



2017
2018

Premier Ball
Dianthus barbatus
Technical Guide

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we love to grow



Premier Ball

Dianthus barbatus

Premierball Sunderland

Dianthus barbatus is a perennial plant. It is a lovely variety of the *Dianthus* species. Having stems of 70 to 90 cm high, with a 10 to 13 cm head flower diameter, in very intense colors; red, pink, white and also bicolor. It has a production cycle of 10 to 12 weeks (under tropical conditions). It can vary according to weather conditions, and sowing latitude. It grows better in deep, organically rich and well drained soils; the hydroponic alternative is a very viable one.

Production

Planting density: 20 to 24 plants per square meter. Rich well drained, with good aeration, not much humidity, and a PH between 5.8 and 6.5 organic soils are required.

Hydroponic farming is also possible as long as there is an appropriate use and quality of the substrate used, and a well management.

It is in this first stage that the plant presents a higher demand on nitrogen, thus, it is recommended to do applications of calcium nitrate CN (NO₃) 2 per 200 ppm. The use of a net in 2 to 3 levels is recommended to guide the stems along the growth of the plant. Between week 6-7 or/and after reaching a height of 10 cm or 8 pairs of leaves well developed, the pinch should be done on the third internode or 3 pairs of leaves removing the apical growth meristem.

Once the plant has formed body; stems begin to come out. To obtain better results and better quality; it is important to make a selection leaving 5 to 7 (depending on the quality and market) stems in the plant, it is this moment when the plant requires more and better light exposure, this to assure good stem development and height.

The cycle of *Dianthus Barbatus* is between 10 to 12 weeks (tropical conditions) according to weather conditions in the area where it is being grown.

In the north hemisphere the cycle could change according to each season of the year; basically 8 weeks faster than carnations.



Mother plants and harvests of cuttings of the Dianthus Barbatus



Rooting cuttings 15 -18 days



Premierball Everton

Fertilization

The *Dianthus Barbatus* specie presents an extremely high demand of nitrogen in the first fenologic stage; nevertheless an excess of nitrogen means more sensibility to sicknesses and an increase of shoots. Nitrogen applications should be done twice per week at a dosage of 180 to 220ppm based on nitrates.

Phosphorus is also important at the first stages of growth, it potentiates the growth of the stem and roots, ammonium phosphate is also recommended to add N (18-46-0)

Potassium to enhance the aspect of the Dianthus and to increase the vigor of the plant, (enzyme activator) at a dosage of 22 ppm. The essential boron for the normal growth of the plant, promotes appropriate cell division, cell elongation, cellular wall strength, pollination and flowering. The frequency of application should be watched for, due to its very residual element. Dosage 1.5-2.0 ppm



Tutored tights



Distribution planting

Macronutrients

Grown plants:

apply fertilizer based on calcium at 100 ppm, once or twice per week. *Dianthus Barbatus* plants require an adequate amount of calcium in its fertilization program.

Plants which have just formed their roots:

apply in average 200 ppm of K, it should be applied through irrigation. A good level of potassium should enhance the aspect and vigor of the plant.

Micronutrients

Most required micronutrients by *Dianthus Barbatus* are: **iron, zinc, copper, magnesium, molybdenum, and boron**, in case of need, they should be applied via leaf, taking advantage of any phytosanitary at approximately 80 ppm.






Growth regulator

Gibberellic acid for growth enhancement in length and dry material; it promotes weight increase in the flower and a higher quantity of petals. Once the plant is in the process of developing its stems at approximately 60 cm long and or 8-10 weeks of cycle; application of Gibberellic acid is recommended, dosage 300ppm.

Cultural recommendation

Preventive programs such as:

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Fusarium (*Fusarium oxysporum* F. sp. *Dianthi*)
 Produces important damage that goes up from the bottom to the top, it is usually located close to the stem base. At the beginning roots remain intact, but later on they rotten, causing the neck to break as the plant is removed, leaving part of the roots in the soil. It is controlled with irrigation, by watering the plant base extremely well, with fungicide solved or sprayed.
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Miners (*psedonapomyza dianthicola*)
 its larvae form leaf mines in the leaves, producing weakness and commercial depreciation of the carnations. They can also be controlled by applying different systematic pesticides.
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Trips (*Frankliniella occidentalis*)
 because of tiny size, they enter the flower buds easily, they feed (from petals and pollen) triggering discolorations in the edges of the petals. They can be controlled by applying different systematic pesticides.





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