Native Seed Propagation

Native plants provide multiple benefits to soil microbes, animals, and the environment. Once established, native plants generally require little maintenance and because they are adapted to local environmental conditions, they require far less water.

Reasons to plant a seed:

- Seed are adapted to growing conditions at the site as it grows (instead of conditions in a greenhouse)
- Quick - no need for a greenhouse

Reasons to plant a seedling:

- 90% of seed projects fail (global average)
- Need reliable water (rain or irrigation) for germination and establishment of seeds
- Seeds lose viability if proper seed storage not maintained (temperature + humidity less than 100)
- Seeds can be eaten

Breaking dormancy: Seed Treatments

Seeds of native plants have protective coatings that help them survive in nature. This is especially true for plant species that grow in arid regions. Seeds may have any number of seed dormancy strategies, including tough impermeable seed coats and underdeveloped embryos that require a treatment to kickstart development. Removing dormancy mechanisms is important for starting native seeds in the greenhouse. There are many ways to break dormancy, cold stratification and scarification are two commonly used techniques.

Cold Stratification:

This method tricks the seed into thinking the winter weather has come and it is time to go dormant. Native seeds need a period of cold conditions to break dormancy. Plant species that grow in higher elevations typically need a longer period of cold stratification. Method: **Place seed in refrigerator (or outside) 34-39 degrees for 1-2 months.**

Scarification:

This method mimics fire, extreme temperatures, digestive acids in animal stomachs, and scraping over sand or ice. Scarification helps break the hard seed coat surrounding the seed to allow water and oxygen to enter

METHODS: sandpaper, hot water soak, chemical soak in gibberellic acid or hydrogen peroxide

Greenhouse Growing Tips:

- Use sterile soil when sowing seeds. Some soils will come pre packaged with nutrients and nutrients is not require to germinate a seed. You want your soil mix to have proper drainage and as well as retain moisture. **(Our Soil mix: 1 part peat moss, 1 part perlite, and 1 part vermiculite. Peat moss and vermiculite will help retain moisture and the perlite provides proper drainage.)
- The soil media must stay wet in order for your seeds to germinate. Keep the soil media moist until your seeds have sprouted. Once your seedlings created roots, reduce the amount of time you water and water when the soil is dry. Overwater will lead to root rot and can kill your plants.
- Native plants do not require heavy fertilizers. Many thrive in low nutrient soil, and applying fertilizer could chemically burn them. A mild, slow release fertilizer can be used to jumpstart seedlings that are growing in a greenhouse environment but fertilizers should be flushed out of the plants system prior to planting in the field.
- Seedlings need time to gradually adjust to strong sunlight, cool nights, windy conditions. Set your seedlings outside in a shaded area 1-2 weeks prior to planting in the field.

So what method do I use?

- Native Plant Network Propagation Database (https://npn.rngr.net/propagation)
- Make your own database and TAKE NOTES!!
- Research online
- Talk to other growers