



Peppers, Sweet – India – Centurion University – 2025



Overview

- This is a summary by Harvest Harmonics Corp of a report on a science trial regarding the effect of the Kyminasi® Plants Crop Booster™ (KPCB) on the growth of bell peppers.
- Institute:
M. S. Swaminathan School of Agriculture,
Centurion University of Technology and Management,
Paralakhemundi, Gajapati, Odisha – 761211, India
- Supervising Professor and Principal Investigator:
Dr. Ashirbachan Mahapatra
- Master’s Degree Student:
Mr. Subhankar Das

Time

1. Planting Date: 10 Dec. 2024
2. Preliminary results: 1 Feb. 2025
3. Final Harvest Date: 13 March 2025

Location

- Place: Centurion University experimental field, Jhola, Odisha, eastern India
- Field coordinates: 18.803926, 84.128566

Setup

- Crop: Bell Peppers
- Irrigation and setup: Drip irrigation in a polythene mulch system
- Field layout: the performances of two adjacent fields were compared, one field irrigated with water treated by Kyminasi® Plants Crop Booster™ (KPCB) and the other field irrigated with untreated water.

Measurements

The measurements of the fully developed the bell peppers, together with yield and fruit quality parameters are provided below.

S/N	Parameters	KPCB Treated	Control	Gain
1	Plant height (cm)	62.8	53.7	16.9%
2	No. of fruits/plant	9.70	8.80	10.2%
3	GreenSeeker value <i>{chlorophyll}</i>	0.88	0.82	7.3%
4	SPAD <i>{chlorophyll}</i>	59.6	54.7	9%
5	Canopy temp	26.7	24.9	7.2%
6	Fruit circumference (cm)	22.5	19.2	17.2%
7	Fruit weight (g)	95.4	69.6	37%
8	Fruit length (cm)	11.2	10.3	8.7%
9	No. of harvest <i>{more production per season}</i>	12.0	11.0	9.1%
10	Dry matter of plant (g) (without fruit at harvest)	356.4	302.2	18%
11	Total yield (g/plant)	1,546.8	1,337.6	15.6%
12	Yield advantage over Control (%)	15.6	-	15.6%
13	Aroma (Sensory evaluation - 10 point scale)	8.9/10	6.8/10	31%
14	Luster (Sensory evaluation - 10 point scale)	8.7/10	7.2/10	21%

Conclusions

The study found that using KPCB treatment combined with drip irrigation and polythene mulch significantly improved bell pepper growth and yield compared to Control.

Key improvements in developmental parameters of KPCB-treated bell peppers included:

- 10.2% increase in plant height,
- An average 8.1% increase in SPAD and GreenSeeker readings, indicating better plant health,
- 9.1% more harvest cuttings per season,
- 10.2% more peppers per plant,
- Significantly enhanced fruit size with 17.2% larger circumference, and 8.7% longer fruits,
- The canopy size of KPCB treated rows was about twice as wide as Control, with bigger and greener leaves, as shown in the photos below:

**Control**

(Photo taken: Feb. 2024)

**KPCB**

Key improvements in yield and quality of KPCB-treated bell pepper parameters included:

- The treated bell peppers were 37% heavier,
- KPCB increased the per-plant yield by 15.6%,
- The bell peppers had better appearance (see photo) and were more uniformly shaped – factors that would influence their market value and demand for the better,



- The peppers were also tested for aroma and luster¹ and both parameters were 31% and 21% better than Control, respectively.

Overall, the KPCB treatment effectively boosted both the quantity and quality of bell pepper production. We also evaluated that the improvements in fruit size did not come at the expense of quality.

¹ The way something shines, or a quality that outshines the usual.

EFFECT OF KPCB ON BELL PEPPER WITH DRIP AND POLYTHENE MULCH SYSTEM

Under the Collaborative Research Project By
Centurion University of Technology and Management, Odisha and Harvest Harmonics
International Corporation, Florida, USA

Date of installation: 10-12-2024

Location: 18° 48' 14" N 84° 07' 43" E 94 m



Installation of the KPCB



Master's Student Mr. Subhankar Das Explaining about the effect of KPCB to Prof. D. N. Rao, Vice-President of the Centurion University of Technology and Management, Odisha



Exhibition of the Product (KPCB – Harvest Harmonics) at Project Expo 2025 at CUTM

Results of the study



Control



Treated



Control

Treated

Table 1: Growth and yield parameters observed on bell pepper under drip and polythene mulch system as influenced by KPCB treatment

Sl. No.	Parameters	KPCB Treated	Control
1	Plant height (cm)	62.8	53.7
2	No. of fruits/plant	9.70	8.80
3	Green seeker value	0.88	0.82
4	SPAD	59.6	54.7
5	Canopy temp	26.7	24.9
6	Fruit circumference (cm)	22.5	19.2
7	Fruit weight (g)	95.4	69.6
8	Fruit length (cm)	11.2	10.3
9	No. of harvest	12.0	11.0
10	Dry matter of plant (g) (Without fruit at harvest)	356.4	302.2
11	Total yield (g/plant)	1546.8	1337.6
12	Yield advantage over control (%)	15.6	-
13	Aroma (Sensory evaluation - 10 point scale)	8.9/10	6.8/10
14	Lusture (Sensory evaluation - 10 point scale)	8.7/10	7.2/10

Conclusion

From the data, it can be revealed that the use of KPCB treatment under drip irrigation with polythene mulch greatly improved the growth and yield performance of bell pepper over the control. Noteworthy improvements were seen in plant height, fruits per plant, SPAD value, and green seeker readings, reflecting improved physiological health and chlorophyll content. The treated crops also yielded fruits with better physical characteristics, including greater weight, length, and circumference, resulting in a significant yield enhancement of 15.6% compared to the control. Moreover, KPCB treatment enhanced the quality characters, as evident through higher sensory scores for aroma and lustre. In conclusion, the use of KPCB in conjunction with drip and mulch practices was found to be effective in enhancing both the quantitative and qualitative values of bell pepper production.

Date: 16-03-2025



(Ashirbachan Mahapatra)

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