

Efficacy of Dasagavya on Sprouts of Green Gram (*Phaseolus Radiatus*)

Poonam Sethi

Assistant Professor Guru Nanak College Chennai, India

Corresponding author

Poonam Sethi, Assistant Professor Guru Nanak College Chennai, India.

Received: November 26, 2024; Accepted: December 06, 2024; Published: December 11, 2024

ABSTRACT

Dasagavya a formulation made of ten components was investigated to check the efficacy on sprouting of green gram. The parameters observed were sprouting percentage, sprout number, sprout length and sprout mass. The experiment consists of ten different concentrations in a completely randomized design. The highest sprout number was recorded at 10 μ l A strong correlation was obtained between sprout length and sprout number.

Keywords: Green Gram, Dasagavya, Sprout, Concentrations

Introduction

Mung Bean -*Vigna radiata L.* of the family Fabaceae also known as Green Gram or Moong Bean has some numerous health benefits. Widely cultivating Mung bean in India since 3500 years and consumed as traditional food items. Highlighting characteristics like short growth cycle (75-90 days), low-input crops, drought tolerant, heat-tolerant (35°C), wider adaptability in almost all types of soil, hence cultivated in Asian countries.

Botanical seed treatment is a liquid formulation it has synergistic effect on early and uniform seed germination and enhances tolerance to pest and disease during early crop stage. Hence, present studies were undertaken to determine the effect of dasgavya on germination and vigours characters of green gram during sprouting.

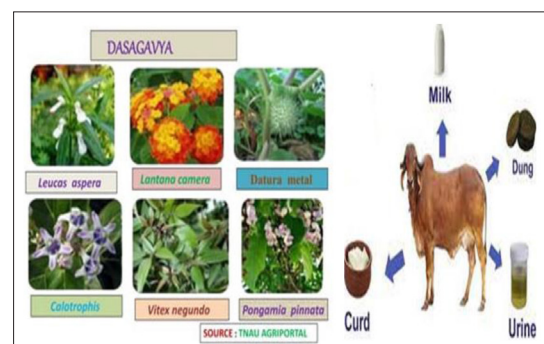
Mung bean sprouts are an interesting and nutritious food. They have been used by the Chinese for centuries, and they are now widely accepted in our diet. The possibilities of enhancing their nutritional qualities through plant breeding are great.

Materials and Method

Method of Preparation

Dasagavya, is an organic preparation made from ten plant extracts. "Gavya" is to cow's products comprising of cow dung, cow urine,

cow's milk, curd and ghee, which have miraculous effects on plant growth when suitably mixed. The plants recommended for the tropical areas are lantana; tumbai (*Leucas aspera*); erukam (*Calotrophis procera*);notchi (*Vitex negundo*); umathai (*Datura metel*) and pungam (*Pongamia pinnata*). The plant extracts are prepared by separately soaking the foliage in cow urine in 1:1 ratio (1 kg chopped leaves in 1 litre cow urine) for ten days. The filtered extracts of all the plants are then added @ 1 litre each to 5 litre of the milk, dung and curd solution. The mixture is kept for 25 days and stirred well. (Figure 1) (TNAU Agripotat).

**Figure 1:** Ingredients of Dasagavya

Extract Preparation

Dasagavya 0.3% was stirred with the solvent water, 2:1 v/v and applied and seeds soaked into it.

Various concentrations such as 1 µg/L, 10 µg/L, 100 µg/L, 1000 µg/L with the stock solution.

Results and Discussion

The results pertaining to sprouting percentage and sprout length were tabulated. Table I. The plate I and II depict the growth parameters.

Table 1: Effect of Dasgavya on Sprouting and Shoot Length

Serial Number	Concentrations of dasgavya µl	Sprouting percentage %		Average Sprout length cm	
		3 days	6 days	3 days	6 days
1	2	55	62	4.02	17.05
2	5	75	81	6.50	19.50
3	10	91	100	10.00	25.00
4	15	92	100	10.05	25.01
5	20	92	100	10.25	25.01
6	25	95	100	10.55	25.01

Conclusion

The study explored the efficacy of Dasagavya, an organic preparation derived from ten plant extracts and cow products, as a solution in which the seeds were soaked. The results demonstrated that Dasagavya, at a concentration of 100 µl showed promising effects, comparable to the commonly used Bordeaux mixture 10%. Furthermore, the organic spray also exhibited potential as a soil restorative agent, offering a sustainable alternative to chemical fertilizers. These findings highlight the importance of exploring organic solutions in agriculture and point towards the potential of Dasagavya in improving tea plant health and yield while reducing the reliance on chemical controls. Future research, including DNA fingerprinting, will further validate and enhance the understanding of Dasagavya's properties and its impact on mong sprouts plant health [1-6].



Figure 2: Effect of Dasagavya on Sprouts Length

References

1. Raghuramulu N, Nair MK, Kalyansundaram S. A manual of laboratory techniques. Hyderabad: National Institute of Nutrition, ICMR, Jamai Osmania. 2003.
2. Ram AA. Panchagavya is a bio-fertilizer in organic farming. *Int J Adv Sci Res.* 2017. 2: 54-57.
3. Ramesh P, Singh M, Rao AS. Organic farming: Its relevance to the Indian context. *Curr Sci.* 2005. 88: 561-568.
4. Ranganna S. Handbook of analysis and quality control for fruit and vegetable products. New Delhi: Tata McGraw-Hill. 1986.
5. UNSCN. Progress in nutrition. 6th Report on the World Nutrition Situation. United Nations System Standing Committee on Nutrition. Geneva: WHO. 2011.
6. WHO. Annex 9. World Health report. Geneva: World Health Organization. 2002.