

## Sarracenia and Drosera Species from Seed

**Warning – These seeds are tiny (especially Drosera), you may need to add some fine dry sand to the pack (shaking it) to remove all the seeds.**

Although many carnivorous plant seeds germinate within 3-4 weeks, seeds from temperate carnivorous plants germinate after 3 to 6 months! Many US-native carnivorous plants produce their seeds in early autumn, right before the first frost of the season. If these seeds germinated too soon, the young seedlings would surely die because they wouldn't have time to fully acclimate to upcoming winter weather. To prevent this from happening, these seeds contain enzymes that prevent them from germinating before the onset of winter.

In order to germinate these seeds, you must expose them to cold damp conditions in order to deactivate the enzymes. When the enzyme is deactivated, the seeds will germinate when the temperature warms up again. This process of preparing seeds for germination is called stratification.

Without stratification, the germination rate would be no more than 10%. With stratification, the germination rate would increase up to 90%. Naturally, this will depend on the species.

There are two ways you can stratify your seeds. The first method is by far the easiest and has the fewest risks. It follows the natural rhythm of the seasons. Essentially you sow your seeds in autumn and look for seedlings in spring. Use this method if you live in zones 9 or colder.

The second method is best used if you need to germinate your seeds during the off-season, such as spring and summer when it is too warm for proper stratification.

### **Outdoor Stratification**

1. In autumn or early winter, sow your seeds on a standard soil mix of 1 part peat moss and 1 part perlite. Avoid covering up your seeds with soil. Simply sprinkle them on the soil and firmly press down on them with your fingers. (For zones 8 or colder, do this step by early February, or six weeks before the spring equinox. In zone 9, do this step by early January, or 10 weeks before the spring equinox.)

2. Place your pot of seeds outdoors in a tray of water. Set the pot in a tray of water. Throughout the winter months make sure there is always water in the tray. The rain and snow will create the cold damp conditions necessary for germination in spring. Protect your pot if the temperatures go below 20°F (-7°C).

3. In early summer look for tiny seedlings.

### **Refrigerator Stratification**

1. Lay out a sheet of paper towel on a table. Place your seeds in the centre of the paper towel and spread them out evenly.

2. To prevent fungal infections, spray your seeds with a fungicide. Either a sulphur-based fungicide or Neem will work. Avoid mineral-based fungicides.

3. Carefully wrap your seeds in the paper towel. Don't wrap them up too much because you want to be able to see the seeds through the paper towel when you hold it up to the light.

4. The paper towel will be slightly damp from the fungicide, but you will need to make sure it is damp all the way through. Dunk the wrapped seeds in a bowl of distilled water.

5. Place the wrapped seeds in a plastic bag and seal the bag.

6. Place the plastic bag and its contents in your refrigerator for four to eight weeks. Check on the bag periodically for signs of mould or fungal infection. Hold it up to the light to make sure your seeds are still

healthy. Look for mould and fungus. If mould or fungus develops, immediately unwrap your seeds and spray your seeds with fungicide.

7. After four to eight weeks of refrigeration, carefully unwrap your seeds. Allow the paper towel to dry completely before removing your seeds.

8. Place your seeds on a soil mix of 1 part perlite and 1 part peat moss and firmly press down on them. Avoid covering up your seeds.

9. What you do next depends on the outdoor temperature:

A. If there is still a risk of frost outside; germinate your seeds indoors in a brightly lit windowsill that receives a several hours of direct sunlight. You will see germination within 4 weeks.

B. If there is no risk of frost in the next several weeks; place your pot of seeds outdoors in partial sun. You will see germination within 4 weeks, provided that the weather remains warm enough.

*Sarracenia* occurs naturally in mostly zone 8 where temperatures in winter can sometimes reach as low as 10°F (-12°C) for brief periods of time. Some species occur in zones 4-7. In cultivation it is always recommended to follow proper winter care when growing it in zones 8 or colder, regardless of a plant's cold tolerance. See below for more information.

### **Where to Grow**

*Sarracenia* grows best outdoors as a container or potted plant. It makes an excellent addition to any sunny deck or patio. You may also grow it in a pond or fountain, but keep the crown of the plant above water. Because of its specific soil requirements, avoid planting it directly into the ground, unless you have created a specific type of bog garden.

### **Sunlight**

During the growing season, grow your pitcher plant outside in full sun. Provide 6 or more hours of direct sunlight for vigorous growth.

If full sun is not possible, provide a minimum of 4 hours of direct sunlight with bright indirect light during the rest of the day. Your plant won't be as vibrant or sturdy as one grown in full sun, but you will be able to maintain its overall health.

### **Heat Tolerance**

*Sarracenia* is quite tolerant of the summer heat. It originates from areas where temperatures above 90°F (32°C) are a common occurrence in summer. (See above for information about its range.) However, in its native habitat, the soil temperature is moderated by a slow seepage of cool spring water.

If you grow your pitcher plant in containers, you will need to pay attention to soil temperature. While it may not be necessary to shade your plant during the hottest parts of summer, you may need to top water your plants daily to prevent the roots from overheating. Plants will over heat when the soil temperature approaches 110°F (43°). Monitor soil temperature whenever the daytime temperature rises above 100°F (38°C).

### **Water**

Keep the pot in standing water at all times. Never allow the soil to dry out completely. Most pitcher plants tolerate moderately hard water (50 – 100 ppm). However, you will need to top water regularly and change the soil yearly to prevent excessive mineral build-up. Whenever possible, use mineral-free water for best results. If you grow your plant in a pond or fountain, keep the water level no higher than halfway up the pot. Avoid drowning the crown of the plant.

## **Soil**

*Sarracenia* requires nutrient-free soil that provides good drainage and aeration. Use a standard soil mixture of 1 part peat moss and 1 part perlite. Never use potting soil, compost or fertilizer. These ingredients will kill your plant.

## **Winter Care**

As winter approaches; your pitcher plant will slow down in growth and eventually stop growing. It'll retain its leaves throughout the winter months, but the leaves will turn brown around the edges. This is perfectly normal. Pitcher plants require 3-4 months of winter dormancy triggered by cold temperatures (below 50°F or 10°C) and shorter daylight hours.

Even while dormant, your plant will still need to sit in a small amount of standing water to prevent its soil from drying out.

Don't worry about overnight temperature dips as low as 20°F (-7°). While dormant, your plant can certainly tolerate overnight frosts with minimal winter protection. However, plants are very susceptible to freeze damage when grown in containers. You will need to protect your pitcher plant when the temperature falls below 20°F (-7°C) or whenever there is a combination of freezing temperatures and wind. Both types of winter conditions can certainly cause serious frost burn. To prevent frost burn, cover it with black plastic or a tarp, or move it into an unheated garage or shed. As soon as the freeze is over and the temperature climbs above 35°F (2° C), uncover your plant and allow it to continue its dormancy outdoors.

If you live in an area where the temperature routinely goes below 32°F (0°C) for more than a week at a time, such as in zones 7 or less, you will need to winterize your container plants. Container plants can certainly tolerate brief freezes. But with prolonged freezes, your plants are at risk for frost burn.