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Blessing (*Biofield*) Energy Treatment (*BET*) for Superior Growth and Yield of Bitter Gourd

Branton A.,[1], Trivedi M.K.[1], Trivedi D.,[1], Phutankar N.R.,[2], Gaikwad T.B.,[2], Kadam V.D.,[2], Mondal S.,[3], Jana S.[3,*]

[1]Trivedi Global, Inc., Research and Development, Henderson, Nevada, USA
[2]Shree Angarsiddha Shikshan Prasarak Mandal's College of Agriculture, Dept. of Horticulture, Sangulwadi, Mohitewadi, Maharashtra, India
[3]Trivedi Science Research Laboratory Pvt. Ltd., Research and Development, Thane (W), Maharashtra, India

***Corresponding author**
Snehasis Jana
Trivedi Science Research Laboratory Pvt. Ltd., Research and Development, Thane (W), Maharashtra, India
Email: publication@trivedisrl.com.

Abstract

The current research aimed to identify the unique and enhanced morphological and phenological characteristics of bitter gourd (*Momordica charantia* L.) fruit resulting from blessing (Biofield) energy treatment (BET, Trivedi Effect®) applied by a recognized spiritual energy healing practitioner to both seeds and land, focusing on qualitative and quantitative properties. The study was conducted from February to May 2025 in an agricultural field located in Bhandarwadi, Sindhudurg, Maharashtra, India. Seeds were allocated to an untreated control group (CONBIGG) and a BET-treated group (BTBIGG). Soil texture was evaluated manually. Morphological, phenological, and yield-related parameters were systematically recorded by an experienced scientist. BTBIGG exhibited improvements in several morphological parameters, including plant vine length, stem length, number of branches, leaf, fruit, and seed colour, as well as seediness, compared to the control group. Furthermore, several quantitative parameters, including plant vine length, number of branches, stem diameter, and seed count per fruit increased significantly by 31.47% ($p \leq 0.001$), 39.47% ($p \leq 0.001$), 37.41% ($p \leq 0.001$), and 25.19% ($p \leq 0.001$), respectively, in the BTBIGG group compared to the CONBIGG group. Bitter gourd yield (tons per hectare) increased by 44.45% in the BTBIGG group relative to the CONBIGG group. These findings suggest that the BET-Trivedi Effect® significantly enhances morphological characteristics, growth, and yield in bitter gourd, offering valuable data for the future production of stable and high-quality crops.

Keywords: *Momordica charantia,* morphology, phenology, blessing energy treatment, bitter gourd, yield

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1. INTRODUCTION

Bitter gourd, also known as bitter melon (*Momordica charantia* L.), is a vegetable plant notable for its high nutritional content, including vitamins A, B, and C, as well as calcium, iron, phosphate, protein, fat, and carbohydrates [1]. The leaves and fruits of bitter gourd possess a bitter taste due to the presence of momordicin glycoside and offer various health benefits, such as aiding in the management of haemorrhoids and diabetes [2, 3], addressing infertility [4], enhancing breast milk production, and stimulating appetite [5]. The demand for vegetables in developing countries has risen as a result of population growth and economic development [6]. India is often referred to as the fruit and vegetable basket, as it is the world's second-largest producer of fruits and vegetables after China [7].

This study aimed to evaluate the effects of a

unique biofield energy treatment, known as the Trivedi Effect®, applied to seeds and farming land on the morphological characteristics and productivity of bitter gourd plants, taking into account both qualitative and quantitative properties. Efforts to maximise the growth, yield, and quality of bitter gourd have led to the assessment of various strategies, including the use of high-yielding hybrid varieties [8] and the application of biofertilisers, both of which have demonstrated improvements in bitter gourd growth [9]. Another approach to increasing agricultural production involves the development of superior seeds [5]. Therefore, BET-Trivedi Effect® was administered to the seeds prior to sowing and concurrently to the farming land. The authors hypothesised that these interventions would result in better quality plants and increased productivity of bitter gourd fruits

2. MATERIALS AND METHODS

2.1. Study site

The experiment was conducted on farmland in Bhandarwadi, Sindhudurg, Maharashtra, India, from February to May 2025. The site was situated between 15° 37' and 16° 40' north latitude and 73° 19' to 74° 13' east longitude, at an elevation of 26 metres above sea level. The region was characterised by hot summers and cool winters. Temperatures reached up to 40℃ in April and May, while they ranged from 8℃ to 25℃ between December and February. Rainfall was highly variable, frequently resulting in dry spells and reduced soil moisture during crop growth.

2.2. Seed details

Bitter gourd seeds (label number: 88101, lot number: NU79223240, genetic purity: 98%) of the Arjun-36 hybrid variety were sourced from Namdeo Umaji Agritech (India) Pvt. Ltd. The seeds were divided into two groups. The control group remained untreated, while the treated group received blessings/biofield energy treatment, BET. Both groups were planted in the selected farmland to evaluate growth, appearance, and yield. Identical cultivation practices, including irrigation, fertilisation, and pesticide application, were implemented for both groups.

2.3. Plot regimen

A randomised complete block design (RCBD) was implemented with two groups: an untreated control group (CONBIGG) and a spiritual blessings/BET group (BTBIGG). Each group was replicated three times. The experimental area was divided into two equal sections, one designated for the control and the other for the treatment. Each block contained two plots, and a total of three blocks were established. Plot assignments were randomised. In total, six plots were established, each measuring 2.5 metres by 1.5 metres. Plants were spaced 0.5 metres apart in both directions. A half-meter gap separated replications, and a 50-centimetre gap separated plots. The entire experimental site covered 35 square metres, with each plot occupying 3.75 square metres. The area was cleared prior to the experiment. Standard fertiliser rates (50, 100, and 50 kg NPK per hectare) were applied to each plot and incorporated into the soil before planting.

2.4. Blessing/Biofield Energy Treatment (BET) Procedure

The control group of bitter gourd seeds and plots (CONBIGG) did not receive any treatment. The treated group (seeds and land), referred to as BTBIGG, received a spiritual blessing/biofield energy treatment (BET) by Ms Alice Branton *via* remote/distance mode of web-conference platform from Florida, USA, for approximately 4 minutes from a spiritual biofield energy healing practitioner with over 12 years of experience. The blessing involved the healer performing the laying on of hands and reciting prayers from the USA, under conditions of 28 ± 2°C temperature and 65 ± 5% relative humidity, to the bitter gourd seeds and land. During this procedure, the healer sought to channel divine energy from the universe to the treated seeds and land.

2.5. Soil properties

The study area consisted of sandy loam soil, which was light, well-drained, and exhibited low fertility. Before the experiment, topsoil samples (30 cm deep) were collected from random locations within each plot using a five-point sampling method. The samples were combined, and a 1 kg subsample from each plot was air-dried, sieved through a 2-mm mesh, and stored at 4℃. Physical and chemical properties were then analysed. Soil texture was assessed by hand feeling [10], and soil pH was measured in a 1:2 soil-water mixture using a digital pH meter.

2.6. Seed sowing and cultivation

Seeds were sown directly into the soil. For the initial 10 days, plots were maintained in a moist condition through manual watering. Subsequently, a drip irrigation system equipped with self-compensating emitters,

spaced 0.5 metres apart and delivering 3 litres of water per hour, was implemented. Plots in both control and treatment groups received varying quantities of nitrogen, phosphorus, and potassium fertiliser (50:100:50 kg NPK per hectare) supplied as urea, single super phosphate (SSP), and muriate of potash (MOP). All SSP, MOP, and half of the urea were incorporated into the soil prior to sowing, while the remaining urea was applied 21 days after sowing. The insecticide Hamla 550 (Gharda Chemicals Limited, India) was administered at a concentration of 2 mL per litre of water on days 21 and 49 after sowing in both groups. To assess vegetative growth and yield, five plants were randomly selected from each plot 80 days after sowing.

2.7. Phenotypic features

Researchers recorded several qualitative morphological traits, such as main vine length, stem shape, stem length, depth of lobing, vein colour, leaf blade colour, leaf blade width, leaf blade lobing, flower colour, flower size, flower bud colour, fruit colour, fruit shape, fruit shape apex, seed colour, seed size, and seediness colour. They also measured quantitative traits, including plant vine length (m), number of branches per vine, stem diameter (cm), days to 50% flowering, fruit length (cm), and fruit diameter (cm).

2.8. Vegetation development and yield traits

Bitter gourd fruits were harvested at physiological maturity. Fruit size was measured in centimetres, and weight was determined using a weighing balance. Yield per net plot, recorded in kilograms, was converted to tonnes per hectare using a multiplication factor.

2.9. Statistical assessment

Data are shown as mean ± SEM. Comparisons between two independent groups used Student's *t*-test in SigmaPlot (v14.0). Statistical significance was set at $p < 0.05$.

3. RESULTS

3.1. Physicochemical assessment of soil

The physicochemical characteristics of the sandy loamy soils were examined. The water-holding capacity was marginally higher in BTBIGG compared to CONBIGG. Levels of exchangeable cations, including calcium, magnesium, and sodium, were lower in BTBIGG. In contrast, the total chloride concentration was higher in BTBIGG than in CONBIGG (data not shown).

3.2. Morphological features

Various observations on the growth stages and yield of bitter gourd were recorded at different time intervals. **Figure 1** shows the different stages of the growth cycle of bitter gourd: seedling, vegetative growth, floral phase, fruit growth stage, and harvesting stages.

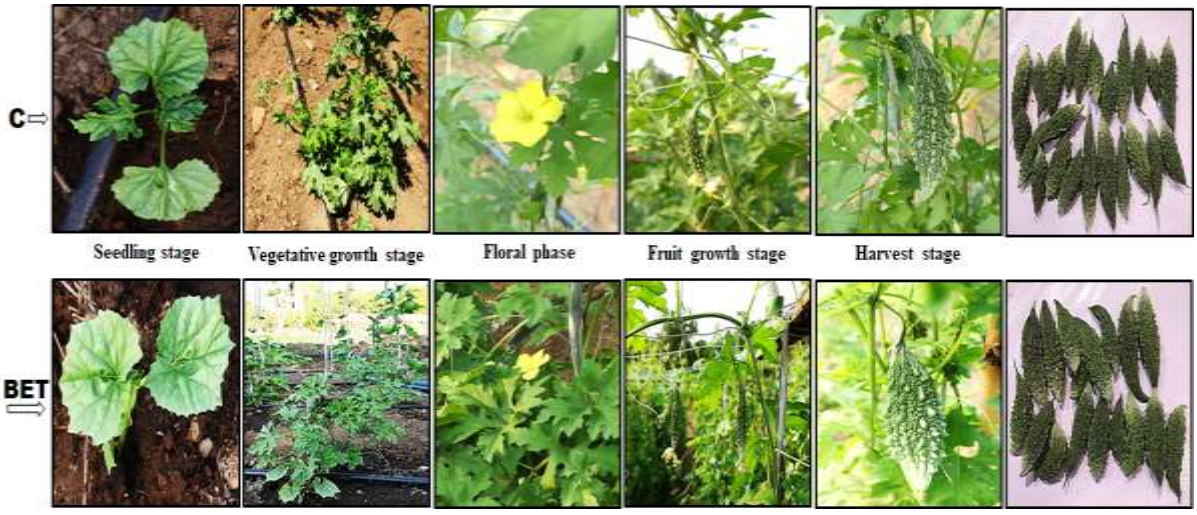

Figure 1. Representative photographs illustrating changes in the vegetative growth characteristics of bitter gourd at various developmental stages. C: Control group; BET: Spiritual blessing/biofield energy treatment group.

Table 1 summarises the qualitative traits observed in bitter gourd vegetative growth. Cotyledon intensity was green in the biofield energy-treated group (BTBIGG) and medium green in the control group (CONBIGG). The BTBIGG exhibited longer vines and stems, a higher number of primary branches, and darker green leaves compared to the CONBIGG. Mature fruits (at harvesting stage) in the BTBIGG were dark green, whereas those in the CONBIGG were medium green; most fruits in both groups displayed continuous ridges and a spindle shape. Seeds were brown in the BTBIGG and light brown in the CONBIGG. Seediness was classified as medium (10–20 seeds per fruit) in the BTBIGG and low (fewer than 10 seeds per fruit) in the CONBIGG. Other parameters, such as stem shape, leaf blade shape and margin, number of lobes, fruit colour, shape, ridge, and seed surface, showed no visible differences between groups.

Table 1. Impact of spiritual blessing/biofield energy treatment on qualitative vegetative parameters of bitter gourd

Vegetative trait	Control group (CONBIGG)	Treatment group (BTBIGG)
Cotyledon: intensity of green colour	Medium green	Green
Plant: main vine length	Medium (2.5-3.5 m)	Long (>3 m)
Stem shape	Angular	Angular
Stem length	Medium (5-9 cm)	Long (>8 cm)
Stem: number of primary branches	Medium (10 -16)	Many (>15)
Leaf blade shape	Cordate	Cordate
Leaf blade margin	Entire	Entire
Leaf blade colour (upper side)	Medium green	Dark green
Number of lobes in leaf blade	5 lobes	5 lobes
Flower colour	Yellow	Yellow
Colour of mature fruit (at harvesting)	Medium green	Dark green
Colour of mature fruit at ripening stage	Orange	Orange
Fruit shape (at maturity stage)	Spindle	Spindle
Fruit ridge	Continuous	Continuous
Seed colour (at the mature harvest stage)	Light brown	Brown
Seed surface	Smooth	Smooth
Seediness (number of seeds/ fruit)	Less (<10)	Medium (10-20)

3.3. Phenology and yield traits

The germination rate in BTBIGG was significantly ($p \leq 0.001$) improved by 15.58% compared to CONBIGG. At harvest, vine length in BTBIGG significantly ($p \leq 0.001$) increased by 31.47% relative to CONBIGG. The number of branches and nodes per vine in BTBIGG significantly rose by 39.47% ($p \leq 0.05$) and 30.72% ($p \leq 0.01$), respectively, compared to CONBIGG. Internodal length and stem diameter in BTBIGG increased significantly ($p \leq 0.001$) by 31.90% and 37.41%, respectively, relative to CONBIGG. Leaf length and width were significantly ($p \leq 0.001$) improved by 8.51% and 22.40%, respectively, in BTBIGG compared to CONBIGG. Fruit weight and length in BTBIGG significantly increased by 10.38% ($p \leq 0.001$) and 17.46% ($p \leq 0.01$), respectively. Seed length, seed

count per fruit, and 100-seed weight in BTBIGG significantly increased by 13.38% ($p \leq 0.01$), 25.19% ($p \leq 0.001$), and 18.82% ($p \leq 0.001$), respectively, compared to CONBIGG. The number of fruits per vine and fruit yield per plant (kg) were significantly increased by 34.47% ($p \leq 0.001$) and 22.95% ($p \leq 0.05$), respectively, in BTBIGG compared to CONBIGG. Fruit yield (tonnes per hectare) was 44.45% higher in BTBIGG compared to CONBIGG (**Table 2**). Other parameters such as days to first male and female flower appearance, days to 50% flowering and fruit maturity, and number of male and female flowers were non-significantly improved in BTBIGG compared to CONBIGG.

Table 2. Quantitative analysis of phenological development and yield characteristics in bitter gourd subjected to blessing/biofield energy treatment (BET)

Quantitative Trait	Control Group (CONBIGG)	Treatment Group (BTBIGG)
Days to germination	6-8	6-7
Germination percentage (%)	84.75 ± 0.08	97.95 ± 0.32***
Plant vine length (m)	2.86 ± 0.09	3.76 ± 0.13***
Number of branches/vines	14.72 ± 1.42	20.53 ± 1.16*
Number of nodes/vines	47.91 ± 2.51	62.63 ± 2.05**
Internodal length (cm)	5.36 ± 0.13	7.07 ± 0.13***
Stem diameter (cm)	1.47 ± 0.07	2.02 ± 0.01***
Leaf length (cm)	11.04 ± 0.15	11.98 ± 0.10***
Leaf width (cm)	8.17 ± 0.12	10.00 ± 0.06***
Days to first male (staminate) flower appearance	32.24 ± 1.43	29.21 ± 1.62
Days to first female (pistillate) flower appearance	36.15 ± 1.45	35.72 ± 1.39
Days to 50% flowering	54.57 ± 1.67	53.41 ± 1.27
Number of male flowers	151.13 ± 5.04	139.46 ± 3.84
Number of female flowers	37.61 ± 2.07	40.38 ± 1.37
Days to fruit maturity	60.56 ± 3.05	58.85 ± 2.48
Fruit weight (gm)	78.16 ± 2.09	86.27 ± 2.05***
Crop period (days)	104.87 ± 4.12	104.77 ± 2.84
Fruit length (cm)	11.28 ± 0.54	13.25 ± 0.16**
Fruit width (cm)	6.01 ± 0.37	6.92 ± 0.18
100-seed weight (gm)	8.45 ± 0.04	10.04 ± 0.07***
Seed length (cm)	1.57 ± 0.06	1.78 ± 0.01**
Seed width (cm)	0.78 ± 0.03	0.76 ± 0.02
Seed count/fruit	15.64 ± 0.29	19.58 ± 0.42***
Number of fruits/vine	10.24 ± 0.61	13.77 ± 0.16***
Fruit yield (kg)/plant (vine)	1.22 ± 0.02	1.50 ± 0.09*
Fruit yield (kg)/plot	11.87	17.15
Fruit yield/sq. m plot (kg/sq. m)	1.06	1.52
Fruit yield/hectare (ton/ha)	10.55	15.24

Data represented as mean ± SEM (n = 5); *$p \leq 0.05$, **$p \leq 0.01$, and ***$p \leq 0.001$ *vs.* Control group (CONBIGG) using Student's *t*-test

4. DISCUSSION

Bitter gourd plants exhibit a range of fruit shapes, including small oval, round, round oval, long oval, and elongated round forms, depending on the specific type of bitter gourd [11]. In the present study, spindle-shaped fruits with continuous ridges were observed in both groups. Generally, the colour of bitter gourd fruit differs between the candidate and comparison varieties, although both exhibit a similar yellowish-green appearance. According to existing literature, bitter gourd fruit colour ranges from dark green to light green. The appearance of bitter gourd fruits is influenced more by consumer preference than by colour alone [12, 13]. In this study, mature fruits were medium green in CONBIGG and dark green in BET (BTBIGG), which aligns with previous reports [12, 13]. Yield data indicated that the highest number of fruits per plant (13.77) was recorded in BTBIGG, while the lowest (10.24) was observed in CONBIGG. This suggests that BTBIGG plants continue to produce fruit over a longer period, resulting in increased overall yield. Similar findings were reported by Meerabai et al., 2007 [14]. Furthermore, environmental factors such as pollination efficiency, nutrient availability, water supply, and optimal growing conditions can influence fruit production.

The maximum fruit length of 13.25 cm was observed in BTBIGG, whereas the minimum fruit length of 11.28 cm was recorded in CONBIGG. The superior fruit length is likely attributable to both genetic and environmental factors. Similar findings were previously reported by Mishra et al. (2019) [15], who observed comparable results in bitter gourd. The maximum fruit width of 6.92 cm was recorded in BTBIGG, while the minimum fruit width of 6.01 cm was observed in CONBIGG. The increased fruit length may result from hybrid vigour, adaptation to the agro-climatic conditions of Sindhudurg, Maharashtra, India, and genetic factors. These observations are consistent with previous reports by several researchers who found similar results in bitter gourd [15-17].

Significant variations in fruit weight observed in the treatment group (BTBIGG) may be attributed to factors such as fruit set percentage, fruit length, number of fruits per vine, fruit width, genetic characteristics, environmental conditions, crop vigour, and increased nutrient uptake. These findings are consistent with previous studies [15-17]. Regarding fruit yield (kg/plant), the highest value of 1.50 kg was recorded in BTBIGG, whereas the lowest yield of 1.22 kg/plant was observed in CONBIGG. The increase in the number of fruits per plant is primarily influenced by genetic, environmental, and hormonal factors, as well as crop vigour [18]. Future research should focus on comprehensive investigations, including genetic characterisation using molecular markers, to elucidate the genetic basis of these altered traits and clarify the mechanisms underlying trait modification in bitter gourd.

5. CONCLUSION

The experimental findings indicate that spiritual blessing energy treatment (SBET-Trivedi Effect®) positively enhanced seed germination rate and significantly improved vine length, number of branches, stem diameter, leaf length, fruit weight, fruit length, number of fruits per plant, and seed weight compared to the CONBIGG. Additionally, fruit yield per hectare increased in the BTBIGG relative to the CONBIGG. As this conclusion is based on a one-year farming investigation, further molecular studies are necessary to validate these results and elucidate the mechanisms underlying the increased yields of bitter gourd.

Abbreviations

NPK: nitrogen, phosphorus, potassium; BET: biofield energy treatment; CONBIGG: control bitter gourd group; BTBIGG: biofield energy-treated bitter gourd group; SSP: single super phosphate; MOP: muriate of potash

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Conflict of Interests

Authors AB, MKT, and DT were employed by Trivedi Global, Inc. NRP, TBG, and VDK were employed by Shree Angarsiddha Shikshan Prasarak Mandal's College of Agriculture, Sangulwadi, Mohitewadi, Maharashtra, India. Authors SM and SJ were employed by Trivedi Science Research Laboratory Pvt. Ltd. The authors do not have any commercial interests in the objectivity of the research.

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