

5. Contact details

Division: Ornamental Plants
Directorate: Plant Production
Private Bag X250
Pretoria
0001
Tel: +27 12 319 6072
Fax: +27 12 319 6079
E-mail: dpp@daff.gov.za



Carnations



2011

Layout, design and printing by
Directorate Agricultural Information Services
Department of Agriculture, Forestry and Fisheries



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Classification

Family:	Caryophyllaceae araceae
Genus:	Dianthus
Species:	Caryophyllus
Common name:	Carnation
Origin:	Europe and Asia and to some extent North Africa, but was most commonly known in France and Italy

1 Climatic and soil requirements

1.1 Temperature

Carnations prefer cool weather, in which they can develop better colour and stronger stems. Since it is a half-hardy perennial, for ideal growth it requires cool summers and maximum sunlight during winter. The ideal night temperature is between 10 °C and 12 °C, and the best day temperature is between 22 °C and 25 °C.

1.2 Soil

Carnations thrive best in porous, well-drained soils which will provide enough oxygen at root level. They prefer sandy soils with some addition of well-rotted compost, manure or peat. The optimum soil depth is 1 m and a pH of between 5,5 and 6,2 is required.

1.3 Planting

or cut-flower production, plants must be grown under some form of protection, the minimum re-

quirement being a 30% shade-net structure or a well-ventilated plastic tunnel. Planting density should be 28 plants to 32 plants per square metre for field planting.

Electrical conductivity of the soil is essential for carnation production; it determines the growth stem of the flower. It should be maintained at 1,2 mS/cm and later raised to 1,5 mS/cm: EC levels that are too high tend to produce thin, grey, tough-stemmed growth, while EC levels that are too low produce soft, pale growth.

1.4 Irrigation

The water need for any crop will depend upon cultivar – one variety may need less water than the other. This is also true for carnations.

The best irrigation system that is good for carnations is a drip system which will keep the foliage and flowers dry.

An overhead irrigation system can be used only until the flower buds are visible.

Insufficient water will result in poor-quality blooms.

2. Pests and diseases

2.1 Bacterial wilt

Causal organism: *Pseudomonas caryophylli*

Symptoms: Wilting of branches or entire plant

Control: Since it is a soil-borne bacterium, it can be controlled by steam pasteurizing of the medium.

2.2 Green peach aphid

Green peach aphid, *Myzus persicae*, is the most serious insect pest on carnations; it reduces plant vigour.

3. Ornamental uses

3.1 Carnations (*Dianthus caryophyllus*) are among the most popular florists' flowers.

3.2 As long-lasting flowers, carnations are very popular as boutonnières, in corsages, bouquets, and a wide range of floral arrangements.

4. References

Wikipedia.org/wiki/Dianthus-caryophyllus
www.gardenersnet.com/Flower/carnation