, on the Growth and Yield-Related Characteristics in Relation to Cropping Season

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Abstract: Using a Chinese large-panicle-type high-yielding indica rice cultivar, Yangdao 4 (YD), pot experiments were carried out to determine the effects of the removal of the lower nodal primary tillers on the growth and yield-related characteristics in comparison with a Japanese cultivar, Hinohikari (HH), with almost the same growth duration. The plants with all tillers remaining (Cont), those with tillers from the 5th and higher nodes (T5) and those with tillers from the 8th and higher nodes (T8) were prepared by removing the other tillers and grown in early, normal and late cropping seasons, sowing in late April, May and June, respectively. The lowest nodal primary tillers in each group emerged earlier and the number of days from sowing to flag leaf expansion and to full heading stage was reduced in the late cropping season, especially in HH. The maximum number of stems and number of panicles were larger in HH than in YD, and tended to be higher in the order of Cont>T5>T8 plants. The average panicle weight per stem was higher in YD than in HH and higher in the order T8>T5>Cont. Panicle weight per hill was higher in YD than in HH in each cropping season and higher in early cropping season in both cultivars. Panicle weight decreased with delayed tiller emergence in YD, but not in HH. Panicle weight was more closely related to straw weight in YD than in HH. Therefore, the promotion of vegetative growth by early sowing and development of lower nodal tillers is more effective for attaining a high yield in YD than in HH.

Keywords: [Chinese cultivar](#), [Cropping season](#), [Large panicle type cultivar](#), [Lowest tillering node](#), [Panicle weight](#), [Rice](#), [Straw weight](#), [Tiller removal](#)

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