

Grow Your Own Sugar Pine from Seed Lesson



Homegrown seedlings successfully germinating and starting their second bloom. Photo courtesy of Suzy Gardner.

Botanical Terms to Learn

botany pronounced /bot-an-ee/

the scientific study of plants

germination pronounced /jer-mi-na-shun/

the process by which a plant sprouts and grows from a seed – generally after a period of dormancy

dormant pronounced /door-mant/

(of a plant or seed) being alive but not actively growing

stratification pronounced /stra-ti-fi-ka-shun/

the process of treating seeds to simulate conditions the seeds naturally experience before germination can occur

Note: many seeds, including sugar pines, have a dormancy phase that must be broken by stratification before they can sprout

When to Prepare and Plant Seeds

If you plan to plant your seeds outdoors, store the seeds in the freezer (so that they remain **dormant!**) until , when you can start the process.

The stratification process involves storing the seeds in the fridge for about 3 months, so if you start in December, your seeds will be ready to plant outside by February or March.

If you plan to raise your seedlings indoors, you can stratify your seed and begin to grow your baby sugar pines from seed any time of the year!

Reflection Questions:

Why do seeds stay dormant in the freezer – or, for example, under the snow?

Why do you think that spring is the best time to take your seeds out of the fridge for germination?!

Are plants “smart?”

How to Prepare and Plant Sugar Pine Seeds

1. First, **soak the seeds** in a bowl **for 3 days**. Good, healthy seeds are heavy and will sink to the bottom. If the seeds have low moisture they may not sink, but are still good seeds. If, after 3 days, you have some “floaters,” open a few to see if they look healthy.
2. Next, **stratify** the seed for **60 to 90 days**. **Stratification** simulates the seeds lying underneath the winter snow. To do this, place one layer of seeds in a Ziploc bag on a flat surface. Insert a drinking straw inside the bag and close the seal around the straw as tightly as possible; this is done so that the seeds will have oxygen (snow has about 90% oxygen).



Lay seeds flat in a Ziploc bag and insert a straw to aerate.

3. After the stratification process, you can **plant** your seeds! There's no one "right way" to plant your seeds – many different approaches will work. Here are some best practices to consider:
 - **Using a special soil mixture generally helps.** The very best soil mixture is: 50% peat moss, 40% vermiculite and 10% perlite. You can buy these "ingredients" at a garden center to mix yourself, or you can use potting soil. Native, local soil will work too! Feel free to experiment and tell us the results!
 - **Plant one seed per pot** so that if it germinates, the seedling will not need to suffer a traumatic transplanting to a larger pot. This is a good strategy if you are only attempting to grow a few trees!



PRO TIP: Whether you intend to raise your seedlings indoors or out, plant in nice, big pots that are **at least 6 inches deep!** Your pots don't have to be fancy! Reused or cheap, plastic pots will do just fine! Pretty terra cotta pots are nice, but not necessary. Regardless of what style of pot you choose, a great advantage of pots is that they are moveable! You can strategically move your pots with the seasons so that your seedlings get as much sunlight and warmth as possible in the winter, and not too much sun in the hot, harsh summer!

- If you plant **outside** – whether in pots or directly in the ground – it is a good idea to **cover your seeds with a wire screen or mesh** to keep squirrels and birds out. Hardware fabric works well.
- If you are planting indoors in winter, you may consider getting fancy with a heated, lighted **"grow box"**



Outfitting a container with a foil lining, a heat mat and a grow light certainly won't hurt, but is an extra credit project for sure!



Making or buying fabric "grow bags" that you can easily place in the box and later remove for a gentle transplant process is also an extra credit project!



Here's a fancy "grow box" doing it's job on a long winter's night: lots of successful sprouts!

4. **Water your seeds every other day until they sprout!**

Once **seedlings** have sprouted, **water twice a week**. It is important that the soil does not remain wet and saturated – the soil should fully drain between waterings.



Documenting the process of your seeds sprouting and growing is a great project!

5. It's helpful to **fertilize** your sugar pine seedlings every other week. You can use compost tea or common organic fertilizer mixed with water.
6. If you've planted indoors, you can transplant your seedlings to a more permanent place outdoors when they are one to three years old. See our [Planting Lesson](#) for instructions!

