

Why Do Potatoes Sprout and How Can You Prevent Sprouting? – Mother Earth News

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Why do potatoes sprout? Learn one of the best ways to store potatoes and how to provide the ideal conditions for long-term potato storage.

Under certain conditions, potatoes grow shoots (sprouts). You only want this to happen shortly before you plant seed potatoes. How can you stop potatoes sprouting at other times? Under what conditions are potatoes more likely to sprout? How can you help them sprout when you do want them to?

Potato sprouts are toxic. (See my earlier post, [Green Potato Myths and 10 Steps to Safe Potato Eating](#).)

“White” or Peruvian potatoes (sometimes called Irish potatoes) are stem tubers in the nightshade family; sweet potatoes are root tubers in the morning glory family – completely different. I do plan to write about sweet potatoes in another post. This article is about white potatoes, not sweet potatoes.

There are three key stages of potato storage, and they require different conditions, if you are to make a success of long-term potato storage.



Image by Wren Vile and Kati Falger
Potato-sorting in early November, 2016.

Curing Potatoes Before Harvest

If you want your potatoes to store well, it's best to leave them in the ground for two weeks after the tops die, whether naturally or because of mowing. Note that, to the potato, it's all the same whether the death of the tops is due to frost, mowing, or the natural end of the plant's growth cycle. So if you need to hurry up your potato harvest, go ahead and cut the tops off two weeks before you want to harvest. This works better than harvesting and then curing. When the potatoes are harvested after the skins have toughened, there will be less damage during harvest. Potatoes are cured enough for storage when the skins don't rub off. Dig a few up to test them by rubbing with your thumbs.

Curing allows skins to harden and some of the starches to convert to sugars. These changes help the tubers to store for months.

Storing Newly Harvested Potatoes, Weeks 1 and 2

When potatoes first go into storage, they are still “alive” and respiring, and need fresh air frequently. They will heat up if left closed in, and could develop black centers, where the cells have died from lack of oxygen.

After harvest, for the next two weeks, your root cellar or other storage space will need 6 to 9 hours of ventilation every two or three days. The temperature goal is 60 to 75 degrees Fahrenheit with 95% humidity. This is warmer than you might have expected. Because the new potatoes tend to heat up, you should ventilate the cellar when the temperature is 0 to 20 degrees cooler than your goal. If nights are too cold and days are mild, ventilate in the daytime. If nights are mild and days too warm, ventilate at night. If it is very damp in your root cellar, ventilate for longer or more often — you don’t want water running down the walls.

Weeks 3 and 4

Two weeks after harvest, sort all the potatoes. This single potato sorting at this stage can save a lot of losses. By this time, any potatoes that are going to rot have likely started doing so — not much new rotting starts later. You can use rags to gently dry any damp potatoes, but be careful not to scrub at them, as this can break the skins.

Re-stack your crates or boxes, remembering to keep airspace between the crates and walls. For weeks 3 and 4, the temperature goal is 50 degrees and fresh air is needed about once a week.

Long-Term Potato Storage

After week 4, cool to 40 degrees in winter; below 50 degrees in summer. Ventilation for air exchange is no longer needed, as the tubers have become dormant. Just watch the thermometer and ventilate to control the temperature as needed.

The ideal long-term potato storage conditions are cool and fairly moist, 40 to 50 degrees, 85% to 90% humidity. A root cellar is ideal. Don't refrigerate potatoes. Below 40 degrees, some starches convert to sugars, giving the potatoes a bad flavor and causing them to blacken if fried. Try hard to avoid having the cellar cool down, and then warm up. That causes the potatoes to sprout.



Image by Wren Vile and Kati Falger

Pre-sprouting Seed Potatoes

The one time you do want potatoes to sprout is before you plant them! If you are thinking of saving your own seed potatoes for a second planting in the same year, read this paragraph. Potatoes have a dormant period of 4 to 8 weeks after harvest before they will sprout. If you want potatoes to sprout during the dormant period, trick them by refrigerating for 16 days, then pre-sprouting them in the light. The warmer the conditions are after dormancy ends, the quicker they will sprout.

We always “chit” or pre-sprout our seed potatoes before planting. Bring the seed potatoes into a warm, well-lit room around 65 to 70 degrees and set them upright in shallow boxes, rose end (where the eyes are) up, stem (belly-button) down, for 2 to 4 weeks in spring, 1 to 2 weeks in summer. For summer planting, store your seed potatoes in a cool place at 45 to 50 degrees until 2 weeks before your planting date, and then sprout them in a warm place. Having bright lights helps the sprouts stay short, which makes them less fragile.

The Effects of Ethylene on Stored Potatoes

Ethylene is a naturally occurring, odorless, colorless gas produced by many fruits and vegetables, and also by faulty heating units and combustion engines. Propane heaters should not be used in vegetable storage areas, as propane combustion produces ethylene. Incomplete combustion of organic fuels can result in the production of carbon monoxide, ethylene, and other byproducts. Do not use any unvented hydrocarbon fuel heaters near stored produce.

Ethylene is associated with ripening, sprouting, and rotting. Some crops produce ethylene in storage—apples, cantaloupes, ripening tomatoes, already-sprouting potatoes all produce higher than average amounts. Chilling,

wounding, and pathogen attack can all induce ethylene formation in damaged crops.

Some crops, including most cut greens, are not sensitive to ethylene and can be stored in the same space as ethylene-producing crops. Other crops are very sensitive and will deteriorate in a high-ethylene environment. Potatoes will sprout, ripe fruits will go over the top, and carrots will lose their sweetness and become bitter.



Image by Wren Vile and Kati Falger
Rows of planted potatoes.

Summary of What Do Potatoes Sprout

Potatoes are more likely to sprout if they are: