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Analysis of High Yielding Ability in a Rice Cultivar Akisayaka

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Abstract: The yielding ability of a new rice cultivar Akisayaka was compared with that of a standard rice cultivar Yumehikari. The refined grain yield was 9 % larger in Akisayaka than in Yumehikari since Akisayaka had more panicles and spikelets per unit area but had a similar percentage of ripened grain. Although the leaf area index (LAI) in Akisayaka was similar to that in Yumehikari, the leaf area of the flag leaf per unit area of Akisayaka was smaller than that of Yumehikari at the full heading stage. This indicates that Akisayaka had a larger number of smaller upper leaves than Yumehikari. The refined grain weight of Akisayaka was similar to that of Yumehikari at 30 days after heading. This implies that the plant type of Akisayaka is not so important for increasing dry matter production from early to middle ripening period although small upper leaves seems to suppress overluxuriant growth. Accordingly the most important factor for the high yield of Akisayaka was considered to exist in the late ripening stage. The refined grain weight of Akisayaka increased more rapidly than that of Yumehikari from 30 to 45 days after heading. In addition, the leaf chlorophyll content estimated with chlorophyll meter (SPAD) and top dry weight of Akisayaka exceeded those of Yumehikari at the late ripening stage. These results suggest that the large number of spikelets per unit area and the continuation of sink and source ability during the late ripening stage caused the high yielding ability of Akisayaka.

Keywords: [Akisayaka](#), [Matter production](#), [Plant type](#), [Rice](#), [Ripening](#), [Yield](#), [Yumehikari](#)



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