www.journalworlds.com
AGRI JOURNAL WORLD
VOLUME 3 ISSUE 10 OCTOBER, 2023

BEEJAMRIT: AN ORGANIC SEED TREATMENT SOLUTION

Fiskey Vrushabh Vijay[1], Krishna[1], and M.B. Reddy[2] and Sanjeev Kumar[1]

[1] Agronomy Section, ICAR- National Dairy Research Institute, Karnal Haryana 132001

[2] Animal Nutrition Division, ICAR- Indian Veterinary Research Institute, Izatnagar, Bariely (UP) – 243122

Corresponding author email: udayfiske@gmail.com

ABSTRACT

The pursuit of sustainable and environmentally friendly agricultural practices remains a constant endeavor in the realm of agriculture. Beejamrit, a native organic seed treatment product, has recently emerged as a potential revolutionary force in agriculture. Developed and evaluated by the National Centre of Organic Farming (NCOF) in Ghaziabad, India, Beejamrit offers a range of benefits for both commercial farmers and individual gardeners. This article explores the preparation process of Beejamrit, elucidating its ingredients, applications, and the swift adoption of this environmentally beneficial strategy in farming practices.

INTRODUCTION

Beejamrit emerges as a noteworthy native organic solution for seed treatment, carrying the potential for transformative effects on plant cultivation practices. This innovative product traces its origins to the pioneering initiatives of the National Centre of Organic Farming (NCOF) in Ghaziabad, India, marking a significant milestone in recent agricultural advancements. Beyond its recognition among professional farmers, Beejamrit has garnered increasing attention and adoption among home gardeners, primarily due to the multifaceted benefits it offers.

The product's appeal lies in its ability to address the diverse needs of both agricultural professionals and individuals cultivating plants in domestic settings. Beejamrit stands out as an organic alternative, departing from traditional chemical treatments, and its ascendancy in popularity underscores the growing acknowledgment of the advantages it brings to the realm of plant cultivation. The product's recognition is not merely confined to its efficacy; rather, it extends to the broader narrative of sustainable and environmentally conscious agricultural practices that are gaining traction globally.

WHAT DOES THE BEEJAMRIT MEAN?

Beejamrit serves as a natural remedy for seed treatment, distinguishing itself from conventional chemical therapies through its organic composition and efficacy. This cost-effective method not only facilitates the

development of healthy roots in seeds but also safeguards against seed-borne diseases, enhances germination, and presents an economically viable and straightforward manufacturing process.

INGREDIENTS OF BEEJAMRIT:

- ✓ ***Cow Dung (5 Kilograms):*** Cow dung serves as a natural source of micronutrients, macronutrients, and beneficial bacteria, enhancing soil quality and providing seeds with essential nutrients for growth.
- ✓ ***Cow Urine (5 Liters):*** Known for its bacteria- and fungi-killing properties, cow urine effectively safeguards seeds against infections.
- ✓ ***Water (20 Liters):*** Used to dissolve the ingredients when creating the treatment solution.
- ✓ ***Forest Soil (50 grams, preferably soil from around the roots of a banyan tree):*** Soil from the roots of a banyan tree introduces beneficial microorganisms to the solution.
- ✓ ***Limestone or Lime (50 grams):*** Added to balance the acidity of cow urine and maintain the solution at the optimal pH level.

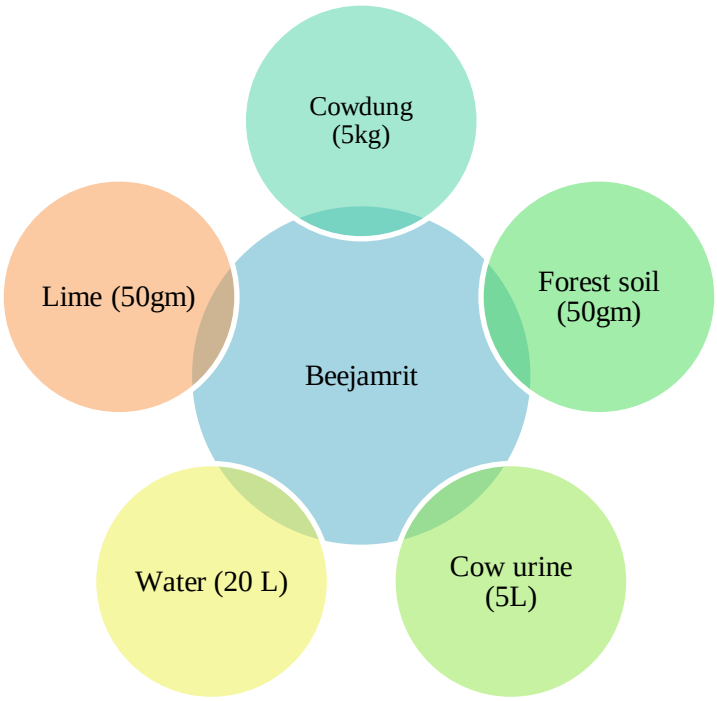
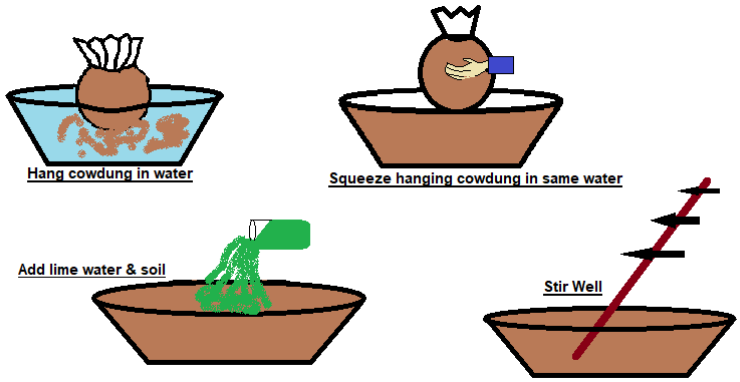


Fig-1 Ingredients of Beejamrit

BEEJAMRIT PREPARATION INVOLVES FOLLOWING STEPS

- Tie 5 kg of cow dung in a cloth and secure it with a rope.
- Set up the cow dung to soak for up to 12 hours in a barrel or bucket filled with 20 L of water.
- Dissolve 50 g of lime in 1 liter of water in another pot. Let it remain stable overnight.

- The next morning, squeeze the cow dung bundle three times in the same water continuously to extract all of the cow dung's essence.
- Add a handful of soil from the field's bund to the water and stir thoroughly.
- After thorough stirring, add 5 liters of the previously prepared lime water and cow urine.



Preparation of Beejamrit

Picture courtesy- Mukai Organics

Table 1 -Nutrient content of Beejamrit

Parameter	Content
pH	8.2
EC (Soluble Salts)	5.5 dSm^{-1}
Total Nitrogen	40 ppm
Total Phosphorous	155.3 ppm
Total Potassium	252.0 ppm
Total Zinc	2.96 ppm
Total Copper	0.52 ppm
Total Iron	15.35 ppm
Total Manganese	3.32 ppm

(Sreenivasa *et al.*, 2010)

SEED TREATMENT WITH BEEJAMRIT

- Pour the solution with 100 kilograms of seeds that need to be treated into the bucket with the Beejamrit.
- Seed Soaking Process: Subsequently, the seeds must be removed from the Beejamrit solution after a specified duration.
- Drainage and Drying: Following the soaking period, the seeds should undergo drainage to eliminate excess moisture, followed by complete drying before initiating the planting process.

Beejamrit presents distinct advantages compared to conventional chemical treatments. Not only does it promote environmentally sustainable and health-conscious farming practices, but it also reduces seed treatment expenditures. The following delineates some of its merits:

- Enhancement of seed vitality and growth.
- Prevention of diseases transmitted through seeds.
- Acceleration of root development beyond typical rates.
- Enrichment of soil through the addition of organic matter.
- Minimization of environmental impact.

Beejamrit encompasses beneficial plant-associated microorganisms such as free-living nitrogen fixers (FNFs) and phosphate solubilizing bacteria. Moreover, Beejamrit serves as a prolific source of Indole-3-acetic acid (IAA), a plant growth regulator. As detailed by Mukherjee et al. (2022), Beejamrit functions as a plant biostimulant, facilitating growth and developmental processes. The study by Prakash et al. (2022) indicates that applying Beejamrit at 8% in conjunction with a foliar spray of Jeevamrit at 8% improves growth parameters when treating RDF + Seedling. Additionally, the work of Biswas et al. (2023) suggests that pre-planting treatment of elephant foot yam corm with Beejamrit, along with the addition of 10% Jeevamrit to the soil every 15 days for 5 months post-planting, results in optimal growth, corm yield, economic profitability, and soil biological properties.

CONCLUSION

Beejamrit, originating from the National Centre of Organic Farming in India, emerges as a transformative and environmentally conscious solution for seed treatment. Its appeal extends beyond professional farming, gaining popularity among home gardeners. The organic composition, cost-effectiveness, and straightforward preparation process contribute to its widespread recognition. Beejamrit's significance lies in its ability to enhance seed vitality, prevent diseases, accelerate root development, enrich soil, and minimize environmental impact. The nutrient-rich content and the inclusion of beneficial microorganisms position it as a holistic approach to sustainable agriculture. Research findings support its

efficacy, affirming its potential for widespread adoption and positive impacts on crop growth and soil health.

REFERENCES

Biswas, S., Das, R., & Thakur, R. (2023). Effect of Corm and Soil Treatments with Organic Liquid Formulations on Performance of Elephant Foot Yam in Jharkhand, India. *International Journal of Plant & Soil Science*, *35*(5), 116-124.

Mukherjee, S., Sain, S., Ali, M. N., Goswami, R., Chakraborty, A., Ray, K., & Chatterjee, G. (2022). Microbiological properties of Beejamrit, an ancient Indian traditional knowledge, uncover a dynamic plant beneficial microbial network. *World Journal of Microbiology and Biotechnology*, *38*(7), 111.

Prakash, S., Kumar, M., Kumar, V., Kumar, A., Singh, M. K., Singh, R., & Singh, B. Effect of Bio-stimulant on Growth and Yield of Onion (*Allium cepa L.*) cv. NHRDF Red-3.

Sreenivasa, M. N., Naik, N., & Bhat, S. N. (2010). Beejamrutha: A source for beneficial bacteria. *Karnataka Journal of Agricultural Sciences*, *22*(5).

****