GEORGESON
BOTANICAL GARDEN

How to Germinate Seeds of Alaska Wild Blueberries and Lingonberries (Lowbush Cranberries)

Wild blueberries and lingonberries produce fruit that contain from zero to forty seeds per berry. The average seed count is 20 seeds per berry. Within the genetic limits of the plant, the larger the fruit, the more seeds in the berry. Many fresh seeds extracted from the fruit and not allowed to dry out will germinate immediately, but with the lingonberry (lowbush cranberries) and bog blueberry, germination is better with a cold stratification pretreatment. This paper describes a method for extracting small quantities of seeds and germinating them for use in home gardens, landscapes, commercial fields and for replanting wild fields.

Seed Extraction

Seeds of blueberries and lingonberries must be removed from the berry before germination will occur. The easiest method for small quantities of fruit is with a blender.

1. Use a blender (not food processor). Fill the blender half full of water.

2. Add about $1/2$ C of fresh or thawed berries. Close the lid and blend on high for about 30-45 seconds. The fruit is broken up and the pulp and unfilled seeds float to the top. The good, filled seeds sink.

3. Fill the blender to the top with water and wait about 15 seconds for the good seeds to sink. Since the liquid will be purple or red, it will be hard to see.

4. Pour off half the liquid and pulp taking care not to stir up the seeds on the bottom of the blender.

5. Fill up the blender again with water, let the good seeds sink for 15 seconds, then pour off half the liquid.

6. Repeat this procedure until the liquid in the blender is fairly clear and the seeds are visible in the bottom.

7. Line a sieve or colander with paper towels. Vigorously stir up the seeds in the remaining liquid and pour into the paper towel. Allow the sieve to drain.

8. Sow seeds right away by scraping them off the paper towel. Or allow the seeds to dry, scrape them off into a glassine envelope, and store in the freezer until needed.

Seed Pre-treatments

Although some seeds may germinate right away, percentages are often better especially with air dried seeds, if they are cold stratified. This process is one in which seeds are placed in a moist medium and exposed to chilling temperatures for 30 days. During this time, chemical inhibitors are broken down inside the seed so germination can proceed. There are two methods for the tiny lingonberry and blueberry seeds.

Paper Towel Method:

This method works well only if everything is kept clean and seeds are handled as little as possible. It helps to clean off the table with a 10% bleach solution before starting and using tweezers or foreceps to handle the towels and seeds. These practices help minimize the growth of molds on the towel that can reduce seed germination.

1. On a clean surface (cleaned with 10% bleach solution). moisten a paper towel or napkin.

2. Sprinkle seeds on the towel, then layer a second towel on top of the first sandwiching the seeds between layers.

3. Fold the towel or roll it up jelly roll fashion and insert into a plastic freezer bag.

4. Seal the bag and place in the refrigerator (NOT the freezer) for 30 days. Make sure the towel does not dry out during that time.

Peat Moss Method:

1. Sow the seeds onto a moistened milled Sphagnum peat moss medium in a small container.

2. Cover the seeds lightly and enclose the entire container in a freezer bag.

3. Place into the refrigerator (not freezer) for 30 days making sure the medium never dries out.

4. After 30 days, move the entire container to a growing environment and allow seeds to germinate.

Germinating Seeds

All blueberries and lingonberries require acid growing conditions, and seeds germinate in about two weeks. Seeds should be sown on finely milled Sphagnum peat moss. Avoid peat-based seed starting mixes because they have been pH balanced for bedding plants and are not suitable for acid-loving blueberries and lingonberries. The peat moss in bales is too coarse for tiny seedling. It must be sieved through a screen before using. Sometimes, this sieved peat is available commercially as finely milled peat, but it is hard to find in some areas. Peat moss from bales also does not absorb water unless it is soaked for a few days. To speed things up, place the peat in a tub, add water and squeeze the peat with your hands until it becomes wet.

Seeds may be sown in mass plantings in a single container, but they require very careful transplanting once the seedlings reach about one inch tall. The tiny roots are nearly transparent, very delicate and easy to break off. Allow the peat to dry slightly before transplanting for easier separation. If individual seedlings are not required, they can be transplanted in clumps of seedlings.

Seeds also may be sown in 200-cell plug trays and barely covered with milled peat. This process requires a good eye and a lot of patience to transfer two to three tiny seeds by tweezers or forceps into each cell. However, transplant shock is minimized because seedlings do not need to be transplanted right away. The tiny seedlings can grow for many weeks in the plug tray before seedlings are large enough to transplant. Then, the entire seedling plus the plug of peat are transplanted together into a larger container. Never allow the trays to dry out. Clear plastic flat coverings help reduce watering.

Growing Seedlings

The tiny seedlings are slow to grow. Once they reach about one and one half inches tall, growth seems to stop, but the root system continues to grow. Aboveground shoot growth will begin again in about 30 days. The plants should be grown in pure peat moss. The water supply should be tested to make sure it is not alkaline. Over time, alkaline water can increase the pH of the medium and cause poor growth.

In greenhouses, another problem is fungus gnats that are attracted to the peat. The larvae feed on decaying organic matter and young roots. They do not cause problems for mature plants but can decimate young seedlings. Contact your local Cooperative Extension Service for biological and chemical controls.