

Peony Production

Factsheet 19/20

The herbaceous peonies are the most useful for cutting and have increased in popularity in recent years owing to their hardiness, large size, colour and fragrance of flowers.

Peonies are a perennial plant grown outdoors or under protection as they require a cold period (50 nights below 5C) for successful cultivation. Peony rootstocks for cut flower production are available from late autumn to early spring. The area in production in Ireland is currently small - the Netherlands remains a major producer of cut flower peony with peak production in May- June.

SITE

While a south-facing aspect is desirable it is not essential. The south east of Ireland appears to be a very suitable production area due to the drier climate. Shelter belts are also beneficial to prevent wind scorch on young shoots but ensure the crop is not over shadowed and has sufficient sunlight.

SOIL & PH

Medium to heavy deep clay, well drained soils are best but will grow on a wide range. Ph of 6.0-7.0

SYSTEM

The crop is generally planted on a single ridge but can also be planted on the flat if the soil is free draining.

VARIETIES

Varieties for cut flower production are available in various colours including pink, red and white.

Colour	Cultivar	Form	Timing
White	Duchess de Nemours	Double	Medium
Pink	Monsieur Jules Elie	Double	Early
	Sarah Bernhardt	Semi double	Late
	Alexander Flemming	Double	Medium
Salmon orange	Coral Sunset	Double	Early
Red	Karl Rosenfield	Double	Medium
Dark Red	Command Performance	Double	Early



Different shades of pink are amongst the more popular varieties. The deep pink double variety 'Monsieur Jules Elie' pictured below left is growing in popularity for early season production. The pale pink double 'Sarah Bernhardt' (below centre) is a main crop variety and the most widely cultivated. 'Duchesse de Nemours' (below right) is the main cultivated white double variety.

NUTRITION

Prior to planting a soil analysis to determine the level of nutrients in the soil (particularly Phosphate (P) & Potassium (K)) and the pH is advisable. If available, prior to planting some growers use farmyard manure at a rate of 4-5 tonnes/ha. A balanced compound should be used as a top dressing in the spring. The judicious use of nitrogen will result in good growth response in spring and up to 150 kg/ha of Nitrogen can be applied to a mature crop.

Trace elements including Magnesium and Calcium are used to maintain good plant health.

Nutrient	Rate per Ha (Kg)
Nitrogen (N)	150
Phosphorus (P)	100
Potassium (K)	200
Magnesium (Mg)	100
Ref: <i>Greenworks NL</i>	

PLANTS

Source of plant material to crucial to success and rootstock is available from specialist producers in Holland.

Propagation of Peony is by division of the roots in the Autumn. Roots are split leaving rootstock with 2-3 eyes.

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PLANTING & SPACING

80 cm * 80 cm (1.5 plants/ m²) leaving a tramline every 10 m – 12 m to facilitate management and harvesting operations.

Planting normally in late Autumn to allow good root establishment before the winter. Do not set too deep (30-35 mm of soil over the crowns is sufficient).

CROP SCHEDULING

Depending on the variety, peonies normally flower from late May through to late June. Earlier flowering can be achieved through protected production under glass or spanish tunnel.

The use of fleece mulch can bring forward the outdoor crop by at least a week. Timely removal of the fleece is critical so as not to impair stem quality.



WEED CONTROL

It is critically important to keep plantations free of weeds. It is critical that the site has first been cleared of perennial weeds by spraying off, using for eg. *Glyphosate* (Roundup) or *Carfentrozone-Ethyl* (Spotlight plus). Residual herbicides with label recommendation include *Pendimethalin* (Stomp Aqua) and *Metazachlor* (Butisan S). Check with your adviser for updates on herbicide recommendations.

AUTUMN CLEAN UP

Foliage is normally cut down in the Autumn when it turns a brown colour and not before. Cut to 10 cm of ground level and dispose of foliage. A clean up herbicide such as *Carfentrozone-Ethyl* (Spotlight Plus) can be used to maintain plantations free of weeds.

PESTS

Slugs – can be problematic particularly in wet springs with damage occurring on the new shoots as they emerge. They can persist if the growing season remains humid and wet. Control can be achieved by the use of products based on metaldehyde or ferric phosphate. Both are equally effective in combatting slugs. There are many metaldehyde brands to choose from whereas ferric sulphate is available as Sluxx.

Rabbits/hares – it is essential to take precaution before damage occurs from this pest. Fencing is justified where they are a problem.

DISEASES

Stem and bud Botrytis is the main disease issue.



The disease can become established on foliage and stems usually during April and can extend to the flower buds as they develop rendering them unmarketable. Look out for the typical grey lesions on the undersides of the buds as in the picture. Varieties can vary in susceptibility. Commence a fungicide programme of control after emergence in the spring and maintain throughout the growing season through

harvest and extend out to early Autumn. Alternating protectant fungicides such as *boscalid* + *pyraclostrobin* (Signum) or *azoxystrobin* (Amistar) with the systemic fungicide *cyprodinil* & *fludioxonil* (Switch) which all have full label recommendations should maintain a clean disease free crop. A well managed autumn clean up can also help with Botrytis prevention.

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HARVEST



Harvesting of peonies takes place from late May/late June – the flowers are ready when the bud feels soft to touch and the first petal (flag) is just showing signs of colour and lifting. Cut off preferably above the first set of leaves from the base remembering that to rehabilitate the plant for next years production, a good cover of leaves must be left. Generally stems are cut early in the morning and moved to the cold store as quickly as possible to maintain quality. Buds must be dry on harvesting. Once in store the stems are graded removing the lower spare leaves leaving 2 or 3 sets on the stem. Generally sorted into lengths 50-60 cm & 60-70cm. Stems are bunched in 5's of the same sizes. Chill at 1-3 0C. Peonies can store dry for up to 3 weeks in a cool store. Prior to shipment, they are put into boxes with 50 stems per box.

YIELD & RETURNS

Given that Peony is a perennial crop it has a long production time of 20-25 years it normally takes 3 years after planting for the first commercial cropping. This is due to the time required for the plant to 'bulk up' and produce new roots and buds (eyes). New plants produce 3 – 5 stems in the second year with full cropping potential reached by year 5 when 8-12 blooms are produced from a well managed crop (120,000 blooms/ha). Growers can expect 35ct – 40ct per stem depending on market and quality grade. From an initial investment of €12,000 per ha, a gross return of €42,000 per ha is achievable from the fifth year onwards. Net return can be in the region of €24,000 per ha.

