

## عنوان مقاله:

Evaluation of Growth Indices, Quality Characteristics, and Source and Sink Relationships in Promising Rice Genotypes

## محل انتشار:

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## خلاصه مقاله:

Leaves are the most important photosynthetic sources in rice plant. In order to analyze growth indices and determine the contribution of leaves to grain filling, a study was carried out with nine genotypes and six levels of source limitations at grain filling stage in ۲۰۱۷-۲۰۱۸, at the Rice Research Institute of Iran, Mazandaran. The experiment was carried out as a split plot in the form of a randomized complete block design with three replications and placing the genotypes in the main plot and leaf cutting treatments in the sub-plots. The results showed that genotype ۹۵۹ had the highest Leaf Area Index (LAI) at the flowering stage. The highest Crop Growth Rate (CGR) with ۲۳.۳ g m<sup>-۲</sup> and Net Assimilating Rate (NAR) with ۷.۵ g m<sup>-۲</sup> belonged to the genotype ۹۵۲. Genotypes ۹۵۷ and ۹۵۹ had the highest number of tillers and genotype ۹۵۲ had the highest yield. The results of combined analysis of variance revealed that leaf removal treatments had significant effects on ۱۰۰۰-grain weight, percent of filled grains and paddy yield per hill ( $P < 1\%$ ). The comparison of means between two years showed that leaf removal treatment caused significant decrease in panicle length, grain length and number of filled and total number of grains per hill. The highest yield reduction of ۴۷.۷ and ۴۶.۵% occurred in treatment of complete leaf removal for genotypes ۹۵۳ and ۹۵۴, respectively. The most destructive level of leaf removal treatments was the removal of all leaves, two top leaves, all leaves except flag leaf, flag leaf and all leaves except upper two leaves which caused paddy yield losses of, respectively, ۳۷.۴, ۲۰.۲, ۱۶.۵, ۱۴.۱, and ۹.۴%, compared to the control (no removal of leaves) with ۶۱۳۳ kg ha<sup>-۱</sup>. According to the results, about ۹۰% of the carbohydrates needed by rice in the grain filling stage are provided by the upper two leaves in each rice plant.

## کلمات کلیدی:

.Grain filling, Growth indices, Leaf removal, Physiological indicators, Source-Sink relation

## لینک ثابت مقاله در پایگاه سیویلیکا:

