# **CHAPTER 03**

# **MATERIALS AND METHODS**

## **3.1 Experimental Location**

The field experiment was carried out in open fields at the agronomy division of the Rice Research and Development Institute (RRDI), Bathalagoda (Longitude- 80.264 0, Latitude- 7.5310) in the Low country Intermediate Zone (IL1) of Sri Lanka. The experiment was conducted during the “Maha” season from September to December 2018. The annual rainfall of the area is 1500-2285mm and the daily mean temperature is 230C – 280C. The soil type of that area is Red Yellow Podzolic.

## **3.2 Description of the Treatments and Experimental Design**

The experiment for determination of optimum seed rate for nursery trays use for Machine Transplanting was conducted using the Complete Randomized Design (CRD) separately for the two varieties Bg 360 (three and half month’s variety with white short round shape) and Bg 374 (three and half month’s variety with white intermediate bold shape) in order to generalize the experiment. The experiment was consisting with four treatments and three replicates, which included with twelve experimental units for each variety. One nursery tray was considered as an experimental unit.

Table 3.1 Treatment combinations

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| 75g / tray  100g / tray  150g / tray  200g / tray  1  2  3  4  Treatment  Seed rate |

As the design for the experiment, Comparison of mechanical transplanting with other establishment methods Randomized Complete Block Design (RCBD) was used separately for the two varieties Bg 360 and Bg 374. The experiment was conducted in two stages including the nursery period and period after field establishment to the end of vegetative phase in the field. The experimental design was consisting with three replicates and four treatments; therefore, twelve experimental units for one variety. One block was considered as one experimental unit and two fields were used separately for the two varieties.

Broadcasting

Random Transplanting

1

2

3

4

Treatment

Establishment method