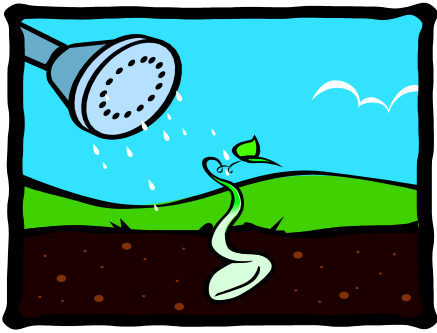


A close-up photograph of a young plant seedling with two large, light green, textured leaves growing out of a dark brown soil plug in a black tray. In the background, other similar seedlings are visible but out of focus, along with a white label.

Seed Starting

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Germination Needs

- Water: Adequate, continuous supply; don't drown your seedlings
- Light: Some need light to germinate, but all need light after germination!
- Oxygen: Respiration rate increases as seedlings grow
- Heat: Affects germination rate and percentage, refers to soil temperature and air temperature

Know your seed and it's best method of germination!

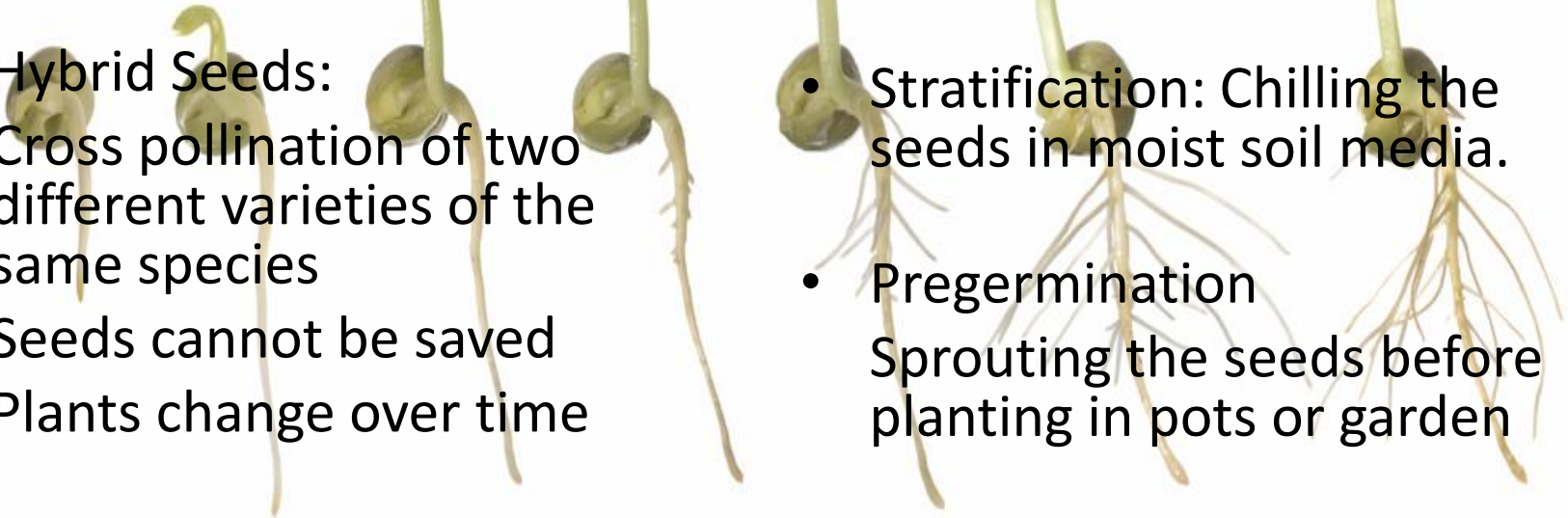
- Open Pollinated Seeds:
Cross pollinated or self
pollinated to remain true
to variety
Heirloom seeds

- Hybrid Seeds:
Cross pollination of two
different varieties of the
same species
Seeds cannot be saved
Plants change over time

- Scarification: Breaking,
scratching or softening the
seed coat to allow water to
enter and begin
germinating

- Stratification: Chilling the
seeds in moist soil media.

- Pregermination
Sprouting the seeds before
planting in pots or garden



Choices, choices!

- Container: Flats or trays, containers with good drainage (recycled yogurt cups, newspaper pots, plastic to go containers, toilet paper rolls, egg cartons, peat pots)
- Cover: Plastic domes, wrap, zip bags, glass
- Medium: Soil blend or soilless, it pays to be sterile!
 - Don't use garden soil!
 - No fertilizer needed!
- Moisture: Constant, but not overly wet.
- Seeds: reputable source, in date, non-GMO!
- Heat mat or warm location: soil and air temps
- Light: Some seeds need light to germinate. All seeds need light upon germination!
- Labels: Popsicle sticks, mini-blinds, painter's tape

Starting for Success

- Create a timeline:
 - Last frost date/first frost date in fall
 - How much time till germination
 - Amount of time before transplanting outside
- Fill containers $\frac{3}{4}$ full, do not compact, media should be loose & well aerated . Lightly firm the soil with fingers or a block of wood. Wet the media thoroughly. Soil should be moist but not saturated. Overwatering can lead to dampening off.
- Sow seeds twice the diameter of the seed, not the length. If darkness is needed for germination, sprinkle a very fine layer of vermiculite on top. Sow 2-3 seeds per pod, mist gently and cover to prevent drying out.
- Seeds and seedlings require 16-18 hours per day of light. Use two 40-watt, cool-white fluorescent tubes or special plant growth lamps. Position the plants 6 inches from the tubes. An automatic timer works well. As the seedlings grow, the lights should be raised.
- Air flow: decreases disease and strengthens plant.



Which would you rather see?

Happy Seedlings



Unhappy Seedlings



Transplanting

- **Handle seedlings by the leaves – not stems!** Once a seedling is broken, it can't be saved. If you over-seed, thin to the strongest seedling.
- Transplants should be stocky, healthy, free from disease, and have good roots.
- Harden off plants so that they will easily adapt.
- Successful transplanting is achieved by interrupting plant growth as little as possible.
- Transplant on a shady day, in late afternoon, or in early evening to prevent wilting.
- Transplant into a hole slightly bigger than the root system. Set the plant slightly deeper than previously planted, except tomatoes. Tomatoes develop roots all along the stems, and you can plant deep enough to leave only two or three sets of leaves exposed.
- Press soil firmly around the roots of transplants. Pour about a cup of starter solution in the hole around the plant. Use a solution of about half the strength recommended for that type of plant during the normal growing season.
- Fish emulsion or diluted manure tea may also be used.



Recap... it's all in the details!

- Pay attention to details... Like water.
- Read the seed packet. Really - they researched what to write!
- Create the most favorable environment for success.
- Never, never, never use garden soil.
- Let there be light – 16 hours a day.
- Did I mention that reading the seed packet is good?
- Create a greenhouse effect: warm and humid.
- As tempting as it may be, don't over seed. Crowding doesn't pay off.
- Hardening off isn't hard. Your plants will love you.
- **Handle seedlings by the leaves – not stems!**