

The background of the entire page is a close-up, soft-focus photograph of white Gypsophila (Baby's Breath) flowers, showing numerous small, rounded flower heads.

2017  
2018

**Pearls® Petite**  
*Gypsophila*  
**Technical Guide**

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# pearls® *Petite*

Ideal for the bouquet production



Gypsophila paniculata is a plant with long days requirements. It is a perennial plant from Europe and Asia. It belongs to the Caryophyllaceae family and it is used as a cut flower. Its gender name comes from its affinity to dry and limestone soils.

## Morphology

It is a plant of radicular deep system, forked branches, opposed leaves, and spike - like leaves in each knot. The leaves begin to lessen size from the base of the plant to the base of the inflorescence. It consists of a main stem with a series of lateral stems ending in branches with a nosegay of white flowers at the end.

## Characteristics

The stem weights between 13 and 30 g with a height of 65 to 90 cm. The more the light, the heavier and the taller it becomes. It is a small flower and it has small leaves easy to peel. Its cycle is of 14 weeks at the beginning of the planting and 16 weeks at its harvest point since planting (under tropical conditions). It is very productive, giving 10 to 13 stems per average plant.

## Weather

Its ideal temperature should be between 15 and 17 °C, nevertheless it can tolerate temperatures of a minimum of 12 to 15 °C and a maximum of 20 to 25 °C. Relative humidity should be between 60 and 90 %.

**Soil:** It requires good drainage and ventilation, pH between 5.5 to 6.5 and maximum salinity of 2.00 and 2.50 mmhos/cm<sup>2</sup>. It is recommended that the soil have a high content of organic material.

## Vernalization

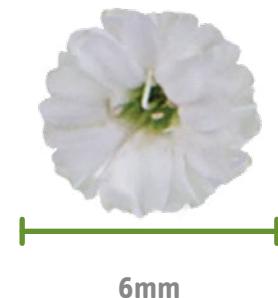
It is the introduction of cuttings in cool rooms. Temperatures should be between 0 to 1 °C and it should have a relative humidity of 85% for better induction and less cycle, due to its metabolism change of sugar and growth regulators.

**Before planting:** compost, dolomite lime and agricultural gypsum should be applied according to the soil analysis if it is needed.

## Sowing

Cuttings should be planted at early morning hours, the soil should be at field capacity and the stems should be left over the surface maintaining the foliar area wet to avoid dehydration. Cuttings are usually planted in double row per bed at a density of between 6 to 8 plants per m<sup>2</sup>. Sowing distance should be between 25 to 30 cm between plants.

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## Pinch

The apex of the stem should be removed, eliminating 4 to 5 pairs of leaves (where the internode is longer, counting from top to bottom) the idea is to stimulate the development of shoots and the body of the plant. Such practice should be done between the 4 th and 5 th week (in case plants are slow, it could be done on the 6th week), expecting plants to have a better rooting and a better vigor.

The way you pinch a plant determines the performance and quality of the stems, a pinch too high is going to give you a lot of stems but very thin ones, and a pinch too low is going to give you thicker stems but in less quantity.

## Irrigation

Humidity should be handled between field capacity and fairly dry.

1 week: Water the plants with drench to avoid harming the leaves.

2 week: Use drip irrigation, spraying irrigation between 200 to 300 cm<sup>3</sup> water per plant depending on soil humidity conditions and temperature (drip irrigation of 2 to 2.5 L/hour each 30 cm, one row per bed and drip emitters should be in between the plants not over them to avoid root asphyxia and rottenness). It is important to maintain humidity at field capacity in the early growth stages, at the moment of panicle formation irrigation should be reduced to 50% and one week before the harvest to a 30%. Then, the quantity of water to be applied will depend on the characteristics of the soil, weather, and plant growth. Irrigation should be suspended one week before pruning and renew it one week later.

## Fertilization

When setting up a fertilization program several factors should be taken into consideration; type of soil, weather conditions, facilities and foliar. The use of chemical fertilizers should be strengthen during growth period, starting on the second week and finishing when the flower begins to have color. On the first growth stages applications should have high content of phosphorus and nitrogen and on the last stages, a high content of calcium should be applied, (this plant requires high content of calcium) and potassium. Foliar applications are necessary and on the 9 week one application of monopotassium phosphate should be given.

If stems become glazed, the use of calcium, boron and zinc is recommended. When the panicle is being formed application of foliar magnesium is recommended to enhance the opening.

### Light

6 weeks is recommended depending on the plant development, light is more important than Ginga-way. Light should be started at pinch or stripping, and it is removed according to plant development. Another option is to do the pruning and set the light immediately, the decision is up to each farm. Cycles of on and off every 15 minutes are used (with a minimum of 10 foot candles) reaching 3 to 4 effective hours. Light affects induction and bloom till the panicle appears. Light should be removed when 80% of the plants have panicles.

### Gibberellic Acid

2 applications and a selective one (in case plants are slow) a dosage of 150 ppm and 250 ppm, first application one day after pinch or stripping and the second one in 10 days. Change of color (dark green to light green) determines if a selective application in some plants is needed. Gibberellic Acid applications should be administered at early morning hours and within cool temperatures.

### Cultural Practices

Scarifying after pinching is important to enhance oxygenation of the roots. Stringing should be done when plants reach 40cm to 50 cm in height, in 3 beds in order to obtain rigid stems, due to the constant growth of the plant.

### Plagues and Diseases

Minador and Botrytis sensible, it is important to perform chemical applications according to monitoring.

### Cut off point

Cuttings can be done in two different ways :

Closed cuttings (avoids the possibility of damaging the flower and of getting Botrytis) fourth opening cuttings of 24 to 27 c and relatively high humidity are recommended. Maximum cuttings of 60% and 80% (possibility of Botrytis and senescence in the plant) cuttings must be done with sterilized pruners and in early morning hours to avoid flower dehydration.

## **Post-Harvest:**

Blending different commercial brand liquid solutions is not recommended.

### Florissima:

- Florissima 125 dosage 20cc/ 1 L water (70 - 90 ppm aprox.) A minimum of 2 hours and a maximum of 4 (2 hours should be enough)
- Florissima 325 dosage 50 cc/1 L water. A minimum of 2 hours and a maximum of 24 hours. Do not add sugar.

### Chysal:

- Hydration 1: Chysal AVB 1 cc (flonicamid silver), AVB booster 1 cc /L in the new presentation or 0.5 /L in the old one (it diminishes PH and controls bacteria.)
- Hydration 2: FVB 2 cc/L + white sugar 40 to 80 g/g/till desired opening .

### Ever Flor

- Initial Solution: Ever Flor (Ever Flor Universal 0.25 cc/L + Ever Flor chlorine 0,2 cc/L + citric acid 0,1 gr/L+ white sugar 60 gr/L)
- Filling solution: Ever Flor (Ever Flor Universal 0,25 cc/L+Ever Flor chlorine 0,15 cc /L + Citric Acid 0,1 gr/L + white sugar 30

## **Pruning**

Since it is a 1 cm stump, it isn't recommendable to do the cutting at the base because it will lose when sprouting. Pruning should be done with pruners, clean cuts without tears.

After pruning; all vegetable waste should be removed and a fungicide should be applied to seal the cut.

### Stripping or Thinning

Should be done 3 to 5 weeks after pruning, depending on sprout development. It consists of eliminating lateral sprouts with no flower, or the less vigorous ones.

### Advantages

Less plant loss, more weight and rigidity of the stems, wider diameter in lateral stems, more productivity (between 20% and 30%), better sprouting, less cycle (3 weeks earlier) more concentrated spam production (in less weeks) easy to cut, efficient in stem peeling, good opening, makes a good bouquet (thick corsages) good vase life (up to 15 days)

*"The information here given, establishes a general guideline of the harvest, it isn't intended as a rule, therefore necessary adjustments are recommended according to weather conditions, characteristics and practices of each farm."*





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