Anemone Gemstone

Anemone coronaria

Plugs and Production

Anemone F1 Gemstone
Anemone coronaria

- *Offers bright, vibrant colors suitable for all occasions.*
- *Offers unique holiday promotion opportunities.*
- *Boasts a large flower size 4-5”/10-12 cm.*
- *Suitable for higher density production, bringing more profit for growers.*
- *Longer harvest window offers an advantage for growers by extending the shipment season.*
- *A true jewel among anemones, Gemstone produces over 20 flowers per plant, flowering under low light levels with no need for disbudding.*

Scheduling

Sow *288-128 plug tray*	Transplant	Forcing*	Flower Production**
Weeks 30-40	Weeks 36-49	Fast Cropping	Weeks 1-24*
59-68ºF / 15-20ºC	6 x 6” / 15 x 15 cm.	54-58ºF / 12-14ºC	

**do not exceed 75ºF/24ºC daytime or below 41ºF/5ºC nighttime.*

***dependent on climate and the ability to maintain optimum temperatures.*

Sowing

- Single sow seed into a 288 or 128 deep cell tray.
- Select a well-drained media with a good balance between water holding ability and aeration.
- A larger plug is less prone to being buried in the cut flower bed with overhead irrigation.
- Apply a light cover of vermiculite and drench with 100 ppm of Captan* to prevent disease.
- Crop Time:
  - 288 / 6 weeks
  - 128 / 9 weeks

*50% Wettable Powder

2.7 oz./100 gallons – 200 g./1,000L

Germination: Pre-Cooling

- Chilling the seed trays after sowing improves the germination percentage and uniformity.
- Place the trays in a germination chamber at 45-50ºF/7-10ºC for 10 days.
- After pre-cooling move the trays to a greenhouse or another germination chamber with lights and target a temperature of 59-68ºF/15-20ºC.

Germination Stage 1

- If the plug trays are not pre-cooled, place the trays in a greenhouse with a maximum of 2,000 f.c. / 22,000 lux and a temperature between 59-68ºF/15-20ºC.
- Keep the soil moist, but not saturated.
- Radicle emergence occurs within 6-7 days.

Germination Stage 2

- The cotyledons begin to form about 2 weeks after germination and are fully expanded by three weeks.
- Place the plugs in a well-ventilated greenhouse with low humidity to avoid disease problems.
- Provide a light level of 2,000-2,500-foot candles/22,000-27,000 lux.
- Optimum growing temperature is 59-68ºF/15-20ºC. Maintain the temperature below 75ºF/24ºC during the day and above 41F/5C at night.
- Fertilize 2-3 times per week at 50-75 ppm N using a well-balanced formulation such as 15-16-17.

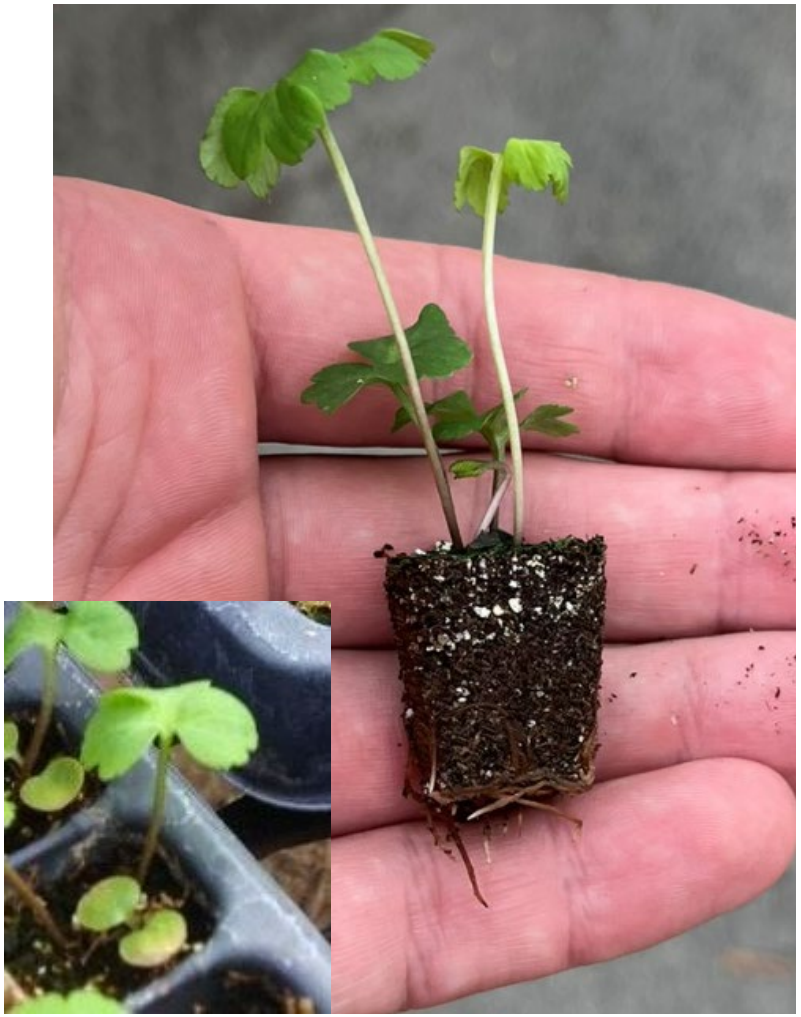
Germination Stage 2

- Anemone is sensitive to excess salts so water thoroughly to prevent a high EC and follow the guideline below.

- EC
  0.4 – 0.8 mmhos/cm (1:2)
  0.9 – 2.0 (SME)
  1.1 - 2.6 (Pour Thru)

Germination Stage 3

- The seedlings form a corm after the cotyledons fully expand.
- True leaves emerge from the corm below the soil.
- As the plugs begin to fill in the tray, allow the plants to dry down slightly in between irrigations to maximize root growth.
- Increase the fertilizer rate to 100-150 ppm N as needed to maintain healthy growth.
- Anemone roots are naturally brown in color.



Germination Stage 4

- Increase light level to 2,500-5,000 f.c./ 27,000-54,000 lux to acclimate prior to transplanting into cut flower beds.
- Apply extra phosphorus at this stage to strengthen the root system prior to transplanting.
- Plugs are transplanted into cut flower beds with 4-6 true leaves depending on plug size.

Bed Preparation

- When the plugs have 4-6 true leaves, they are ready to transplant into cut flower beds.
- Take special care in removing the plugs from the tray to avoid root damage.
- Anemones will respond best in a soil with good fertility, high organic matter, and excellent drainage.
- Optimum pH in soil-based media (natural earth) is 6.0-7.0.

Field Production?

- Outdoor production is best in cool, arid climates with a sandy loam soil.
- Anemone crops planted in open fields are more prone to root rot and petal damage from heavy rainfall.
- Higher outdoor light levels reduce flower stem length.
- A light shade is recommended to intensify the flower color.

Spacing

- Recommended spacing is:
- 6” x 6” (37 plants/yard^2)
- 15 cm. x 15 cm. (44 plants/meter^2)

- Ideal bed width is 3-4 feet / 90-120 cm. for easy harvesting of stems.

3 feet / 90 cm.

Establishment

- Maintain the soil somewhat dry at first to promote new root growth.
- After transplanting, establish at 60-65ºF/15-18ºC for one week.
- Anemone Gemstone does not require netting or disbudding.

Temperature

- After establishment in the cut flower bed, target the following temperatures for optimum growth.

Period	Temperature
Daytime	59-65ºF / 15-18ºC
Nighttime	50-55ºF / 10-13ºC

- Do not exceed 75ºF/24ºC daytime or below 41ºF/5ºC nighttime.

Temperature – Fast Cropping

- Under a photoperiod of 8-12 hours anemone flowers fastest between 54 and 58ºF/12-14ºC.
- Under a photoperiod of 16 hours* anemone flowers 4-5 days earlier.
- **A longer photoperiod also promotes flower stem elongation.**

**day length extension or night interruption between 22:00-02:00 hours.*

Watering

- Drip irrigation is best to prevent foliar diseases (botrytis, downy mildew and powdery mildew).
- If watering overhead, apply water early in the day and use fans and venting to dry the foliage quickly.
- Over watering results in root rots (pythium, phytophthora) so allow the soil to dry slightly in between irrigations.

Fertilizer

- Once new roots emerge, apply 150-200 ppm N from a well-balanced liquid fertilizer, such as 15-16-17, to promote healthy growth of the plants.
- Periodic applications of calcium nitrate are recommended to strengthen flower stems and plant tissue.
- Water thoroughly to prevent excess salts and follow the guide below. Excess nitrogen promotes overgrowth of the foliage.
- EC

  0.9 – 1.3 mmhos/cm (1:2)

  2.1 – 3.5 (SME)

  2.7 - 4.6 (Pour Thru)

Light

- Anemone grows best with 3,500-5,000 f.c. / 38,000-54,000 lux.
- Apply shading as needed to reduce excess heat from intense sunshine or to increase stem length in high light areas.
- Anemone Gemstone is day length neutral but develops faster under longer photoperiods and cool temperatures (54-58ºF/12-14ºC).

Pests and Diseases

Pests

- Aphids:
  encourage natural predators, ladybugs, strong stream of water to dislodge them, insecticides
- Mice/Voles:
  rodenticides, traps
- Spider Mites:
  avoid drought stress, predatory mites
- Thrips:
  weed control in and around greenhouse, natural predators, insecticides
- Whiteflies:
  weed control in and around greenhouse, natural predators, insecticides

Diseases

- Botrytis:
  adequate spacing and ventilation, drip irrigation
- TSWV:
  control thrips, eliminate weeds
- Downy and Powdery Mildew:
  water early in the day to allow foliage to dry, drip irrigation
- Rhizoctonia:
  set plugs at the soil line or slightly above in the cut flower bed, avoid overwatering and allow the soil to dry in between irrigations.
- Root and Stem Rots:
  well-drained soil, avoid excessive irrigation, disinfect tools

Dormancy

- High temperature (>79ºF/26ºC is the main catalyst for inducing plant dormancy.
- A longer photoperiod is a secondary factor, but only in conjunction with high temperature.

Seed vs. Corm Production

At an equal plant density, growers observe that over time seed-raised plants remain healthier and more vigorous throughout the crop cycle compared to corm-raised plants.

Flowering

- Anemone Gemstone begins to flower 12-14 weeks after transplanting based on plug size, temperature and light levels.
- Removing the first flowers, often with shorter stems, promotes larger and more vigorous plants. The duration of this practice depends on the plant size.

Benefit of Gemstone (seed)

- No need to soak and store corms.
- Seed is cleaner with less disease (virus).
- Seed-raised plants are more vigorous and flower over a longer flowering window for an extended shipping season.
- 4-5 inch / 10-12 cm. flower size
- High productivity (20-25 stems per plant) depending on climate.

Harvesting

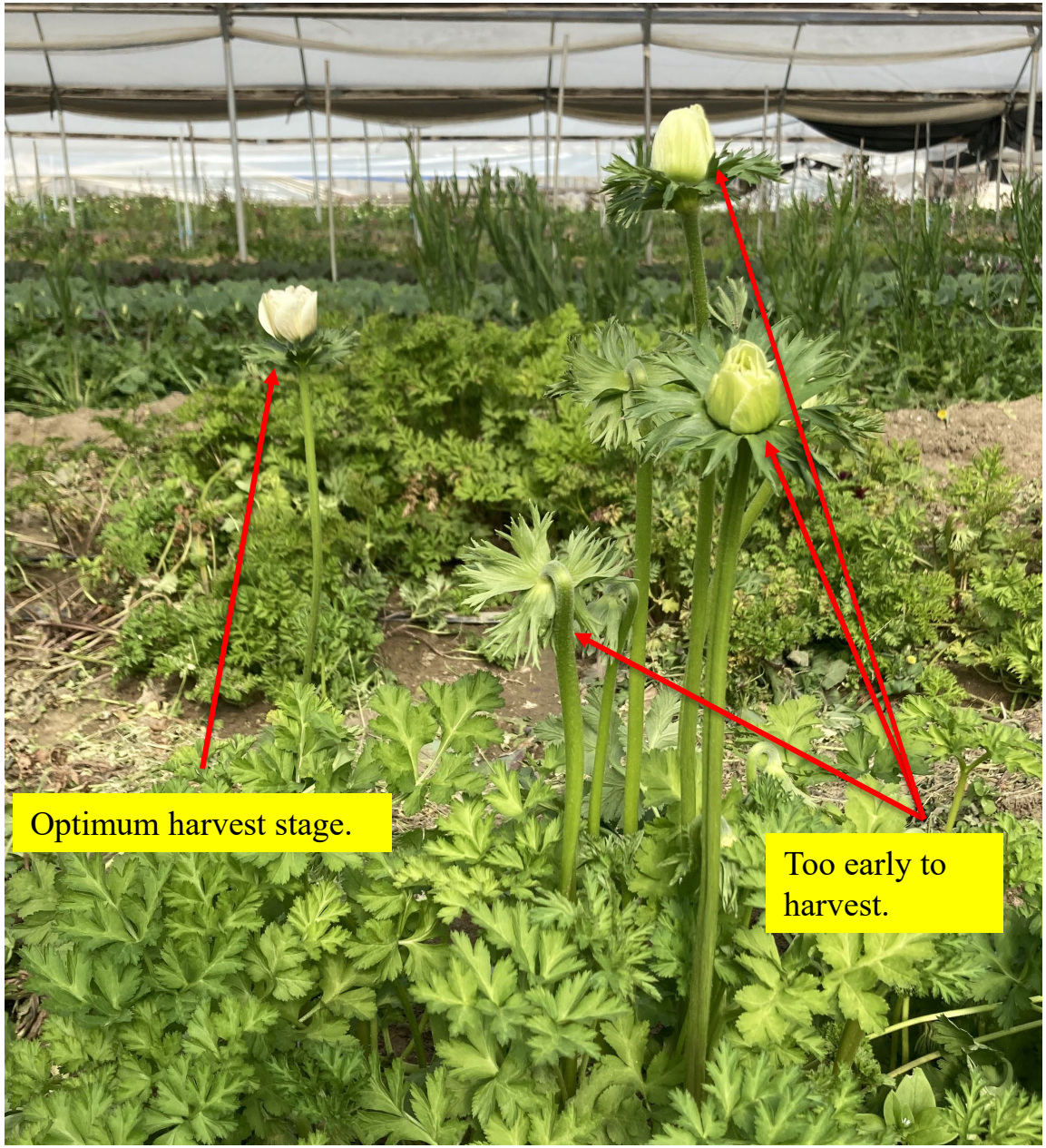
- Harvest when buds are fully colored.
- Cut early morning before 9:00 am when the temperature is cool, and the plants are well-hydrated.
- For local sales, some growers pick after the flower has opened and closed once. Others wait until the distance between the flower petals and pedicel (circle of foliage) starts to elongate before harvesting.

Harvest Stage

- As the flower ages, the distance between the pedicel and flower elongates.
- The ideal harvest stage is when the flower petals are fully colored and the distance between the pedicel and flower is ¼ - ½ inches / 0.6 cm – 1.25 centimeters.
- Harvesting too early, before the flower is properly formed, results in weak stems that easily break.

Past prime - Optimum

Ideal harvest stage with full color and ¼ inch/0.6 cm. distance between the pedicel and flower.



Post -Harvest

- Maintain stems in a 2 to 4% sugar solution or commercial holding solution along with a germicide to extend the vase life.
- Holding solutions specifically made for anemones are available.
- Recutting stem ends during each transfer extends the vase life.
- Anemone is sensitive to ethylene so treat with STS or 1-MCP prior to shipping.

Post -Harvest

- Only add enough water to cover the lower portion of the stems in the post-harvest bucket or consumer vase to prevent the stems from becoming mushy.

Post Harvest

- For straighter stems, keep the stems wrapped during rehydration.
- Store cut stems dry at 32-34ºF/0-1ºC for a week or in water at 38-44ºF/3-7ºC for 1-2 days.

Post Harvest Tip

- Do not combine daffodils with anemone in post-harvest buckets or in consumer vases.
- Daffodils exude a slimy substance in the water that plugs up the cut end of other flowers preventing them from absorbing water.
- Anemones and daffodils are both spring flowers and are often produced at the same time. However, it is best to display daffodils separately in its own vase.

Summary

- Pre-cool the seed after sowing at 45-50ºF/7-10ºC for 10 days to enhance germination and uniformity.
- If not pre-cooling the trays, target a temperature of 59-68ºF/15-20ºC.
- Apply Captan at 100 ppm to prevent damping off (see slide #3).
- Transplant on time to promote strong growth in the cut flower bed.
- No netting or disbudding is required
- Optimum production temperature is 54-58ºF/12-14ºC.
- Avoid a daytime temperature above 75ºF/24ºC or below 41ºF/5ºC.
- A longer photoperiod promotes earlier flowering and flower stem elongation.
- Drip irrigation is best to prevent foliar diseases.
- Fertilize at 150-200 ppm N with a well-balanced fertilizer and apply calcium periodically.
- Avoid overwatering to prevent root rots.
- Optimum light levels after transplanting are 3,500-5,000 f.c. / 38,000-54,000 lux.
- Harvest once the petals fully color and the flower begins to separate from the pedicel.
- Maintain stems in a 2 to 4% sugar solution or commercial holding solution along with a germicide to extend vase life.
- Only fill buckets and vases with enough water to cover the lower part of the stems to prevent the stems from becoming mushy.
- Treat with STS or 1-MCP before shipping to prevent ethylene damage.
- Store cut stems dry at 32-34ºF/0-1ºC for a week or in water at 38-44ºF/3-7ºC for 1-2 days.

Thank you for your support!

- *We thank you for your support and interest in our cut flower seed genetics.*

- **Sakata Seed America**