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It starts with a seed

Society has lost many of the varieties of vegetables and food crops that existed 100 years ago, they are lost forever. It is important to keep wide varieties of all our food crops maintain a resilient food system. We need to maintain the skills to save our own seed, a skill of our ancestors, to ensure in times of disaster we can ensure our survival

- A seed is an **embryonic plant** enclosed in a protective outer covering. The formation of the seed is part of the process of reproduction in seed plants. Seeds are capable of developing into a plant similar to the mother plant. Seeds contain enough nutrition to last for several weeks after germination
- **Dicot vs Monocot seeds.** The main difference between monocots and dicots is that monocots have only one cotyledon, or embryonic leaf, whereas dicots have two.
- **Annual vs biennial vs perennial.** An annual is a plant that will complete its entire life cycle in one year. A biennial is a plant that will complete its entire life cycle in two years. A perennial is a plant that will complete its entire life cycle in at least three years if not more.
- Seeds are from **self-pollinating plants** (pollen transfers and fertilization occurs within the same flower or flowers of the same plant, meaning the seeds will have the same genes as the parent plant) or **cross pollinating plants** (pollen transfers between different plants, meaning the plant genes can be a mixture of both parent plants). This is important to know when saving seeds as cross pollinating plant may cross with related plants ie beets with swiss chard.
- Seeds can also be **Open Pollinated:** varieties produce offspring that closely resemble the parent or **Hybrid** varieties result from the controlled crossing of genetically distinct parents. They produce offspring very different than their parents.
- You cannot successfully save seed from hybrid plants but hybrids are often very useful in the garden

Choosing your seeds

- Reliable source, must grow in your region, must be suitable for your growing skills
 - Companies in your province or region, safe seed pledge, non GMO
 - The seed packet is an indispensable source of information on growing your seeds, use internet sources if more information is needed. Do not throw out your packet until the end of the season
- Prepare your seeds to increase rate of germination
- Scarification: scratch or nick the coat of very hard seeds
 - Stratification: need time in a cool moist environment before warming and planting
 - Soaking: 4-24 hours, used for the majority of seeds.

Planting your seeds

- ❖ Needed: good seedling potting soil, disease free, clean planting container, water, air movement, lots of light
- ❖ Know your growing season, don't start your plants too soon before the planting outside time, onions 10-12 weeks, peppers/ tomato 8 weeks, most others 6 weeks, cucumber 4 weeks
- ❖ Fredericton is zone 4b, on edge of 5a, our frost free period is mid May until the 3rd week of September
- ❖ Premoisten your soil, fill container removing all air, don't over pack the soil.
- ❖ Plant 2-3 seeds in each individual pot, thinning to the strongest one, or plant seeds in rows 1 "apart. Plant seed no deeper than twice the diameter of the seed (1/4 -1/2 "), keep warm and keep a few inches from LED, CFL or fluorescent light fixtures. Bright day light ok but not sufficient for strong plants, give 15-18 hours of light / day.
- ❖ Fertilize after ~3 weeks, the seed has sufficient nutrients for 3 weeks. Seedlings tend to need a fertilizer high in phosphorous, like a 1-2-1 N-P-K ratio. A liquid or water-soluble fertilizer will be

easiest and quickest way for the seedlings to access nutrients. A complete fertilizer has all 3 major nutrients, (5 10 5 fertilizer is 5% nitrogen, 10 % phosphorus, 5% potassium by weight). A 1-2-1 ratio is often recommended for vegetables, which need plenty of phosphorous to set fruit.

Transplanting your seedlings

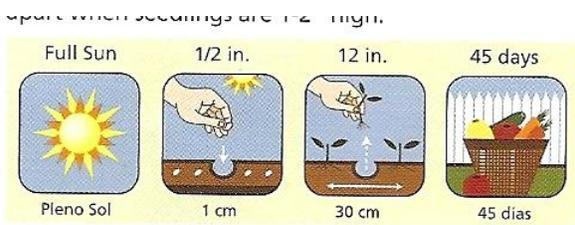
- Once the true of your plant begin to grow, you'll have to move them to larger individual pot.
- Handle by the leaves, loosen the soil around the roots with a fork or small shovel, and transfer to a prepared pot having made a hole for the plant, for most, plant the seedling deeper that it was originally. Leave the first leaves just above the soil level.

Hardening Off

- ❖ 7-10 days before transplanting to the garden, plants need to gradually become used to the sun, wind, and temperature variations. Start in a sheltered shady spot, then give short periods of direct sun, gradually lengthening the time in full sun with full wind and temperature exposure.

Damping-off

- A variety of fungal problems that lead to sudden seedling death.
- Prevention is the key, don't over water, have good air circulation,
- Cinnamon sprinkled on the soil surface may help



Las hojas de intenso color rojo burdeos tienen

Long Day Plants Short Day Plants Day Neutral Plants

| (Day Length > 12 hrs) | (Day Length < 12 hrs) | (Ignores Day Length) |
|--|--|--|
| artichoke lettuce barley oats beets onions carrots peas cilantro potatoes clover radishes dill rye grass fennel spinach flax turnips lentil wheat | blueberries black-eyed peas cotton mung beans soy beans sugar cane sweet potatoes raspberries rice | apples apricots Brussels sprouts cabbage corn cucumbers kale peaches pears tomatoes |

