

Integrated Nutrient Management in Mustard.

Objective: Find out the best combination of organic & inorganic substance to increase the yield of Mustard crop.



Introduction:

Mustard, the second most important oilseed crop in India after soybean, contributes 21.7% to the global cultivated area and 10.7% to global production. Despite being a significant crop, India's mustard productivity, ranging from 1 to 1.2 tonnes/ha, falls short of the global average of 1.98 tonnes/ha and lags behind countries like Germany, France, and the UK. India, as one of the world's top oilseed producers, contributes 20% to both global cultivation area and production. Oilseeds are the country's second-largest agricultural commodity, covering 13.5% of cropped area and contributing 5% to the gross national product. Among these, rapeseed-mustard is crucial, accounting for 23% of India's oilseed output and projected to contribute around 24.2 million tons by 2020. Indian mustard, the leading winter (rabi) oilseed crop, thrives in light to heavy loam soils with 25-40 cm of rainfall and has an oil content of 37-49%. While its seeds and oil have wide applications, productivity in India, even in

regions like Haryana, remains below that of developed countries. This gap underscores the need for improved mustard genotypes and better nutritional management, particularly with nitrogen, phosphorus, and sulphur. Therefore, this study was undertaken to evaluate the effects of integrated nutrient management on yield and oil quality of mustard.

Treatments:

Crop	: Mustard
Variety	: GJ-4
Experiment Layout	: RBD
No. of Replications	: Three
Spacing	: 30 cm x 15 cm
Plot size	: 5.0 m X 3.0 m
Date of sowing	: 14/12/2023

Treatment details:

Treat. No.	Treatment Details
T1	FYM @ 5 t/ha + 100% RDF
T2	Biocompost @ 5 t/ha + 100% RDF
T3	Vermicompost @ 2 t/ha + 100% RDF
T4	FYM @ 5 t/ha + 75% RDF + Photon X biostimulant Spray
T5	Biocompost @ 5 t/ha + 75% RDF + PhotonX biostimulant Spray
T6	Vermicompost @ 5 t/ha + 75% RDF + Photon X biostimulant Spray
T7	100% RDF (Control)

Methodology:

A field experiment was carried out to find out the best combination of organic & inorganic substance to increase the yield of Mustard crop during *Rabi* season of 2023 at ASPEE Foundation, Tansa Farm, Palghar, Maharashtra. Seven different combinations along with control were tried in Randomized block design with three replications.

As per treatments organic & inorganic substances carried out periodically. Observations of plant height, number of branches per plant, No. of siliquae per plant, length of siliquae, no. of seeds per siliquae, test weight and seed yield (kg/ha) were recorded.

Layout:



Results

The plant growth parameters *viz.*, plant height (116.9 cm), no. of branches per plant (9.8), no. of siliquae per plant (25.53) and length of siliquae (4.97 cm) were markedly influenced by treatment T6 i.e. application of Vermicompost @ 5 t/ha + 75% RDF + Photon X biostimulant Spray in mustard crop.

This treatment also shows the higher value for yield parameters like no. of seeds per siliquae (12.6), test weight (5.36 gm) and seed yield (2723.07 kg/ha).

Graph



Conclusion

From the data it can be concluded that different integrated nutrient levels showed variations in Mustard growth & yield. From the data it is very clear that application of Vermicompost @ 5 t/ha + 75% RDF + Photon X biostimulant Spray recorded higher Mustard yield with variety GJ-4.