

Office of the Project Director
Community-based Forest Management and
Livelihood Improvement in Meghalaya

Shalom Building, 2nd Floor,
Lower Lachumere, Shillong—793001

✉ meglife.mbda@gmail.com



Meghalaya Livelihood Improvement
through Forest Enhancement

☎ +91 364-3510190



Meghalaya Basin
Development Authority



Japan International
Cooperation Agency

🌐 www.mbda.gov.in

File No. PLN/MBDA/00846/2024/NF

Date: 24, March 2025

Office Order

Technical Guidance on “Seed-Saving Techniques” (*Annexure I*) to ensure high germination rates and protect seeds from pests and fungal infections and “Seed Germination Test Techniques” (*Annexure II*), have been prepared for your information and necessary action.

All DPMs / BPMs are to ensure adherence to the mentioned step by step guidance, by all staff under their jurisdiction.

Shri. Gunanka D.B, IFS
Additional Project Director
MegLIFE, MBDA Shillong

To:

1. All DPMs / BPMs, MegLIFE MBDA
2. SALT Nodal Person, MegLIFE MBDA

Copy to:

1. The Project Director, MegLIFE MBDA
2. Knowledge Management MegLIFE MBDA

Shri. Gunanka D.B, IFS
Additional Project Director
MegLIFE, MBDA Shillong

Package of Practices (PoP) for Seed Saving of *Indigofera* and *Tephrosia*

Proper seed-saving techniques ensure high germination rates and protect seeds from pests and fungal infections. The following step-by-step method describes the process of treating and storing *Indigofera* and *Tephrosia* seeds using a natural mixture of ash and turmeric powder.

Materials Required

- Seeds:** 1 kg of *Indigofera* or *Tephrosia* seeds
- Turmeric Powder:** 50 grams
- Wood Ash:** 50 grams
- Muslin Cloth:** For storage
- Tray or Shallow Container:** For mixing
- Dry and Shaded Area:** For drying
- Water Container:** For seed viability testing

STEP-WISE PROCESS FOR SEED SAVING

Step 1: Preparation of Seed Treatment Mixture

1. Take **50 grams of turmeric powder** and **50 grams of fine wood ash**.
2. Mix both ingredients thoroughly to create a uniform treatment powder.

Step 2: Coating the Seeds

3. Place **1 kg of clean and dry seeds** in a shallow tray or container.
4. Sprinkle the prepared ash-turmeric mixture over the seeds.
5. Mix the seeds thoroughly to ensure **an even coating** on all seeds.

Step 3: Drying Process

6. Spread the coated seeds in a **thin layer** on a clean, dry surface in a **well-ventilated shaded area** (avoid direct sunlight).
7. Leave the seeds for **five days**, allowing them to dry properly.
8. Stir or mix the seeds **at least once a day** to prevent clumping and ensure even drying.

Step 4: Seed Storage

9. After five days, gather the dried seeds and place them in a **muslin cloth**.
10. Tie the muslin cloth securely to prevent moisture from entering.
11. Store in a **cool, dry place** away from direct sunlight and humidity to maintain seed viability.

Step 5: Seed Preparation before Sowing

12. Before sowing, soak the seeds in a **container filled with water** for **3-4 hours**.
13. The **sterile (non-viable) seeds** will **float** on the surface, while the **healthy, viable seeds** will **sink** to the bottom.
14. Remove and **discard the floating seeds** as they are not suitable for germination.
15. Drain the water and collect the **sunk seeds**, which are now **ready for sowing**.

Benefits of this Seed Treatment Method

- Protects seeds from fungal infections and pests
- Enhances seed viability and germination rate
- Removes sterile seeds for better crop yield
- Maintains seed quality for long-term storage
- Eco-friendly and cost-effective preservation method

By following this method, farmers can ensure **better seed health**, improved germination rates, and successful crop establishment using natural bio-preservatives like turmeric and ash.

Annexure II

Seed Germination Method for Tephrosia and Indigofera

Materials Needed:

1. 50 seeds of Tephrosia or Indigofera
2. Bowl or glass
3. water
4. A piece of wet muslin cloth or clean tissue paper
5. A plate or tray
6. A dark place (like a cupboard or under a box)

Step 1: Soaking the Seeds

1. Take 50 seeds of either Tephrosia or Indigofera.
2. Put the seeds in a clean bowl or glass.
3. Fully soak the seeds in water and let the seeds soak overnight (8–12 hours).

Step 2: Preparing for Germination

1. The next morning, drain the water from the bowl.
2. Place the soaked seeds on a wet muslin cloth or a few layers of clean tissue paper.
3. Fold the cloth or paper gently to cover the seeds.
4. Keep the cloth on a plate or tray, and make sure it remains moist but not too wet.
5. Place the plate in a dark place (like inside a cupboard or under a box).
6. Leave it undisturbed for 24 hours.
7. After 24 hours, open the cloth or paper and check how many seeds have started sprouting.
8. Count the number of seeds that have small white shoots coming out.

Step 3: Calculate Germination Percentage

Use the following formula to calculate the percentage of germination.

$$\text{Germination \%} = \left(\frac{\text{No. of seeds germinated}}{\text{total no. of seeds}} \right) \times 100$$

Example: If 40 out of 50 seeds have sprouted:

$$\text{Germination \%} = \left(\frac{40}{50} \right) \times 100 = 80\%$$

That means the germination rate is 80%, which is good.

Tips for Farmers:

- Keep the cloth or tissue moist at all times and do not let it dry out.
- If the weather is cold, it may take a bit longer than 24 hours to germinate.
- This method helps you decide if the seeds are good for planting.
- If germination is below 50%, consider using new or better-quality seeds.
