

CYCLAMEN SEED GERMINATION¹

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Cyclamen seed germination is often slow and erratic. Good prompt seed germination is important for several reasons. First, fast germination is necessary for fast production of flowering plants. A month can easily be wasted through slow germination. The slowest germinating seed usually produce weak, small plants. Second, uniform germination is important to uniform growth and flowering. Third, seed is costly and 50 percent germination, in effect, more than doubles the cost.

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The following basic suggestions are offered to help achieve fast, uniform cyclamen seed germination:

1. Seed should be as fresh as possible. Storing seed for long periods before use will probably significantly lower the germination percentage.

2. Sow seed 1/8 to 1/4 inch deep in flats filled with moist, nutrient enriched moss peat². If seed is sown too deep, seedling emergence is delayed and the corm's growing point may be below the soil surface. If seed is sown too shallow, the seedling's root system may not be properly anchored.

3. Environmental conditions: cyclamen seed germinates best in complete darkness at 65°-68° F. with fairly high humidity (70 percent), and good air circulation. Such conditions are more readily obtained in a basement room or dark chamber (it can be air conditioned) than in a greenhouse. Flats can be stacked one on top of another if separated by small wood sticks to provide air space between them. The peat should be kept moist. If it becomes too dry, germination will be delayed, whereas excessive moisture cuts down on the oxygen supply, also hindering germination. When the peat surface begins to lighten in color, the flats should be watered. Usually one or two waterings are needed during the germination period, depending on air circulation and humidity.

4. Disease prevention: cyclamen seed are susceptible to attack by Botrytis and other fungal pathogens. Fungus infection can be minimized in several ways. The germination chamber should be disinfected if possible. Wood or plastic flats can be disinfected with sodium hypochlorite or a similar disinfectant, but the disinfected flats should be washed with clean water as the disinfectant may inhibit germination. If freshly sown seed flats of wood are allowed to stand in a well-ventilated area for 4-5 hours, the sides and bottoms of the flats can dry out, thus lessening the possibility of fungal growth on the germinating medium. The germination chamber floor and walls should be dry, since excessively high humidity encourages fungal growth. An air temperature above 70° F. not only inhibits germination, but appears to encourage fungal growth; therefore the temperature should not rise over 70° F. If fungal growth does develop in spite of precautions, a fungicide such as benomyl, used as a soil drench (1 tbsp/2 gal.) provides good control of fungal growth. Captan is not recommended, since it may inhibit germination, especially with high rates or repeated applications.

5. Fertilization: seed sown in nutrient-enriched peat with a relatively low nutrient content² germinates well. No liquid fertilization is needed until 2 months after sowing.

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Nutrient additions to peat

Material	grams* per bushel	* 28.35 grams = 1 ounce
Ground limestone	200	
Magnesium sulfate	20	
Calcium nitrate	6.25	
Potassium chloride (0-0-60)	4	
Superphosphate (0-20-0)	12.5	
Osmocote (14-14-14)	16	
Peter's fritted trace element mix	0.7	

6. Germination time is approximately 1 month. Since the seed is germinated in the dark, the flats must be removed from the dark promptly when a significant number of seedlings are evident. The small seedlings should be protected from direct sunlight for a few days after germination and in late spring and summer. Placing them in the humid atmosphere of a propagation house for the first few weeks is preferable.

7. Cultivars make a difference. Not all cultivars germinate equally but age of seed also appears quite significant. Some sources recommend seed over 6 months and under 2 years in age.

When these suggestions are followed, cyclamen seed should germinate quickly and uniformly; this is an important prerequisite to producing cyclamen plants efficiently.