

## **Influence of Seed Sources on Yield Performance of Selected Varieties of Rice Cultivated in Karachchi Division, Kilinochchi**

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**Abstract:** The utilization of quality seed paddy is an important aspect to increase the yield of rice with providing optimum management. An experiment was conducted at the Integrated Farm, Faculty of Agriculture, Killinochchi during November 2018 to March 2019 to assess the use of quality seed paddy on yield performances of selected rice varieties. Two factor factorial experiment was conducted in Randomized Complete Block Design (RCBD) with three replications. Two seed sources (ADA and Farmer) and five varieties (Bg 300, Bg 358, Bg 360, At 308 and At 362) were used as treatments. All other management practices were performed based on the farmer practices adopted in Kilinochchi District. The seed verification, leaf area index and yield parameters (panicle numbers per plant, panicle length, number of grains per panicle, total yield) were recorded and data were analyzed in ANOVA using SAS 9.1 package. The means were compared by using Duncan Multiple Range test. All the varieties of the farmer's seed source contained higher levels of other distinguishable variety (ODV), weed seeds and insect damaged seeds than the ADA's seed source and the standards of the seed certification service. The ODV in ADA's seed was less than farmer's seed in harvested paddy of all varieties. There is no interaction effect between seed source and the varieties. There were significant different in all parameters within the same variety of difference seed sources and showed the significant difference between the varieties except panicle numbers per plant. The ADA's seed source, At 362 variety was performed better compared to other varieties and gave the highest yield of 9.02 mt/ha. The cost of production of ADA's seed source is less than Farmer's seed source. It can be concluded that the use of ADA's seed paddy can be recommended as the best seed paddy to increase the yield by 10 to 25 % and the most suitable rice variety was At 362 for cultivation in Kilinochchi District.