Seed Extraction, Drying, Cleaning, and Storage in Hot Climates

Learn how to properly extract your seeds using two proven methods (with or without fermentation), quickly dry them in the shade without scorching, clean out impurities, and store them away from humidity and weevils using local resources.



CONTENTS

1 From Ripe Fruit to Seed Treasure
2 Two Main Families of Fruits: Wet and Dry
3 Extraction with Fermentation (for Tomato and Cucumber)
4 The 3 Steps of Fermentation
5 Beware of the duration under high heat!
6 Extraction Without Fermentation (Squash, Eggplant, Watermelon)
7 The Final Rinse with Clear Water
8 Golden Rule of Drying: NEVER in Direct Sunlight!
9 Ideal Supports for Rapid Drying
10 The thumbnail test to check for dryness
11 Seed Cleaning: The Winnowing Method
12 Water Flotation Sorting
13 The Three Deadly Enemies of Seed Storage
14 100% Airtight Containers
15 Ash and Protective Leaves Against Insects
16 Accurate Labeling: The Memory of Your Work
17 Where to store your precious jars?
18 Congratulations! Your Future Harvests Are in Good Hands

From Ripe Fruit to Seed Treasure



From Ripe Fruit to Seed Treasure

Your seed-bearing vegetables have reached perfect maturity in the field!

It's time to harvest and release the seeds enclosed within the heart of the fruits.

In this module, you will learn how to extract, wash, dry, and store your seeds without losing their germinative power.

Follow the steps carefully to preserve this living treasure!

Two Main Families of Fruits: Wet and Dry



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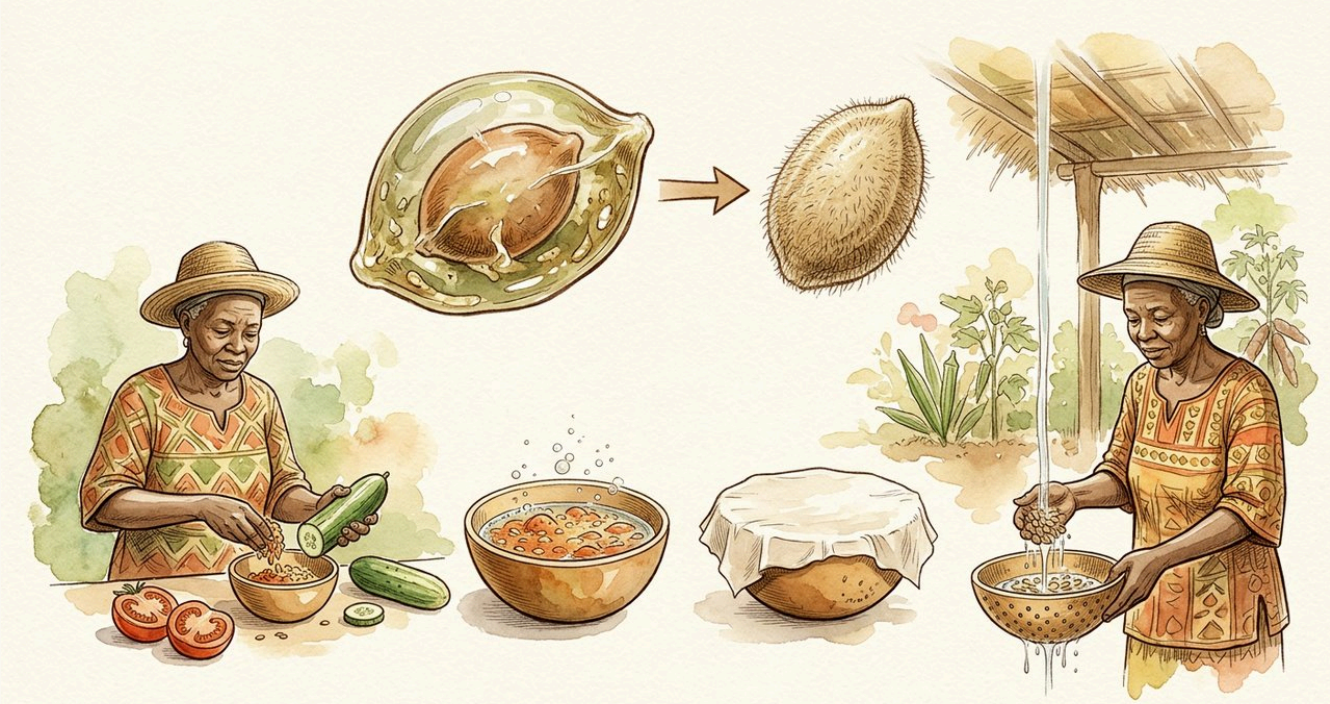
Depending on the type of vegetable, the extraction method changes:

1. **Dry fruits** (beans, cowpeas, corn, okra): the pods are left to dry directly on the plant before being shelled dry.
2. **Fleshy fruits** (tomatoes, cucumbers, squash, eggplants): the seeds are bathed in juice or pulp and must be cleaned with water.

Let's start with fleshy fruits!

3

Extraction with Fermentation (for Tomato and Cucumber)



Extraction with Fermentation (for Tomato and Cucumber)

Each tomato and cucumber seed is encased in a small, slippery jelly-like sac.

This jelly prevents the seed from germinating as long as it is inside the fruit.

To remove this coating without harming the seed, **fermentation** is used.

Fermentation dissolves the jelly and destroys microscopic diseases attached to the seed's surface!

The 3 Steps of Fermentation



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Here's how to do it easily:

1. Cut the fruit in half and squeeze the seeds with their juice into a glass jar.
2. Don't add too much water (just a spoon if the juice is too thick).
3. Cover the jar with a piece of thin cloth and tie it to prevent fruit flies from entering.

Let it rest in the shade in a warm place (between 25° and 30°C).

Beware of the duration under high heat!



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⚠️ Caution! In our hot climates, fermentation happens very quickly:

- Within 24 to 48 hours, a thin white film appears on the surface.
- Stir once a day with a clean stick.

As soon as the seeds detach and fall to the bottom of the jar: rinse immediately!

If you wait too long, the seeds will germinate in the jar and will be lost!

Extraction Without Fermentation (Squash, Eggplant, Watermelon)



Extraction Without Fermentation (Squash, Eggplant, Watermelon)

For squash, melons, watermelons, and eggplants, no fermentation is needed!

1. Open the ripe fruit in half.
2. Scoop out the seeds with a spoon or by hand.
3. Place them in a sieve and gently rub them under a stream of clean water to remove the pulp.

For eggplant, mash the pulp in a bucket of water: the seeds will sink to the bottom!



The Final Rinse with Clear Water

Whether after fermentation or a simple wash:

- Pour your seeds into a fine-mesh sieve or colander.
- Run plenty of clear water over them, stirring with your hand.
- Remove all pulp debris and skins.

Your seeds should be perfectly clean to the touch, with no slimy residue!

Golden Rule of Drying: NEVER in Direct Sunlight!



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> ⚠️ Caution! This is where the life of your seed is determined:

Never dry your seeds in direct sunlight!

The scorching sun cooks the living embryo hidden inside the seed and destroys its germination power.

Always dry your seeds **in the shade**, in a very airy and ventilated place!

9

Ideal Supports for Rapid Drying



Ideal Supports for Rapid Drying

Spread your seeds in a single, very thin layer:

- On a fine sieve, a terracotta plate, or a clean woven tray.
- Do NOT dry on newspaper: seeds stick to the paper and tear off!

For small quantities, unbleached brown paper coffee filters are perfect because they absorb water without sticking to the seeds.

The thumbnail test to check for dryness



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How to tell if the seed is perfectly dry?

Perform the **thumbnail test**:

Take a large seed (squash, corn, or bean) and press firmly with the edge of your thumbnail.

- If your nail leaves a mark or sinks in: there's still water, continue drying!
- If the seed is hard as a rock and your nail slides off: it's ready for storage!

Seed Cleaning: The Winnowing Method



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For threshed seeds (beans, corn, okra, onions):

It often leaves a lot of dust and dry pod pieces.

Choose a day with a light, steady breeze.

Slowly pour your seeds from one calabash to another placed on a clean mat on the ground.

The wind carries away the light chaff, and the heavy seeds fall straight into the basket!

Water Flotation Sorting



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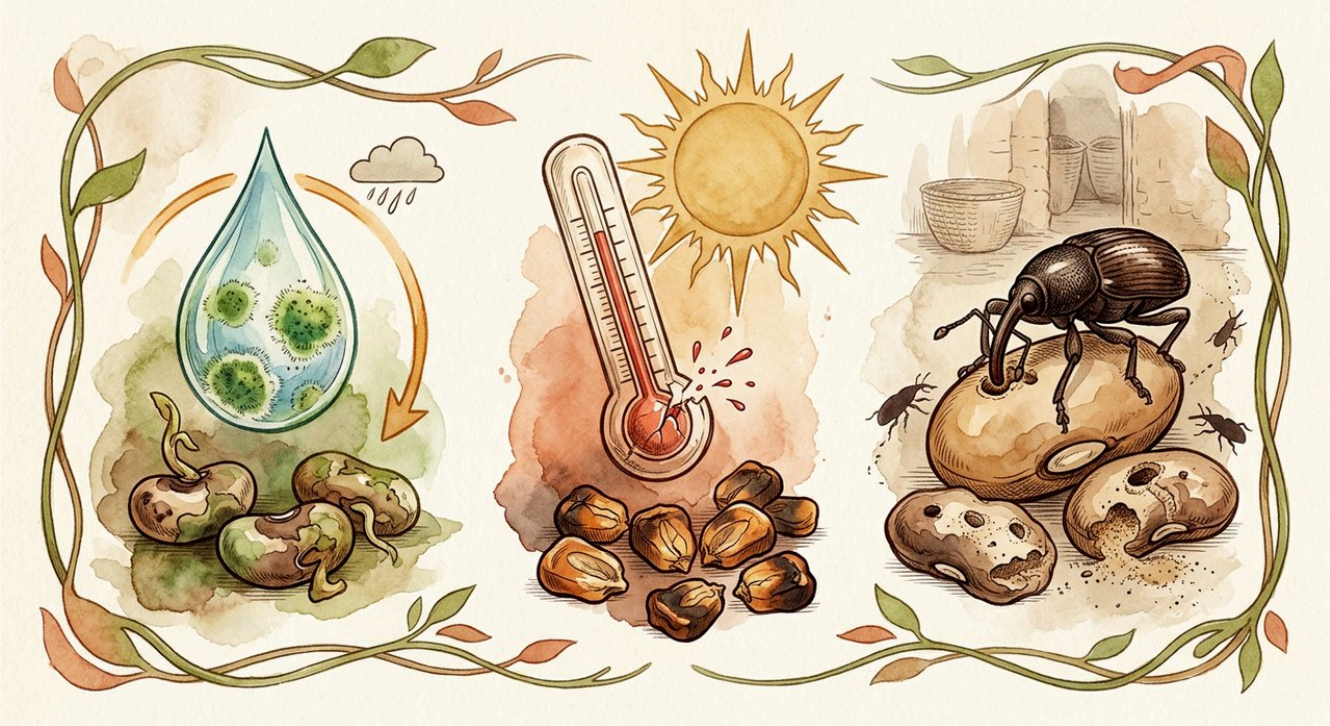
For some seeds (such as **onion**, **leek**, or **dried tomato**):

You can immerse them in a bowl of cold water:

- Full, heavy, and fertile seeds sink to the bottom of the container.
- Empty, shriveled seeds and debris float to the surface.

Skim off everything that floats, then collect the good seeds from the bottom and re-dry them immediately!

The Three Deadly Enemies of Seed Storage



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Once your seeds are clean and dry, you must protect them from their three main enemies:

1. **Air humidity**: it causes seeds to mold and rot.
2. **Excessive heat**: it depletes the seed's energy reserves.
3. **Insect pests**: weevils and bruchids bore into seeds from the inside.

100% Airtight Containers



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NEVER leave your seeds in cloth bags or open cardboard boxes during the rainy season!

Use airtight containers that seal perfectly:

- Glass jars with a clean rubber seal.
- Thick plastic bottles with tightly screwed caps.
- Traditional gourds sealed with clay or wax.

Outside air must never be able to enter!

Ash and Protective Leaves Against Insects





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To protect your beans, corn, and cowpeas against weevils without chemicals:

1. **Sieved wood ash**: mix one-third very dry fine ash with two-thirds seeds in the jar. The ash suffocates insects and dries out the air!
2. **Repellent leaves**: add dried neem leaves or dried hot pepper to the container.

Your seeds will remain intact for months!

Accurate Labeling: The Memory of Your Work



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A seed without a label is a lost seed!

Affix a paper label to each jar indicating:

1. The name of the vegetable and variety (e.g., *Local Round Tomato*).
2. The harvest location (your field or village).
3. The month and year of harvest (e.g., *March 2026*).

Also, slip a small, identical paper inside the jar in case the outer label comes off.

Where to store your precious jars?



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Always keep your seed containers:

- In the coolest and darkest room of the house (e.g., at the foot of an earthen wall or in a buried clay jar).
- Off the ground to avoid rodents and direct humidity.
- Never put your seeds in the freezer if you have frequent power outages: thawing creates fatal condensation!

Congratulations! Your Future Harvests Are in Good Hands



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Congratulations! You have mastered the entire seed production chain:

✅ You know how to ferment tomatoes and wash squash seeds

✅ You dry in the shade without burning the germination power

✅ You sort your seeds by winnowing and flotation

✅ You store hermetically with ash and neem

Fundamental Block A is validated! You are ready for the practical vegetable datasheets!