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How To Store Cannabis Seeds To Ensure Germination

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When it comes to storing cannabis seeds, ensuring germination success is all about

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understanding and maintaining the right conditions.

This guide is designed to empower you with scientifically backed knowledge to store your cannabis seeds confidently, instilling confidence that they'll be ready to use if days, weeks, or months pass. Seeds are living entities; as a grower, you are responsible for creating the optimal environment for their preservation. I'm here to give you the how-to to make it happen. Let's dispel any misconceptions and dive into the science of seed storage.

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TL/DR

- Moisture is the enemy; for seeds to remain viable, store them in a dry environment.
- Store seeds at a consistently cool temperature, ideally around 45°.
 Temperature fluctuation can potentially trigger seed growth.
- Store your seeds in a dark place. Light (especially sunlight) can cause your seeds to germinate even if other conditions aren't met.
- Opt for vacuum-sealed or airtight containers; be sure they can be sealed.



 Always label your seeds with the cultivar and date of storage.

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non-living objects, but they are the plant's embryo, which categorizes them as living

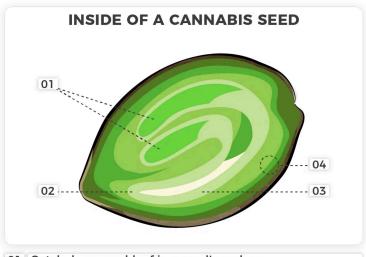


things. Providing them with optimal conditions is crucial for triggering germination and preserving them in their dormant state.

There is Moisture Inside Your Seeds

Seeds contain a specific amount of moisture.

Getting moisture information from seed banks is beneficial but not always provided. However, there are ways to check the viability of your seeds. Understanding the moisture content of your seeds can help you determine the best storage method and tools to accompany your seed packs, such as Boveda packs, orange peels, or other options.



- 01 Cotyledons: seed leaf in a seed's embryo
- 02 Rootcap: the part of the root that is secreted outwards
- 03 Radicle: first part that emerges during germination
- 04 Pericarp: layer protection walls of the seed

Visual representation of a seed's internal structure.

Seed Storage Needs a Stable **Environment**



Environmental stability is vital. Fluctuations in temperature and humidity are the enemies of seed storage. For instance, fridge doors experience frequent temperature changes, making them less ideal for seed storage than a dedicated cooler that maintains a constant temperature.

Airtight black container with UV protection for cannabis seeds.

What Are the Best Conditions To Store Cannabis Seeds?

The longevity of cannabis seeds depends on how they are stored and their moisture content. You'd think all storage conditions must be the same regardless of timelines, but that isn't necessarily true. As the time horizon for storing seeds gets longer, the storage conditions will need to be more dialed in to ensure a seed's integrity.

Here's a quick guide for how I approach storage for different timelines:



Storing Cannabis Seeds for Weeks

Keep your seeds in a cool, dark, dry place for short-term storage. Avoid exposure to light, heat, and humidity since all these can trigger germination. A drawer or a closet in a cool room can suffice. If you have no tools specifically made for storage, ensure your seeds stay between 50-70 degrees F (10-21 degrees C), their moisture content is at 5% or lower, and the relative environmental humidity is 20-30%. Use airtight containers like mason jars to minimize exposure to air and moisture. Due to a shorter time horizon, you can have slightly more variable conditions, but you still want to ensure they are stable so the seeds aren't ruined.

Black jar with a built-in hygrometer.

Storing Cannabis Seeds for Months

Consider using a refrigerator for a few months of storage. Place the seeds in airtight seed storage containers, possibly with silica gel packs, to absorb any residual moisture.



Cannabis seeds stored for over nine months should maintain a constant seed moisture content of 5% to a max of 7% (or relative environmental humidity of 18-20%) and remain at a constant temperature of -4 F (-20 C). When stored this way, seeds are viable for up to 36 months.

Fridge containing neatly labeled cannabis seed packets.

Storing Cannabis Seeds for Years

Freezing marijuana seeds is the most effective method for long-term storage. The best freezer would be one used exclusively for seed storage; that way, there are fewer opportunities to open it and cause temperature fluctuations. An airtight container is a must. Vacuum seal the seeds to prevent moisture ingress. Ensure the seeds are completely dry before freezing to avoid ice crystal formation, which can damage the seed's viability.

Similar to storage for months at a time, you'll want to ensure the moisture content of your seeds is between 5-7% or relative humidity of



12-14% and at a consistent temperature of -4 F (-20 C). These seeds will be viable for up to 3 years, though they may last longer; studies have shown the germination rate falls after this period.

Vacuum-sealed bag packed with cannabis seeds.

What Should You Look Out For When Storing Cannabis?

Based on scientific studies, the optimal conditions for seed storage involve controlling moisture, temperature, and light exposure, as they are the main threats to the viability of your seeds. We'll break down the need to control each of these below:



Low Moisture

Both the seeds and the storage environment should be kept dry. Moisture content should be minimized to extend the seed's viability. The actual moisture content of the seeds also affects the temperature and length of storage they can endure.

Low to Freezing Temperature

Seeds store best at low temperatures. For prolonged periods, freezing marijuana seeds at -4 F (-20 C) is recommended. If you are storing marijuana seeds in this manner, ensure they are vacuum-sealed to protect against excess moisture and humidity levels.

Zero Exposure to Light

Light exposure can trigger germination processes within the seed, leading to degradation or nonviability when it comes time to try for germination. Specifically, UV light can cause seed degradation by causing photochemical reactions that break down or into the seed husk over time. Store your seeds in an opaque, airtight container to ensure they remain in darkness.

Common Issues When



Storing Cannabis Seeds

Don't Keep in Your Main Fridge

The main fridge is subject to frequent temperature changes since people are constantly opening and closing the door and putting potentially warm foods there, which can harm the seeds. Use a dedicated cooler or freezer that gets opened minimally for more stable conditions to ensure stability.

Label Clearly

Always label your cannabis seed collection with the cultivar name and the date of storage. This helps you keep track of their age and viability and understand where you may be in potential breeding projects.

ILGM warehouse facility for storing seeds with clear labeling

Vacuum Seal if Possible

Vacuum-sealing fresh seeds minimizes their exposure to air and moisture, significantly extending their storage life. When air is left in a



container, it allows some variability in the environment surrounding your seeds (i.e., the air), which can cause ice crystals to form when freezing, triggering germination. Vacuumsealing gives your seeds the best chance at staying alive while dormant in storage.

When Weed Seeds Don't Germinate

Seeds, like siblings, are not all created equal, meaning some may be more resistant to errors during the germination process than other seeds.

The three pillars of seed germination are proper temperature, moisture content, and patience. If either of these fluctuates too much, it will affect the viability of the seeds. The most common errors novice growers will make are related to moisture content or getting too impatient. If your seeds are stubborn and don't want to germinate, try one of several techniques, such as scarification, hydrogen peroxide, or stratification.

When soaking seeds to prepare them for germination, letting them sit in water can cut off oxygen, making it more difficult for them to aerate. Conversely, a lack of moisture is typically caused by a heat source that dries out the medium in which the seeds are placed.



Conclusion

Storing cannabis seeds correctly is within your reach; you need to know what variables to control to achieve the desired outcome. By understanding and applying the proper storage conditions—dryness, stable low temperatures, and darkness—you can preserve your stored seeds' viability for the long term. Happy sowing and growing!

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