

## SUCCESS WITH SEEDS SPEAKER NOTES

### Slide #

- 5 Describe the makeup of a seed and explain what has to happen for the seed to grow (moisture penetrating the seed coat)
- 6 Several inhibitors keep seeds from germinating until the proper time:
  - Attachment to the mother plant means the seed won't germinate on the plant
  - Temperatures need to warm for most seeds to germinate. Some actually require a cold dormancy before the warming temperatures will be effective.
  - Moisture needs to be absorbed by the seed. Moist soil is often enough, but some benefit from a soak first
  - Manipulate the passage of time by cold stratification, acid baths
  - Break down hard seed coats by soaking seed, nicking, or scratching seed coats before plantingLuckily, instructions are available for almost every kind of seed, and even luckier is that most seeds just need moisture and warmth to get up and running
- 7 Best seed starting mixtures include finely screened peat and vermiculite or perlite
- 9 Moisten seed starting medium to damp consistency before filling containers
- 10 Clay containers are heavy and dry out too quickly. Round containers take up too much space
- 11 Peat works for some, but be sure to remove the outer casing on pellets and the upper rims on pots. Best results come from removing entire peat pot before planting, but pulling off the casing and the pot may cause a lot of unnecessary root disturbance
- 13 Ideal containers are new plastic and sized so the seedlings don't need to be transplanted indoors. A tray to hold water and a plastic dome are bonuses.
- 15 Skin oils can start the water-absorption process in seeds, so be sure to touch only those you are sowing that day.
- 16 Avoid touching fungicide- treated seeds with your hands.
- 17 Presprout seeds in damp paper towels to: A) check germination percentage, B) ensure germination in expensive seeds, and C) increase germination in seeds that need light.
- 18 Lightly spray seeds and soil mixture once seeds are sown to settle the seeds into good soil contact
- 19 LABEL THE CONTAINERS/SEED ROWS. Most economical are plastic strips marked with pencil (erase, wash, and re-use)
- 21 Cover sown seeds with plastic dome or plastic wrap
- 22 Stratify seeds that need a cold period to break dormancy (many trees, shrubs). Stratify by mixing seeds with damp sand in plastic bag and placing in refrigerator for required time before sowing.

Scarify seeds that need to run through a bird digestive tract before germination. Scarify by rubbing between sandpaper or nicking the seed coat with a sharp knife. Some seeds need both – scarify first.

- 23 Seeds that need light do fine with average room light until they are up and growing. Seeds that need dark should be covered to exclude room light until the first signs of green appear.
- 24 Most seeds prefer a warm environment with soil temperature over 70F. Seed starting mats or soil heating cables are economical options to providing correct temperature 24/7
- 25 Soil heating cables are more economical means to provide warmth. Shown here the loop of cable is spread on bench with tray placed on top. Cable then looped over the cover and a second tray placed on top of that, with the final cable looped over the top. Using a small (6 foot) cable is most practical for small growers)
- 26 Remove plastic cover at first sign of germination
- 27 Provide bright light at first germination – 2” below florescent light is ideal (or greenhouse)
- 28,29 Good air circulation is essential to healthy seedlings. Keep seedlings thinned and run a fan on low
- 30 Water the soil, not the plants, using room temperature water. In addition to warming the water, allowing it to sit for a few hours lets fluoride gas escape
- 31 Water from the top until water runs through, or fill the saucer and allow plants to sit in the water to absorb moisture. In either case, empty the saucer or all water after about 15 minutes. Water again only when the top soil is quite dry. Most seed mix will also turn a noticeably lighter color when it is dry.
- 33 Describe difference between cotyledons and true leaves
- 34 Begin fertilizing at true leaves and ¼ strength weekly
- 35-36 Transplant seedlings at true leaf stage or later, avoiding root disturbance as much as possible, and handling plants by leaves or roots only, not stems
- 37 Pot up overgrown seedlings before they are rootbound, breaking up circling roots
- 38 Harden off seedlings gradually before planting outdoors on a cloudy day
- 40 Provide additional protection at planting if in doubt
- 41,42 Discuss timing to have appropriately sized seedlings at planting – refer audience to the handout
- 43-54 Discuss seed saving basics
- 55 Discuss trait genetics in seeds (tall vs. short, open pollinated vs. hybrid, etc.) Seeds from self-pollinated plants (peas, beans, tomatoes) are more likely to be true to parent than seeds from

plants capable of cross-pollination (eggplant, peppers, lettuce) or those that regularly cross-pollinate (squash, cabbage, carrot, beet, corn). Hand pollinate or use distance, covers, or bloom time to separate those varieties

- 56 Save seeds from plants with the best traits to develop a strain that does best in your setting
- 57 Discuss roll of pollination for seed savers
- 58 Discuss creating new hybrids (controlled pollination, growing out seedlings, etc.)
- 59-62 Discuss proper seed storage, whether homegrown or commercial
- 63 True seeds are used to develop new potato varieties, but most gardeners grow potatoes from clones
- 64 Some plants set seed, but also may produce small arial bulbils that can be planted. Bulbils have the same genetic makeup as the parent, where seeds may have cross-pollination traits