

Effect of organic fertilizers on three different rice cultivars.

Objective: Confirm the best Organic Input and variety to enhance the growth & yield of rice crop.

Introduction:



Experimental Details:

Crop	Rice	Treatments	9
Season	Kharif	Spacing	20 X 15 cm
Replications	3	Plot Size	Gross plot: 4.2 X 3.6 m
Location	ARDF, Tansa Farm		Net plot: 4.0 X 3.3 m
Design	RBD	Transplanting Date	19/07/2023

Treatment Details:

Treat. No.	Symbol	Treatment combination
T1	F1V1	FYM 10 tons/ha + Karjat -3
T2	F1V2	FYM 10 tons/ha + Karjat -6
T3	F1V3	FYM 10 tons/ha + Karjat -8
T4	F2V1	Vermicompost 6.5 tons/ha + Karjat-3
T5	F2V2	Vermicompost 6.5 tons/ha + Karjat-6
T6	F2V3	Vermicompost 6.5 tons/ha + Karjat-8
T7	F3V1	Vermiwash 3 ml/lit. water+Karjat-3
T8	F3V2	Vermiwash 3 ml/lit. water+Karjat-6
T9	F3V3	Vermiwash 3 ml/lit. water+Karjat-8

Methodology:

During the kharif season of 2023, an experimental study was carried out at the ASPEE Agricultural Research and Development Foundation Farm in Village Nare, Tauka Wada, district Palghar. The experiment utilized a Randomized Block Design (RBD) with three replications ($r=3$). Nine distinct treatments were tested, each comprising different inputs: T1 - FYM 10 tons/ha + Karjat-3, T2 - FYM 10 tons/ha + Karjat-6, T3 - FYM 10 tons/ha + Karjat-8, T4 - Vermicompost 6.5 tons/ha + Karjat-3, T5 - Vermicompost 6.5 tons/ha + Karjat-6, T6 - Vermicompost 6.5 tons/ha + Karjat-8, T7 - Vermiwash 3 ml/lit water + Karjat-3, T8 - Vermiwash 3 ml/lit water + Karjat-6 and T9 - Vermiwash 3 ml/lit water + Karjat-8. These treatments were broadcasted during the crop cycle, with the first application at transplanting and the second at 30 days post-transplanting.

Rice varieties were sown in the first fortnight of June 2023, after treating the seeds with the fungicide thiram at a rate of 3 g per kg of seeds. Twenty-five-day-old seedlings were transplanted with a spacing of 20 cm x 15 cm, in beds measuring 3.30 m x 3.0 m. Biometric observations were

taken regularly from 30 days after transplanting until harvest, with five plants (n=5) randomly selected from each plot for measurement.

The collected data underwent rigorous statistical analysis to assess the impact of various organic inputs on the growth and yield of three different rice varieties. The study was meticulously designed with the primary objective of evaluating the efficacy of different organic inputs in enhancing rice growth and yield under field conditions.

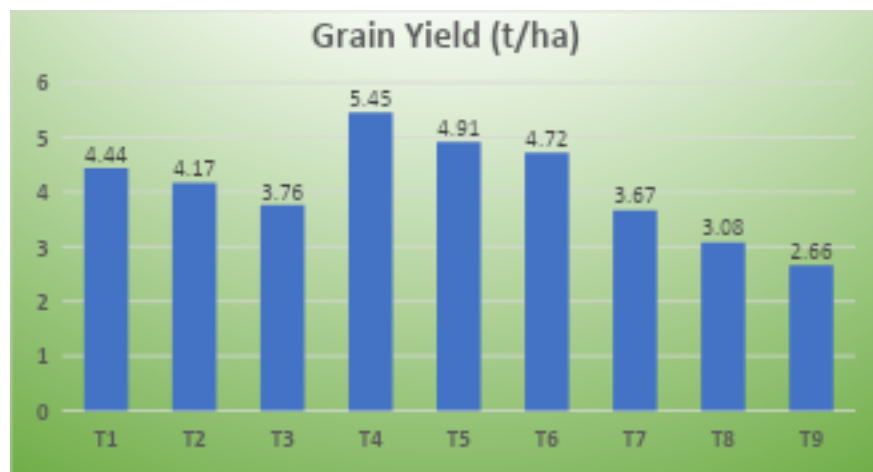
Layout:



Results:

Treatment T4, which involved the application of Vermicompost 6.5 tons/ha along with rice variety Karjat-3, resulted in the highest number of tillers per plant (24.73), number of panicles per plant (16), panicle length (24.84 cm), seeds per panicle (306.47), test weight (24.17 g), grain yield (5.45 t/ha), and straw yield (9.0 t/ha).

Graph:



Conclusion:

The data clearly indicated that treatment T₄, involving the application of 6 tons of vermicompost per hectare, produced a significantly higher yield in rice variety karjat-3 and superior growth parameters compared to all other treatments