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## Strategies of Natural Farming: Preparation Method of Beejamrutham

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Natural farming emphasizes eco-friendly practices to improve soil health and crop productivity. Beejamrutham is a natural seed treatment prepared using indigenous cow dung, cow urine, lime, water, and soil. It enhances seed germination, protects seeds from seed-borne diseases, and promotes early root growth through beneficial microorganisms. The use of Beejamrutham reduces dependency on chemical inputs and supports sustainable agricultural production.

### Strategies of Natural Farming: Preparation Method of Beejamrutham

Natural farming is an eco-friendly agricultural system that relies on natural inputs to improve soil fertility, crop health, and sustainability. It focuses on enhancing biological activity in soil rather than using chemical fertilizers and pesticides.

#### Major Strategies of Natural Farming

- Seed Treatment
- Nutrient Management
- Water Management
- Soil and Crop Microclimate Management
- Mixed Cropping System and Crop Management

Among these strategies, seed treatment is the first and most important step before sowing.

#### Seed Treatment in Natural Farming

Before sowing, seeds are treated with Beejamrutham, a natural bio-inoculant prepared using indigenous cow dung, cow urine, lime, and soil collected from cultivated fields. Seed treatment helps protect seeds from pests and diseases, improves germination, and ensures healthy crop establishment.

#### What is Beejamrutham?

Beejamrutham is a natural seed treatment solution used in natural farming. It is rightly called the "Nectar of Seeds" because it:

- Enhances seed germination
- Protects seeds from seed-borne diseases
- Promotes early root and shoot growth
- Reduces seed wastage and cost of cultivation

The life cycle of a plant begins with a seed and ends with a seed; therefore, seed quality plays a vital role in crop productivity.

#### Importance of Seed Treatment with Beejamrutham

- Untreated seeds are prone to fungal, bacterial, and viral infections.
- Diseased seeds produce weak and less vigorous plants.
- Seed treatment ensures uniform crop stand and healthy growth.

- Beejamrutham can be easily prepared by farmers using locally available materials.

### Benefits of Seed Treatment with Beejamrutham

- ❖ Improves germination percentage
- ❖ Breaks seed dormancy quickly
- ❖ Ensures uniform and faster germination
- ❖ Enhances root growth and seedling vigor
- ❖ Helps plants grow healthy and strong
- ❖ Improves flowering and yield
- ❖ Prevents fungal and viral infections
- ❖ Reduces pest and disease incidence
- ❖ Foliar spraying also increases crop yield

### Natural Farming – Plant Nutrient Management

In natural farming, nutrients are supplied through biological processes instead of chemical fertilizers.

#### Key Practices

- Use of Beejamrutham and Jeevamrutham
- Mulching with crop residues instead of ploughing them into the soil
- Emphasis on soil moisture rather than excess irrigation

Mulching improves soil fertility, increases microbial activity, conserves soil moisture, and reduces weed growth.



### Materials Required for Preparing Beejamrutham

(For seed treatment of 100 kg of seeds)

#### Ingredients

- ❖ Water – 20 litres
- ❖ Native cow urine – 5 litres
- ❖ Native cow dung – 50 kg
- ❖ Lime – 50 grams
- ❖ A handful of soil from the root zone of crops / cultivated field

Note: Quantities may be adjusted based on availability and farmer's resources.

### Method of Preparation of Beejamrutham

- Take 20 litres of water in a clean container.
- Add native cow dung, cow urine, lime, and soil.
- Mix thoroughly using a wooden stick.
- Stir gently in clockwise and then anti-clockwise directions.
- Cover the container with a gunny bag.
- Keep it in a shaded place for 24 hours.
- After 24 hours, the solution is ready for use.

### Important Notes

- ❖ Only native cow dung should be used.
- ❖ Fresh dung gives better results.
- ❖ Cow dung and urine are more beneficial than those from other cattle.

### Cow Urine

- High milk-yielding cows produce less effective dung and urine.
- Urine from native cows is superior due to higher microbial activity.

## Microbial Population Present in Beejamrutham

Microorganisms	Count (Units/ml)
Bacteria	$20.4 \times 10^6$
Fungi	$13.8 \times 10^5$
Actinomycetes	$3.6 \times 10^6$
Phosphate Solubilizers	$4.5 \times 10^6$
Nitrogen Fixers	$50 \times 10^6$

These microorganisms improve soil fertility and promote plant growth.

## Nutrient Status of Beejamrutham

- ❖ PH : 7.07
- ❖ Electrical Conductivity : 35 dS/m
- ❖ Total Nitrogen : 770 ppms
- ❖ Total Phosphorus : 166 ppm
- ❖ Total Potassium : 126 ppm
- ❖ Zinc : 4.20 ppm
- ❖ Copper : 1.58 ppm
- ❖ Iron : 282 ppm
- ❖ Manganese : 10.7 ppm

## Method of Using Beejamrutham

### For Direct Sown Crops

- ✚ Spray Beejamrutham evenly over seeds.
- ✚ Mix well and shade dry.
- ✚ Sow immediately (use within 7 days).

### For Transplanted Crops

- ✚ Dip seedling roots in Beejamrutham before transplanting.

### For Pulse Crops

- ✚ Spread seeds on the ground and spray Beejamrutham.
- ✚ Mix gently, shade dry, and sow.

### For Groundnut and Soybean

- ✚ Use Beejamrutham at 10% of seed quantity.

### For Sugarcane, Banana, Potato, Turmeric, Ginger

- ✚ Dip planting materials briefly in Beejamrutham and plant immediately.

### For Vegetable and Nursery Crops

- ✚ Treat seeds before sowing.
- ✚ Dip seedlings again during transplanting.

## Conclusion

Beejamrutham is a low-cost, eco-friendly, and effective seed treatment method in natural farming. It improves seed quality, enhances microbial activity, ensures healthy crop growth, and reduces dependency on chemical inputs, making agriculture more sustainable and profitable.

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