

**EFFECT OF SOURCE AND SINK MANIPULATION ON LEAF
CHARACTERISTICS, DRY-MATTER PARTITIONING
AND YIELD OF RICE**

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Executive Summary

The experiment was conducted at the Research Farm of Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh, during October, 2021 to May, 2022 to assess effect of source-sink manipulation on leaf chlorophyll content, grain filling duration and yield and yield components in three elite rice varieties. BRRI dhan89, BRRI dhan96 and BRRI dhan100 were subjected to source and sink manipulations (50% flag leaf cutting, 25 and 50% spikelet removal, and control). Partial source removal (50% flag leaf) increased the chlorophyll retention capacity in the penultimate leaf toward maturity and reverse situation also found in case of partial sink removal (25% and 50% spikelets). Impact of manipulation on grains number has caused the lower grain yield of all rice varieties. In response to the spikelet removal, the grain size of BRRI dhan100 and the filled grain in the basal spikelets of two varieties (BRRI dhan89 and BRRI dhan100) increased about 2 - 6% and 7 - 13%, respectively. With regard to the flag leaf cutting, the grain size (1000 grain weight) of BRRI dhan89, and the filled grain in the apical spikelets of two varieties (BRRI dhan89 and BRRI dhan96) reduced about 2 - 6% and 2 - 8%, respectively. Less than 80% of filled grain suggested that the grain yield of BRRI dhan89, BRRI dhan96 and BRRI dhan100 were limited by the source activity, more than sink capacity.

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