

10.67286/mhmc.v10.i2.000004

Efficacy of Biochemic Preparation of Kalium phosphoricum 6X Versus Conventional Method in the Growth and Yield of Capsicum annuum (Bell Pepper): A Randomized Controlled Trial

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ABSTRACT

Background: Agrohomoepathy is an emerging branch of agricultural science that applies homeopathic principles to improve plant health, productivity, and soil sustainability. Kalium phosphoricum, a biochemic preparation, is believed to enhance physiological functions in plants, including nutrient uptake and growth regulation.

Objective: To evaluate the efficacy of Kalium phosphoricum 6X compared to conventional cultivation methods in improving the growth and yield of Capsicum annuum (bell pepper).

Methods: A randomized controlled trial was conducted on 46 Capsicum annuum plants, divided equally into two groups: Group A (treated with Kalium phosphoricum 6X) and Group B (control, watered conventionally). Growth parameters including plant height and leaf count were recorded every 15 days for six months. Data were analyzed using an unpaired t-test at a 5% significance level.

Results: The mean height and leaf count were significantly higher in the medicated group (20.48 cm and 20.61 leaves) compared to the control (17.75 cm and 18.34 leaves), with t-values of 2.75 and 2.76 respectively ($p < 0.05$).

The fruiting percentage was 43.47% in the medicated plants and 13.04% in the control group.

Conclusion:

Kalium phosphoricum 6X demonstrated significant potential in promoting vegetative growth and yield in Capsicum annuum. The findings support the use of biochemic preparations as sustainable, eco-friendly alternatives to chemical fertilizers. Further large-scale studies are recommended to validate these findings.

Keywords

Agrohomoepathy, Kalium phosphoricum 6X, Biochemic preparation, Capsicum annuum, Plant growth, Yield enhancement .

INTRODUCTION

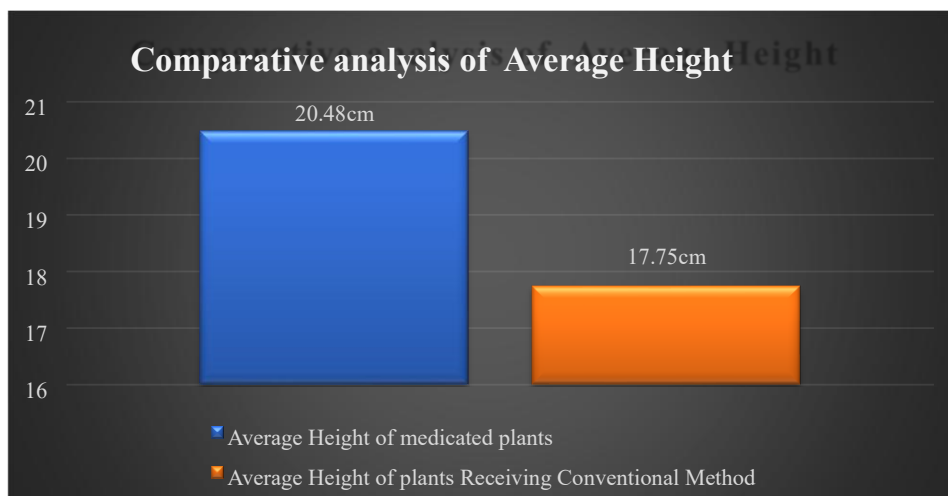
Capsicum annuum (bell pepper) is a globally significant crop valued for its nutritional, medicinal, and economic importance. India is one of the largest producers, cultivating both green and dried varieties across diverse climatic zones. However, the intensive use of chemical fertilizers and pesticides in conventional agriculture has caused soil degradation, nutrient imbalance, and water contamination. Agrohomoepathy offers a sustainable alternative by applying homeopathic principles to plant cultivation. *Kalium phosphoricum*—a phosphate of potassium—plays a vital role in cellular energy transfer, enzyme activation, and plant metabolism. This study aimed to evaluate the efficacy of *Kalium phosphoricum* 6X compared to the conventional method in promoting growth and yield of *Capsicum annuum* under controlled conditions.

MATERIALS AND METHODS

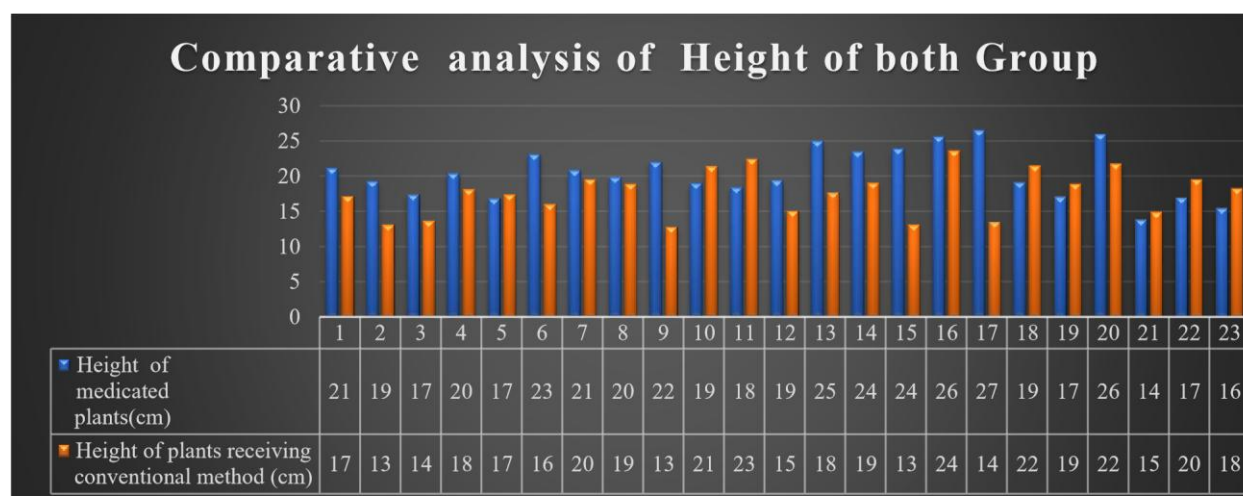
A randomized controlled trial was conducted at Motiwala Homoeopathic Medical College, Nashik, over a period of six months. A total of 46 healthy *Capsicum annuum* plants were selected and divided equally into two groups: Group A (treated with *Kalium phosphoricum* 6X) and Group B (control, watered conventionally). Observations of plant height, leaf count, and fruiting were recorded every 15 days. Data were analyzed using an unpaired t-test, with $p < 0.05$ considered statistically significant.

RESULTS

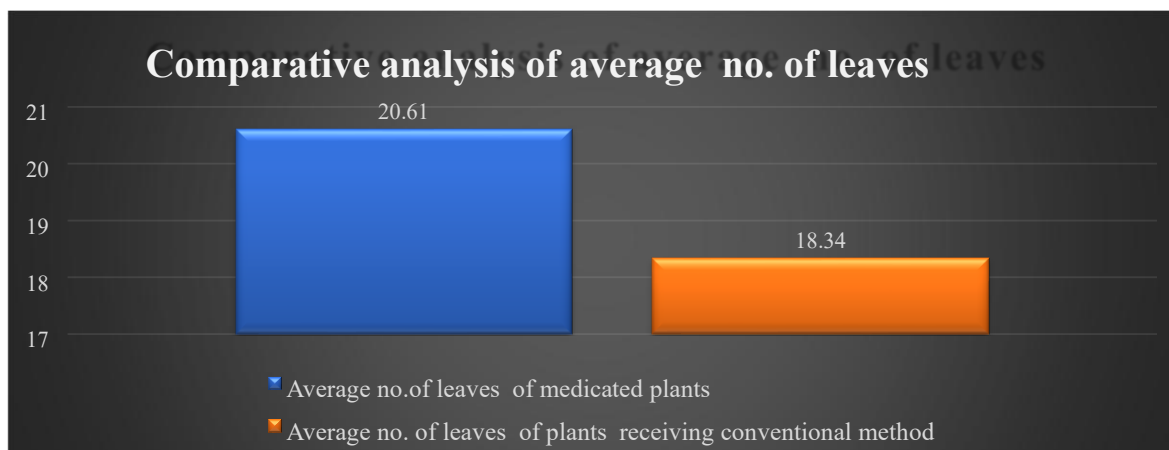
Mean height: Group A = 20.48 cm; Group B = 17.75 cm ($t = 2.75$, $p < 0.05$). Mean leaf count: Group A = 20.61; Group B = 18.34 ($t = 2.76$, $p < 0.05$). Fruiting percentage: Group A = 43.47%; Group B = 13.04%. *Kalium phosphoricum* 6X significantly improved both vegetative growth and yield compared to conventional methods.



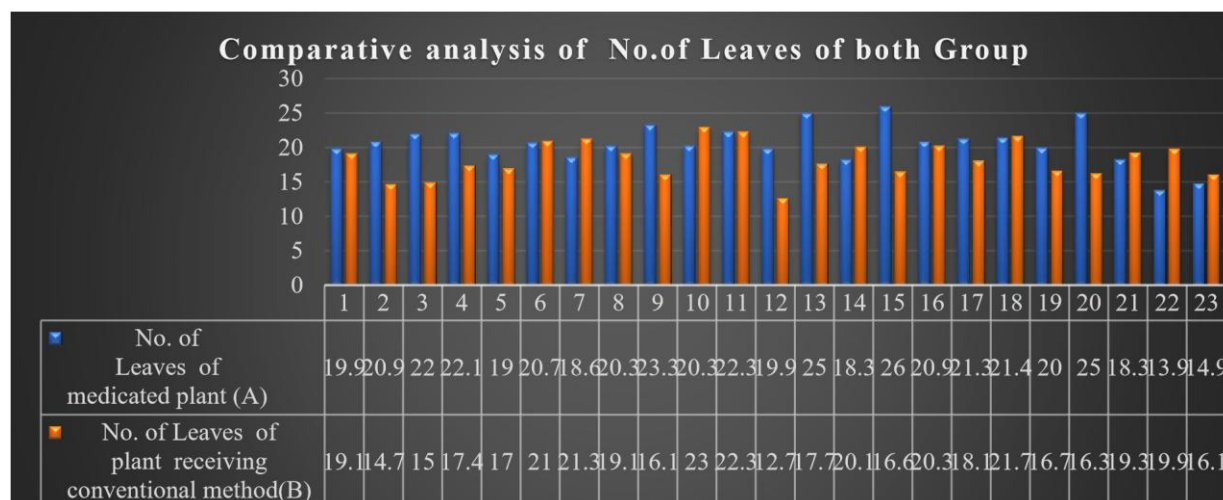
Graph No.1 Comparative analysis of Average Height



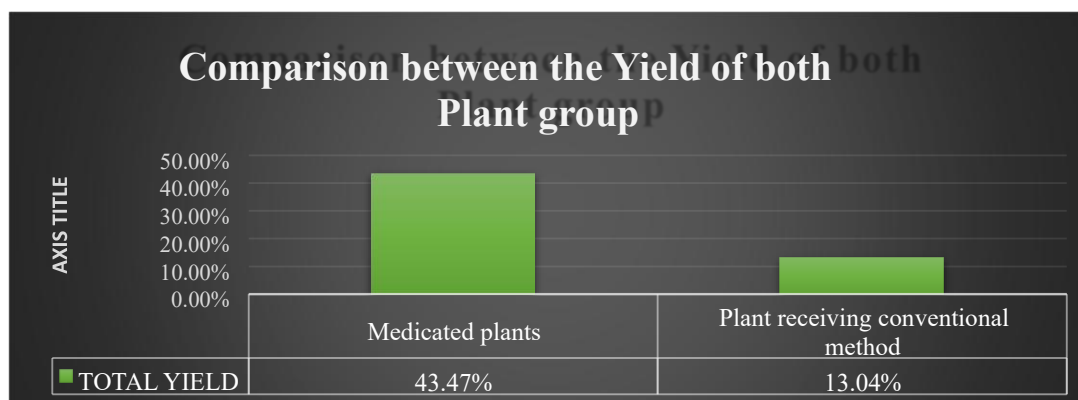
Graph No.2 Comparative analysis of Height



Graph No.3 Comparative analysis of average no. of leaves.



Graph No.4 Comparative analysis of no. of leaves









Fruits harvest on 12-05-25



Group A

Group B

Fruits harvested on 27-05-25



Group A

Group B

DISCUSSION

This trial indicates that *Kalium phosphoricum* 6X enhances growth and yield of *Capsicum annuum*. The results align with previous studies emphasizing potassium and phosphorus as vital macronutrients for photosynthesis, enzymatic function, and flowering. The preparation likely promoted nutrient uptake, chlorophyll synthesis, and stress resistance. Agrohomoepathic interventions show promise for sustainable agriculture as non-toxic, affordable, and eco-friendly alternatives to fertilizers. Limitations include small sample size and environmental variability. Larger, multi-location studies with biochemical analyses are recommended.

CONCLUSION

Kalium phosphoricum 6X significantly improved the growth and yield of *Capsicum annuum* compared to conventional cultivation. Agrohomoepathy holds promise as an eco-friendly and sustainable agricultural approach.

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