

## **EFFECT OF LEAF CLIPPING ON PHYSIOLOGICAL CHARACTERISTICS, YIELD ATTRIBUTES AND YIELD OF MODERN RICE VARIETIES**

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### **Executive summery**

The experiment was conducted at the experimental field of Agricultural Botany Department, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh, during October, 2018 to May, 2019 to evaluate the impact of five different types of leaf clipping on physiological characteristics, yield attributes and yield of modern rice varieties in Boro season. Two rice varieties (BRRi dhan29 and BRRi hybrid dhan2) and five levels of leaf clipping were used for this study. The leaf cutting was followed from flag leaf as follows: i.) LC<sub>0</sub>; Control = without leaf cutting, ii.) LC<sub>1</sub>; flag leaf cut, iii.) LC<sub>2</sub>; penultimate leaf cut, iv.) LC<sub>3</sub>; third leaf cut, v.) LC<sub>4</sub>; both flag leaf and penultimate leaf cut. vi.) LC<sub>5</sub>; flag leaf, penultimate leaf and third leaf cut together. The experiment was laid out in split-plot design with three replications. The main plots were devoted to the cutting of leaves, while the sub-plots were assigned to the two rice cultivars. All the test varieties exhibited in control condition. All the parameters showed superiority under control condition. All the growth parameters studied e.g., leaf area per tiller, chlorophyll content, dry matter (DM) per main stem, spikelets per unit leaf area–ratio were decreased progressively with the increasing severity of leaf clipping. In BRRi dhan29, flag leaf alone or flag leaf with 2<sup>nd</sup> leaf and, 2<sup>nd</sup> and 3<sup>rd</sup> leaves cutting showed profound reduction in grain number panicle<sup>-1</sup> (29.28, 62.62 and 51.83%, respectively) and grain weight panicle<sup>-1</sup> (9.00, 58.90 and 65.24%, respectively) while, cutting of 2<sup>nd</sup> leaf and 3<sup>rd</sup> leaf alone exert no significant impact compared to control. Similar significant impact also found on grain number panicle<sup>-1</sup> and but not on grain weight panicle<sup>-1</sup> in BRRi hybrid dhan2. Leaf clipping had non-significant effect on thousand grain weight of modern variety BRRi hybrid dhan2 while, it had significant effect on BRRi dhan29. On average, LC<sub>5</sub>, LC<sub>4</sub>, LC<sub>1</sub>, LC<sub>2</sub> and LC<sub>3</sub> treatments gave relative grain yield (% of control) by 60.07, 51.07, 35.98, 22.27 and 13.39 %, respectively i.e., flag leaf contributed to 36 % of grain yield. The effect of leaf cutting on grain yield in inbred and hybrid rice exhibited almost similar trend.

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