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Evaluating the effectiveness of Narendra Shivani (bottle gourd) in East Nimar region Khandwa MP

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Abstract
The present study was conducted at the Rishi Parashar School of Agriculture Science, from July 2024 to January 2025 to evaluate the performance of long type bottle gourd Narendra Shivani (*Lagenaria siceraria* (Mol.) Standl.) for growth, yield and quality performance in East Nimar Region Khandwa MP. Germination percentage of Narendra Shivani were recorded 83.33%, Number of leaves of Narendra Shivani were recorded 80, Vine length of Narendra Shivani was recorded from 7.1 m, Leaf area Maximum leaf area was recorded 775.4 cm^2, Chlorophyll content of Narendra Shivani Bottle gourd showed 59.6%, Sex ratio (Male to female) Minimum sex ratio was observed from 0.21, Days to appearances of first female and male flowers Early female flower was appeared from 33 days, Maximum number of fruit/plant was found from 11, Fruit length Longest fruit was recorded 180 cm, Maximum fruit diameter was recorded 28.5 cm, Maximum single fruit weight was recorded from 3.43 kg, Yield/plant was recorded 40 kg, Maximum yield/ha recorded 50.1 ton. Bottle Gourd (*Lagenaria siceraria*) is a highly beneficial crop, offering significant economic and environmental advantages. Its hardy nature, requiring minimal maintenance and water, makes it an ideal choice for small-scale farmers and marginalized communities. By cultivating Bottle Gourd, farmers can enhance ecological diversity, enrich soil quality, and generate a sustainable income source.

Keywords: Bottle gourd, *Lagenaria siceraria*, Narendra Shivani, East Nimar region

Introduction
Dr. Shivpujan Singh, a professor at Acharya Narendra Agriculture and Technology in Kumarganj, Ayodhya, developed the Narendra Shivani Gourd variety. Dr. Shivpujan Singh is also known as 'Lauki Purush'. He said that the 'Narendra Shivani' variety is currently his longest fruit. The cultivation of 'Narendra Shivani' has also been done in several sites around the country. Bottle gourd, also known as Calabash or *Lagenaria siceraria*, is a vital cucurbitaceous vegetable cultivated in tropical and subtropical regions worldwide. Its name likely originates from the use of mature fruits as containers, utensils, or pipes. Bottle gourd is known by numerous names globally, including Lauki, Ghia, and Doodhi in India, and Courge bouteille in France. Nutritionally, bottle gourd is rich in water (96.1 g/100 g), carbohydrates (2.5 g/100 g), fibers (0.6 g/100 g), minerals (0.5 g/100 g), proteins (0.2g/100 g), and fats (0.1 g/100 g). It offers several health benefits, including: Preventing excess sodium loss, Reducing fatigue, particularly during summer, Providing a low-calorie diet suitable for diabetes and jaundice patients, Exhibiting medicinal properties, such as cardio-tonic, aphrodisiac, hepato-protective, analgesic, anti-inflammatory, expectorant, diuretic, and antioxidant agents (Ghule *et al*., 2009 and Dhatt *et al*., 2012) [3, 2]. Mature dried fruits are utilized for crafting storage jars, utensils, and musical instruments (Islam *et al*., 2021) [4]. Bottle gourd is extensively cultivated in various countries, including India, Sri Lanka, Indonesia, Malaysia, Philippines, China, Hong Kong, Tropical Africa, Colombia, and Brazil.

Materials and Methods
An evaluation of Narendra Shivani bottle guard was conducted at Rishi Parashar School of Agriculture Science, Khandwa MP, during period from July 2014 to January 2025 to evaluate the performance of Narendra Shivani bottle gourd. Seed was collected from Dr. Shivpujan Singh. Bottle gourd Seeds were sown on 50 cm × 50 cm × 45 cm sized pit. 2 m × 2 m distance was maintained.

Manures and fertilizers were applied as recommended by Jamal Uddin *et al*., 2014) [5]. Data were collected on vine length at harvest, leaf area, chlorophyll content, sex ratio, days to appearance of first male flower, days to appearance of first female flower, number of fruit/plant, fruit length, fruit diameter, single fruit weight, yield/plant and yield/ha. The number of male and female flowers were visually counted and was calculated sex ratio through following formula; Sex ratio = Number of male/number of female flowers (Jamal Uddin *et al*., 2014) [5].

Results

Germination percentage of Narendra Shivani were recorded 83.33%, Number of leaves of Narendra Shivani were recorded ranges between 60-80, Vine length of Narendra Shivani was recorded from 7.1 m, Leaf area Maximum leaf area was recorded ranges between 689- 775.4 cm^2, Chlorophyll content of Narendra shivani Bottle gourd showed 59.6%, Sex ratio (Male to female) Minimum sex ratio was observed from 0.21, Days to appearances of first female and male flowers Early female flower was appeared from 33 days, Maximum number of fruit/plant was found from ranges between 9-11, Fruit length Longest fruit was recorded 150-180 cm, Maximum and minimum fruit diameter was recorded ranges between 18.5-28.5 cm, Maximum single fruit weight was recorded from2.5- 3.43 kg, Yield/plant was recorded 30-40 kg, Maximum yield/ha recorded 50.1 ton. Our result were near to explain by Sharma and Sengupta (2012) [6].

Fig 1: View of Narendra Shivani (Bottel gourd)

Diseases observed in Narendra Shivani Bacterial leaf spot (*Xanthomonas campestris* pv. Cucurbitae (Bryan) Dye), Powdery mildew (*Sphaerotheca fuliginea* and *Erysiphe cichoracearum*), Downy mildew (*Pseudoperonospora cubensis*) and Fusarium wilt (*Fusarium oxysporum* f.sp. lagenariae), Insect Pests was recorded Fruit fly (*Bactrocera cucurbitae*). (Chouhan *et. al*. 2020) [1].

Conclusion

In the east Nimar region of the Khandwa district of Madhya Pradesh, Narendra Shivani (bottle gourd) performed very well in terms of growth and production characteristics, such as plant height, leaf area, fruit weight, and yield. The study evaluated the usefulness of Narendra Shivani (bottle gourd) and found that it produces very long bottle gourd. Narendra Shivani is a natural and sustainable agricultural product that provides farmers with a good source of income.

References

1. Chouhan GS, Kushwah SS, Singh OP, Sharma RK. Genetic variability and correlation analysis for fruit yield and quality traits in bottle gourd. Indian Journal of Horticulture. 2020;77(2):287-292.
2. Dhatt AS, Khosa JS. Bottle gourd. Handbook of vegetables. 2012;3:49-78.
3. Ghule BV, Ghante MH, Saoji AN, Yeole PG. Antihyperlipidemic effect of the methanolic extract from *Lagenaria siceraria* Stand. fruit in hyperlipidemic rats. Journal of ethnopharmacology. 2009;124(2):333-337.
4. Islam AA, Sarkar S, Era FM. Breeding of Bottle Gourd (*Lagenaria siceraria* (Molina) Standl.). Advances in Plant Breeding Strategies: Vegetable Crops: Volume 9: Fruits and Young Shoots. 2021. p. 123-161.
5. Jamal Uddin AFM, Tahidul MI, Chowdhury MSN, Shiam IH, Mehraj H. Evaluation of bottle gourd (*Lagenaria siceraria*) to growth and yield. International Journal of Biosciences. 2014;5(12):7-11.
6. Sharma A, Sengupta SK. Evaluation of genetic variability in bottle gourd genotypes [*Lagenaria siceraria* (Mol.) Standl.]. Vegetable Science. 2012;39(1):83-85.