

Ballad™ F1 Helianthus (Sunflower)

This Petite Plant is Perfect in the Pot all Year 'Round!

- This F1 dwarf sunflower features bright, golden yellow flower petals with a dark center.
- Unlike other sunflower varieties, **Ballad™** has no messy pollen.
- Seasonal allergy sufferers will also like **Ballad™** for its “hypo-allergenic” qualities – no sneezes or sniffles will occur around this flower.
- **Ballad's** shiny, green foliage is very mildew tolerant.
- Makes a great gift plant.
- Contact your local distributor or call PanAmerican Seed at 800 231-4868 for ordering information on **Ballad™** helianthus.

H.annus (Sunflower)

Approximate seed count: 2,693 S./oz. (95 S./g)

Germination

Temperature

68° to 72°F (20° to 22°C)

Sowing

Seed can be directly sown into final container or in a plug tray with large cells. Cover with media, vermiculite or sand.

Germination is quick – usually 3 to 5 days – and **Ballad™** can germinate directly on the bench.

Light

Light is not required.

Plug Production

Media

Use a well-drained, disease-free seedling medium with a medium pH of 5.5 to 6.3 and a medium initial nutrient charge (EC 0.75 mmhos/cm with a 1:2 extraction).

Media Temperature

65° to 75°F (18° to 24°C)

Light

After germination, maintain light levels between 1,000 and 2,500 f.c. (10,000 to 30,000 Lux). As seedlings mature, light levels may be increased up to 5,000 f.c. (54,000 Lux).

Soil Moisture

Maintain medium soil moisture until the first true leaf develops. Then moisture levels can be reduced. Do not allow the seedling to wilt.

Fertilizer

At radicle emergence, apply 50 to 75 ppm N from 15-0-15. As the cotyledons expand, increase fertilizer to 100 to 150 ppm N.

Growth Regulators

None are required.

Growing On To Finish

Container Size: 5 to 6-in. (13 to 15-cm) pot, 1 plant per pot. For winter production, a smaller container (4.5 in./12cm) can be used since plants do not grow as big under short days and low light.

For summer and fall, larger containers (gallons) can also be used and result in larger plants with larger flowers and more prominent secondary flowers. Gallon containers with 3 plants per pot can also be grown. Containers with multiple plants will have smaller flowers than the same size container with only one plant.

Media

Use a well-drained, disease-free soilless medium with a medium initial nutrient charge and a pH of 5.8 to 6.5.

Temperature

Night: 65° to 68°F (18° to 20°C)

Day: 65° to 75°F (18° to 24°C)

The warmer the temperature, the faster crop time under the same growing season. The actual crop time depends on the temperature and time of year plants are grown (see notes under **Daylength**).

Light

Light level should be as high as possible while maintaining the recommended temperatures. High light gives **Ballad™** a stronger stem, larger primary flowers and more secondary buds.

Daylength

Ballad™ can be flowered year round.

Photoperiod trials have shown that **Ballad™** flowers 1 to 2 weeks faster under 10 hour days than 14 hour days. However, cooler temperatures associated with short days can result in a longer crop time, as noted under **Crop Scheduling**.

If assimilation lights are used during short days and also extend the daylength, the crop time will increase by 1 to 2 weeks depending on the actual daylength provided. Conversely, crops grown during the summer can be black clothed to create 12 hour days. This will decrease the crop time by one week during the summer.

Irrigation

Do not overwater. Allow the medium to moderately dry, then water thoroughly. Avoid watering in the late afternoon as the foliage will stay wet during the night and create an environment favorable for powdery mildew.

Fertilizer

Fertilize once a week at 200 ppm N with a high content of potassium. The optimal fertilizer ratio of N:P:K:Ca:Mg is 8:1:10:4:2. Stop fertilizing about 10 days before flowering.

Growth Regulators

No PGRs are required under short-day conditions. Under short days and cooler growing conditions, plants will grow 8 to 12 in. (20 to 30cm.) tall.

Under long days and warmer growing conditions, plants will grow up to 20 to 24 in. (50 to 60cm.) tall. To control height, spray with B-Nine at 2,500 to 5,000 ppm 2 to 3 times with the first application starting 14 days after transplanting. Another option is to use a single Bonzi drench at 3-5ppm 14 days after transplanting.

PGR treatments will delay flowering about one week.

Pinching

Pinching is not recommended.

Pinching trials have been conducted. Removing the terminal bud shortly after initiation results in 4 to 5 small flowers arranged in a circular pattern at the top of the plant. Pinching does not produce a better product.

Crop Scheduling

Sow to Transplant (200-cell plug tray): 2 to 3 weeks. Add one more week for larger liners.

Transplant to Flower: Summer/Fall: 7 to 8 weeks; Winter/Spring: 8 to 9 weeks.

For Northern Europe: Spring/Summer: 8 to 9 weeks; Winter/Early Spring: 10 to 12 weeks.

Common Problems

Insects: Aphids

Diseases: Powdery mildew – However, **Ballad™** is much more resistant to powdery mildew than other commercial varieties.

PanAmerican Seed

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