



Doronicum Leonardo™ Compact

Culture Guide

Botanical name: *Doronicum orientale*

Product form: Seed

Containers: Quarts, Gallons

Habit: Mounding

Vernalization: Required

Garden Specifications

Garden Height: 8–10" (20–25 cm) tall

Garden Width: 6–8" (15–20 cm) wide

Exposure: Full sun

USDA zone: 4–7

AHS zone: 8–1

Product use: Containers, Landscapes, Combos

Germination

Stages 1 & 2

Germination time: 14–21 days

Media temp: 65–70 °F (18–21 °C)

Chamber: Optional

Light: Not required for germination

Seed cover: No

Moisture level: 4 - WET: Soil is dark brown but not shiny, no free water is seen at the surface of the soil, when pressed or squeezed water drips easily, and trays are heavy with a visible bend in the middle.

Rec. tray size: 288–cell tray

Seeds per cell: 3

Young Plant Production

Stage 3 & 4

Temperature

Day: 66–68 °F (19–20 °C)

Night: 64–68 °F (18–19 °C)

Average daily temperature: 66 °F (19 °C)

Lighting

Day extension lighting: Not necessary

Light intensity: 200–250 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ for the first two weeks after sowing or until true leaf development occurs. Light levels can be increased up to 600 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ as rooting increases and the seedling matures.

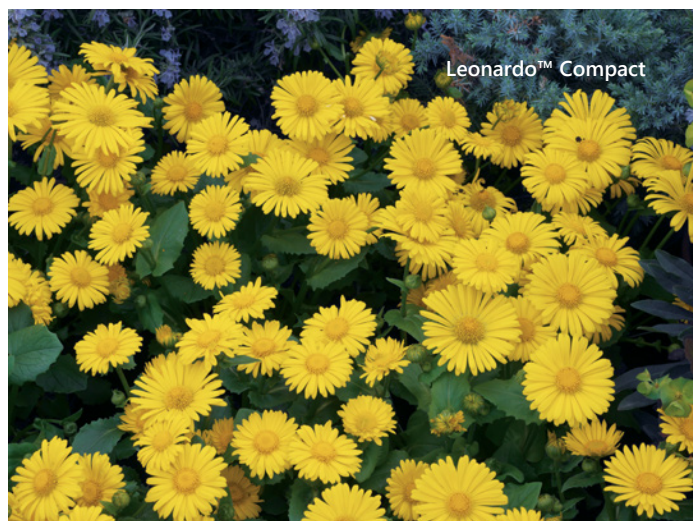
Day length response: Day neutral

Daily light integral: 10–12 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

Media pH: 5.8–6.2

Media EC: SME 0.9 to 1.3 mS/cm

Fertilizer: 75–125 ppm N



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Moisture level: Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 3.

2 - MEDIUM: Soil is light brown in color, no water can be extracted from soil, and soil will crumble apart.

3 - MOIST: Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

Pinching: No

Plant growth regulators (PGRs): Not necessary

Plug grow time: 7–8 weeks in a 288–cell tray

Bulking and Vernalization

Vernalization: Required

Bulking

Bulking Time: See Scheduling Section

Temperature: 60–62 °F (16–17 °C)

Pinch: No

PGR: Not necessary

Vernalization

Vernalization Time: 6–10 weeks

Temperature: 35–45 °F (2–7 °C)

Tech tip: Do not allow plant to dry out during the vernalization period or risk losing containers to desiccation.

Finishing

Temperature

Day: 66–68 °F (19–20 °C)

Night: 62–64 °F (17–18 °C)

Average daily temperature: 65 °F (18 °C)

Lighting

Day extension lighting: Not necessary

Light intensity: 1,200–1,600 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$

Day length response: Day neutral

Daily light integral: 10–12 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

Transplanting: Transplant directly into the finished container. Place the rooting media slightly above the level of media in the container. Make sure that the root ball is covered and that the plug is situated in the center of the pot.

Media pH: 5.8–6.2

Media EC: SME EC: 1.5–2.1 mS/cm, PourThru EC: 2.3–3.2 mS/cm

Fertilizer: 75–125 ppm N

Pinching: No. Pinching is not recommended or needed.

Plant growth regulators (PGRs): If necessary, a Bonzi® (paclobutrazol) spray at 30 ppm can be used to control growth. Apply PGRs as the flower stalks are just beginning to elongate above the foliage. One to two applications applied seven days apart should provide adequate height control.

Tech tip: Allow plant to dry slightly between irrigations but do not allow to wilt as they can be difficult to recover.



Try Chrysal Alesco®, a postharvest foliar spray, to protect ethylene sensitive crops during shipping and retail.

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2 - MEDIUM: Soil is light brown in color, no water can be extracted from soil, and soil will crumble apart.

3 - MOIST: Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

Common pests: Aphids

Common diseases: Botrytis, Powdery Mildew, Pythium

Scheduling

Size	Crop Time			Plants Per Pot
	Bulk	Vern.	Finish	
1.0 quart (4.5 to 5 inch)	5–6 weeks	6–10 weeks	7–8 weeks	1 ppp
1.25 to 2.5 quart (5.5 to 6.5 inch, trade gallon)	6–7 weeks	6–10 weeks	8–9 weeks	1 ppp

Estimated finish crop time is from transplant of a 288-cell tray and finished at an average daily temperature (ADT) of 65 °F (18 °C).

Example crop schedule for a 2.5 quart

Weeks From Transplant	Description
1 week	Transplant one plug into the center of the container, ensuring that the plug does not go below the soil level of the finished container
6 weeks	Finish the bulking period, lower the growing temperatures to 40–50 °F (5–10 °C) to start the vernalization process
12 weeks	Increase temperatures to 65 °F (18 °C) to start forcing the crop into flowering
14 weeks	Scout for any foliar diseases and treat if necessary
20 weeks	Finish

