



Propagation Protocols for Ericaceae Species:

Best practices for establishing native forest understory plants from seed

Vaccinium membranaceum



[1] [2] [3]

SEED HARVEST & PROCESSING

- BERRY HARVEST TIMING:** Late summer
- POST-HARVEST STORAGE:** Refrigerate briefly (a few days only) and process immediately to prevent mold
- SEED EXTRACTION:** Food processor with Plasti Dip-coated blades
- DRYING & CLEANING:** Air-dry for 24 hours between mesh screens using low-power fan; winnow to remove fruit debris.
- STORAGE:** Store in plastic bags with silica gel and refrigerate until desired sow date

SOWING

- SOWING DATE:** Late October–Early November
- METHOD:** Surface sown
- INITIAL SOWING CONTAINER:** Flat trays
- MEDIA:** Sphagnum peat moss
- SEED DISTRIBUTION:** 0.25 g seed per tray; mixed with 1 tbsp sand for even coverage
- WATERING:** Thoroughly moisten media before sowing; lightly mist seeded trays
- GERMINATION START:** April
- GERMINATION RATE:** 40%

TRANSPLANTING / UP-POTTING

- Note:** Handle roots gently at all stages; avoid aggressive disturbance.
- INITIAL SOWING CONTAINER DURATION:** Several years
- UPSIZED CONTAINER:** 7 ci cones
- 2ND UPSIZED CONTAINER:** 19 ci cones
- UPSIZED CONTAINER DURATION:** Several years
- FINAL CONTAINER:** Large band pots
- FINAL CONTAINER MEDIA:** Bark, compost, fertilizer mix

MAINTENANCE

- Grow in a shady area
- Maintain moist media and mist trays when peat begins to dry
- Monitor for Botrytis, powdery mildew, and caterpillars
- Remove fallen leaves manually in fall
- Perform corrective pruning as shrubs develop
- Apply 1 tbsp of slow-release fertilizer twice yearly (1-gal pots)
- Apply organic liquid fertilizer every other week during the growing season (all other container sizes)

Gaultheria shallon



[4] [5]

SEED HARVEST & PROCESSING

- BERRY HARVEST TIMING:** August–October
- POST-HARVEST STORAGE:** Refrigerate briefly (a few days only) and process immediately to prevent mold
- SEED EXTRACTION:** Food processor with Plasti Dip-coated blades
- DRYING & CLEANING:** Air-dry for 24 hours between mesh screens using low-power fan; winnow to remove fruit debris.
- STORAGE:** Store in plastic bags with silica gel and refrigerate until desired sow date

SOWING

- SOWING DATE:** Late October
- METHOD:** Surface sown
- INITIAL SOWING CONTAINER:** 7 ci cones
- MEDIA:** Sphagnum peat moss
- SEED DISTRIBUTION:** 4 seeds/cone (~0.15 grams per tray—98 cones)
- WATERING:** Thoroughly moisten media before sowing; lightly mist seeded cones
- GERMINATION START:** Mid-January
- GERMINATION RATE:** 98%

TRANSPLANTING / UP-POTTING

- Note:** Handle roots gently at all stages; avoid aggressive disturbance.
- INITIAL SOWING CONTAINER DURATION:** 1+ year in 7 ci cones
- UPSIZED CONTAINER:** 19 ci cones
- UPSIZED CONTAINER DURATION:** 1-2 years
- FINAL CONTAINER:** 1-gallon pots
- FINAL CONTAINER MEDIA:** Bark, compost, fertilizer mix

MAINTENANCE

- Maintain consistent shade and moist potting media, avoid wetting foliage
- Remove damaged or diseased leaves as needed
- Monitor for powdery mildew (common in summer and fall)
- Monitor for botrytis during winter
- Remove spotty or infected foliage promptly, and corrective prune as shrubs develop
- Apply 1 tbsp of slow-release fertilizer, top-dressed twice yearly (1-gal pots)
- Apply organic liquid fertilizer every other week during the growing season (all other pot sizes)

Rhododendron macrophyllum



[6] [7] [8]

SEED STORAGE & SOWING

- SEED STORAGE:** Refrigerate at 40 degrees F and 60% humidity, until desired sow date
- SOWING DATE:** Early-mid January
- METHOD:** Surface sown
- INITIAL SOWING CONTAINER:** 7 ci cones
- MEDIA:** Sphagnum peat moss
- SEED DISTRIBUTION:** 4 seeds/cone (~0.3 grams per tray—98 cones)
- WATERING:** Thoroughly moisten media before sowing; lightly mist seeded cones
- GERMINATION START:** Mid-March
- GERMINATION RATE:** 99%

TRANSPLANTING / UP-POTTING

- INITIAL SOWING CONTAINER DURATION:** 1+ year in 7 ci cones
- UPSIZED CONTAINER:** Large band pots
- MEDIA:** Sphagnum peat moss
- UPSIZED CONTAINER DURATION:** 1–2 years in large band pots

MAINTENANCE

- Maintain consistent shade year-round
- Keep potting media evenly moist
- Avoid wetting foliage
- Remove brown or sickly leaves as needed
- Apply liquid fertilizer every other week during growing season
- Do not use slow-release fertilizer

PHOTOS

- [1] Food processor with blades coated in Plasti Dip for mashing berries.
- [2, 4, 6] Seeds of each species, cleaned and prepared for storage and sowing.
- [3] *Vaccinium membranaceum* in 19 ci cones six years after seeding.
- [5] Maturing *Gaultheria shallon*
- [7] Cones with newly sown seeds covered with reemay cloth for protection.
- [8] *Rhododendron macrophyllum* and *Gaultheria shallon* one year after seeding.