

Effect of different organic liquid formulations on growth and yield of Muskmelon

Objective: Find out the best organic liquid formulations to increase growth and yield of Muskmelon.



Introduction:

Muskmelon (*Cucumis melo* L.) is a popular vegetable crop grown as a "dessert crop" in warmer regions and now also in temperate areas. It is especially favored in northern India, including Uttar Pradesh, Punjab, Rajasthan, and Madhya Pradesh. Originating in Tropical Africa with secondary centers in Central Asia, muskmelon is a diploid species ($2n=24$) from the Cucurbitaceae family. Known for its flavor and nutritional value, muskmelon provides essential vitamins and minerals, including 26-41 calories, 0.6-1.0 grams of protein, and various minerals per 100 grams. It is widely cultivated in tropical regions globally, and in India, it is often grown on riverbeds for early harvests. Belonging to the genus *Cucumis*, muskmelon is part of the subfamily Cucurbitoideae and is divided into two sub-genera, *Cucumis* and *Melo*, with several related polyploid species. With the rising cost of chemical fertilizers, there is a growing interest in

using organic manures and biofertilizers to promote sustainable and eco-friendly farming practices.

Treatments:

Crop	: Muskmelon
Variety	: Madhumita
Experiment Layout	: RBD
No. of Replications	: Three
Spacing	: 150 cm x 45 cm
Plot size	: 4.5 m X 3.0 m
Date of sowing	: 16/12/2023

Treatment details:

Treat. No.	Treatment Details
T1	Jeevamrut @ 3 ml per lit. water
T2	Sea weed extract @ 2 ml per lit. water
T3	Vermiwash @ 3 ml per lit. water
T4	Cow urine @ 3 ml per lit. water
T5	Amino Sil @ 1 ml per lit. water
T6	Control

Methodology:

A field experiment was conducted during the Rabi season of 2023 at ASPEE Foundation's Tansa Farm in Palghar, Maharashtra, to assess the impact of various organic liquid formulations on the growth and yield of muskmelon. The study evaluated six different organic treatments, along with a control, using a randomized block design with three replications.

Periodic spraying of organic substances was conducted according to the specified treatments. Observations were recorded for various growth and yield parameters, including vine length, the number of leaves per plant, leaf length, days to 50% flowering, the number of fruits per plant, fruit length,

fruit diameter, fruit weight, fruit yield per plot (kg), and fruit yield per hectare (q/ha).

Layout:

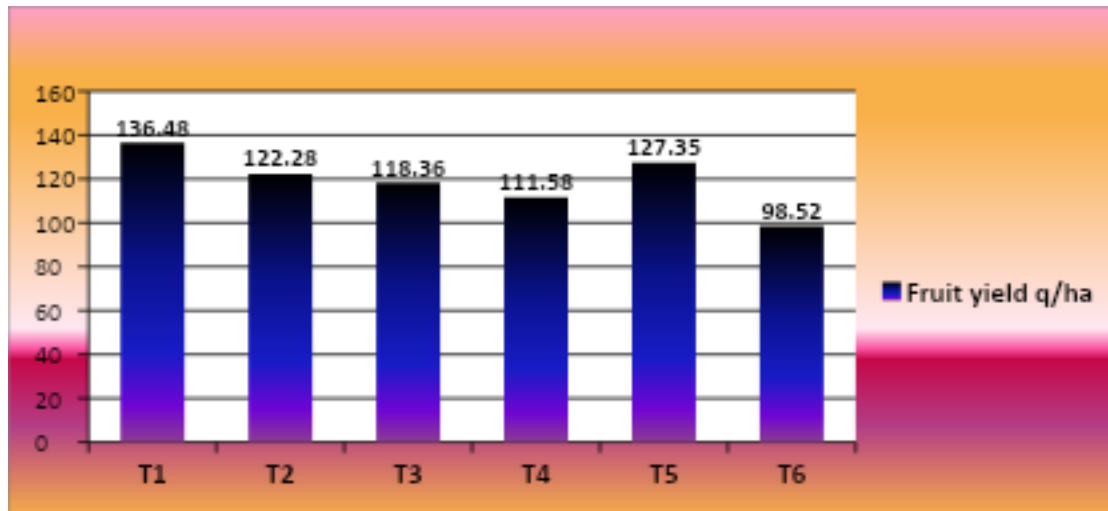


Results

The plant growth parameters *viz.*, vine length (172.9 cm), no. of leaves per plant (84.8), leaf length (17.5 cm) and days taken to 50% flowering (32.8) were markedly influenced by treatment T1 i.e. application of Jeevamrut @ 3 ml per lit. water in muskmelon.

This treatment also shows the higher value for yield parameters like no. of fruits per plant (5.73), fruit length (14.3 cm), fruit diameter (50.27 cm), fruit weight (1.05 kg), fruit yield (6 kg/plot) and fruit yield (136.48 q/ha).

Graph



Conclusion

The data indicates that various organic liquid formulations had differing effects on the growth and yield of muskmelon. Among these, the application of Jeevamrut at a concentration of 3 ml per liter of water significantly enhanced the yield, particularly when applied to the Madhumita variety. This suggests that Jeevamrut, in this specific dosage, is highly effective in promoting optimal growth and productivity in muskmelon cultivation.