# **Care of peonies**

# **Planting time**

October is the month for planting peonies. Peonies are only harvested and processed early in the natural rest period: from mid-September to mid-November. In this way the plant rhythm is not disturbed and the quality of the plants remains at its best. Peonies should also be planted back during this period: Using the last bit of heat in the soil, the plants will still make new hair roots during this period, so that the plants can get well attached to their new spot on the field. This gives the best growth right from the start and therefore the best chance of 1st year of flowering. We usually ship our plants in the first half of October. Planting as soon as possible after arrival is always the best.

#### Location

The most important thing is a well-drained soil. Peonies cannot stand wet feet very well. When peonies are too wet, this can cause root rot which can lead to death in the end. If you have a wet garden it is advisable to plant the peony on a 'row'; in other words, raise the soil locally for good dewatering. Plant preferably in a not too sheltered place. A place that is too sheltered can encourage fungal diseases such as Botrytis in wet years. Sufficient air circulation is therefore important.

Peonies also require sufficient sunlight. Sun is ideal all day long, but partial shade is also possible. Plants that are too dark give an elongated growth and no flowers.

Avoid planting peonies too close to large shrubs or trees i.v.m. the unfair competition that peonies have to face. Especially superficial rooting trees or shrubs take almost all the moisture and nourishment of the peonies.

Also never plant in a place where peonies have been before, peonies secrete, certain substances, which results in a bad development of the new plants. Also the chance of harmful organisms in the soil such as fungal diseases and root nematodes is always greater at the same plant location. In technical terms it is said that the soil is 'tired' in such an old place.

## **Planting distance**

The size of the peonies can increase significantly after the first growing season - reserve 0.75 to 1 m2 per plant. For grouped planting, a mutual planting distance of at least 80 cm "in connection" is recommended.



Peonies like to have enough space

## Plant depth

The planting depth is very important. The upper eyes (usually the "flowering eyes") should be just below the soilsurface. If they sit deeper, the plant will only form leaves in the best case scenario. Just like all plants, peonies want to survive. If a peony is planted too deep, the plant will try to form new growth from the top of the plant in order to create a kind of "new plant" that is at the right depth for flowering. However, this process takes several years, which is often far too long when a plant is purchased with high expectations ...

In the worst case, when peonies are too deep, no above-ground growth becomes visible. Deeper in the soil it often stays wet for too long, which means that the plants can rot.

# **Planting instructions**

- 1. Make a planting hole that is 2x the size of the plant that should come to this location;
- 2. Do not make the planting hole too deep (usually about 10-15 cm), and loosen the soil within the planting hole well;
- 3. Place the plant in the planting hole. The roots can be placed horizontally in the planting hole; with the eyes pointed upwards (!). Press the soil around plant lightly; the plant must now be at a depth so that the upper eyes are 2-5 cm below the ground surface (or "2 finger thicknesses deep");
- 4. Close the planting hole again and place a stick at this location this will keep you reminded until February / March not to place other plants too close.

## Soil types

Peonies basically thrive on all soil types. In general, the heavier the foundation, the slower the growth will start; in other words, the longer it takes for the first flowers to develop. However, this is not at all negative; on the contrary - for example, a strong clay soil can be ideal in the long run. In general, sablon, peat and clay soils are excellent. Soils with a pH of 6.5-7.5 are ideal. On acid soils (acidity below 6.5) it is advisable to mix some chalk through the planting hole and you can add some chalk every year to raise the pH. On basic ('sweet') soils (acidity higher than 7.5) it is advisable to mix garden peat or other material with acidifying properties. Peonies can also grow well on light sandy soils, but then they require more attention. It is therefore advisable to regularly provide water and food on these grounds. It is even better to enrich the soil at the planting location of the peony. A good way to do this is by digging a hole 50 cm deep and 40x40cm in size. Apply a layer of approx. 25 cm of well-digested cow dung and / or bone-dust at the bottom of the hole, then add the replacement soil on top. A mixture of clay, sand and garden soil is ideal in the 60-20-20 ratio. Only clay is also possible, but then take a somewhat longer growing time into an adult plant.

## **Pots**

A peony only has an optimal start if it is purchased as a 'bare plant' in the autumn.

A 'bare plant' purchased in the spring has always lost some vitality because it has been preserved for a number of months. Such a spring purchase also misses the very important piece of growth for the winter, with the result that the plant starts to develop more difficult and you have to wait longer for flowering.

Peonies are often offered in pots. While growing plants in a pot are visually appealing, you are always better off for your garden with a peony purchased as a 'bare plant' within fall. Partly because peonies are mainly sold in pots, peonies have been given the name of being difficult or difficult to flower, while this is definitely not justified!

Peonies make a very different root system in pots than they do in the open ground (naturally). In pots, nutrition and moisture are always very close and the plant is not forced to build up reserve food in its roots. The result is that a peony in a pot forms many fine roots with little stored food, so that it has no power to produce flowers.

If you purchase a peony in a large pot size, there is a good chance that the first year of flowering will follow on the basis of the root content that it has built up in the open ground before the plant is potted. If you then plant this plant in your garden, it will need at least 1 to 2 years to rebuild enough root systems to be able to produce flowers again.

If you purchase a peony in a small pot size, the plant size is the same and after planting in your garden the first 2 to 3 years it will probably not flower.

Always plant a peony purchased in a pot directly in your garden, so keep in mind that a few years may pass without flowers after flowering.

For a reliable peony with the best vigor you are often dependent on specialized growers who only deliver the plants as a 'bare plant' and deliver them in the autumn.

Planting peonies in a pot for your balcony or terrace is worth trying if you have no possibility of planting them outdoors. Then always use a very large pot (preferably a tub). Try a heavy type of potting soil that does not stay too wet and which contains sufficient air. Mix in compost and give moderate nutrition. Always try with a common cultivar first to find out if it succeeds before you try it with the exclusive cultivar of your dreams. Keeping a flowering peony in a pot for several years is anything but easy, but there is a great challenge for the true lover of peonies!

## **GROWTH SEASON CARE**

#### **Fertilization**

Peonies are largely self-sufficient. Plants with a good root system, as we always supply, have a large supply of reserve food. Adding too much fertilizer generally leads to lush growth, which results in a lot of crop but very little to no flowers. A peony crop also becomes "soft" due to over-fertilization, making it much more sensitive to pests and diseases.

Therefore, in general just a little fertilizer will be required. Applying a handful of well-digested cow manure grains per plant every autumn should be enough. Only when the crop color becomes very light after flowering can you give a handful of fertilizer in the NPK mixing ratio of 12-10-18.

## Watering

Peonies are easy garden plants; once established, watering is only necessary in exceptional cases. Only in the first growing season, when the plants attach themselves, is it recommended to give some water during (long-term) dry periods (in the evening hours). After the first year, the roots reach so deep that the plant is perfectly capable of providing for itself. In prolonged dry periods in hot summers, it is of course never bad to give some water every now and then.

In the spring, on very hot days, peonies can get a bit limp in the full sun. However, this does not mean that the plant wants to receive water. In such situations, the roots simply cannot pump it up: the evaporation of the crop is then too high in relation to the absorption capacity of the roots. You will see that the crop repairs itself in the evening hours and stands upright again. Peonies grow extremely fast in the spring and the crop is therefore somewhat soft and sensitive to this. The crop hardens against flowering and will rarely be limp from this period.

### Weeds

Always keep peony roses free of weeds. In addition to the fact that the sight is much more beautiful, weeds can be a source of damage for peonies. In extreme cases, weeds can compete with peonies for food, water and light. The greatest danger, however, is within the fact that many common weeds are ideal host plants for diseases and pests. A weed-free garden therefore always contributes to a very low level of infections.

# **Diseases and plagues**

When the garden stays free of weeds, peonies are almost completely disease-free. Virtually the only danger for peonies in the garden is the fungal disease Botrytis. This fungus can cause "plant failure" in early in the spring, resulting in starvation of the plants. Stems are then attacked on the border of ground and sky and go limp and / or fall over. When the flower bud grows out, Botrytis can also appear at the downside of the flower bud, often starting with one of the bracts.

Early signs of this are hanging bracts or an oblique bud position relative to the stem. Botrytis can also occur on the stems and leaves during the entire growing season.

Botrytis always causes brown discolouration of the affected part of the plant. During and shortly after very wet conditions, the typical gray mold fluff is clearly visible.

Prevention is the best control: for the very first symptoms, carefully remove the plant part with a sharp knife and carefully dispose this part of the plant; this way you prevent spore spread. Prevent crop damage and further ensure sufficient air circulation (not too soft and not too dense) and keep the soil well loose from the start.

Botrytis is often only a problem in (very) wet years; the fungal spores need more than 85% humidity or water drops to be able to germinate. The preventive measures as described above must be carried out adequate to prevent further infections. If necessary, spray the plants every other week with a general pesticide against fungi available at your garden center. Always follow the instructions on the package.

## Support

In bad weather during full bloom the large flowers rain full and become top heavy. Naturally, a plant loses its compactness, especially if wind is added. Tastes differ of course; one likes a lively, somewhat hanging crop, while the other likes a proud crop. In the last case mentioned before, some people prefer to attach four bamboo sticks around the plant at the beginning of May and connecting the four sticks together. Make sure that the sticks remain approx. 10 cm below the flower buds, by this way they never distract from the decorative value. Special plant rings can be used to fix this in a proper way.

A good general advice is to watch the crop and in particular looking at the weather if support is needed.



Tying up can promote compactness.

#### Side buttons

Many cultivars have side buds, also called "fluff". The side buttons can be completely or optionally removed.

Some benefits of maintaining side buttons:

- Extension of flowering;
- Personal taste: more elegant.

Some advantages of removing side buttons:

- Better retention of plant shape: the flower stems become less top-heavy;
- Slightly larger main butts;
- Personal taste: more elegant.

When choosing to remove the side buds, this is the easiest in the following way:

- 1) Remove the side buds if they are the size of a pea (if the buds are smaller, you can easily damage the adjacent leaf and if the buds are larger, an unnecessarily large wound will occur);
- 2) Hold the main button loosely between thumb and fingers with one hand;
- 3) Grasp the button of the side button between thumb and forefinger with the other hand;
- 4) With a gentle sideways and downward movement, remove the sidebud from the stem. Sideways so that only the side bud breaks out of the leaf axillary and the leaf itself remains undamaged.



If you consider to fluff, perform it on time and in this way.

# **Ants**

When peonies are 'in bud', they secrete a certain sweetener or nectar. This sugary substance touches your fingers when you touch the buttons while removing the side buttons, for example. It washes off very easily, also from your clothes.

Presumably peony buds secrete this nectar during the very powerful outgrowth at this final stage to keep the bracts and petals tightly closed ("stick together") to prevent damage to the reproductive organs.

Ants love this nectar, so whey will be attracted to it and fed themselves. They can sometimes be found in fairly large numbers on peonies at this stage. However, the ants cannot do any harm to the peonies. You will also notice that as soon as the flowers open, the nectar has disappeared and there is no longer any ant on the flowers. So there will be no risk whatsoever to get those ants into the house with a beautiful bunch of peonies!

## **Cut flowers**

If a plant already gives flowers in the first growing season, we do not recommend cutting it off to be put into the vase. The plant certainly needs all of its crop for the first year to nest optimally and to build in as much reserved food as possible for its continued existence at its new location. In the following years you can safely cut a flower for your home on the table. In extremely bad early years, this may even be the only way to really enjoy it ...

Always use a very sharp knife; this is how you make the cleanest wound. Only cut the stems when the flower buds feel clearly soft. Too raw flowers will never open on the vase. Always leave at least 2 leaves per stem and never cut more than two-thirds of the number of flowers per plant. In this way, enough "lungs" remain on the plant. Don't you want to admire at least as many flowers the following year?

Obviously buying a bunch of peonies from the grower or florist is always a good idea - maximum beauty of peonies in the garden, and also in the house ...!

## Taking of the buds

After the flowers have shown their full splendor, the petals will fall or shrink. Every cultivar is different, but many still retain a high ornamental value at the ends of the stems after flowering. When the petals have fallen off, the elegant seed pods remain in certain cultivars. These remain beautiful until the end of August; with the bursting of seed pods, the flower stem survival cycle is completed and the process of dying is actually started.

We recommend that you try this with every peony that you have in your garden. If the end of the stem becomes dirty, brown and withered, the peony gains more ornamental value by removing it with a sharp knife. If a head with beautiful seed pods develops at the end of the stem after flowering, do nothing and enjoy it! After the first flowering, however, it is advisable to always remove the spent flowers; this gives the plant the opportunity to put all its energy into plant growth and bud construction for the following season.

## **CARE during Fall**

#### Remove crop

Until now, the peony needs little attention. When the plants go into natural rest towards the autumn, they begin to "eat" the greenery from the crop. The nutrients from the crop are stored in the roots. When more than half of the green has disappeared from the leaves, it is time to cut the crop.

For the earliest flowering cultivars, dying off can already start from the beginning of September, and for the later flowering cultivars this can also be at the end of October or even later. Cut the stems equal to the ground - taking care not to stick into the soil with the secateur and damage the underlying noses.

## Digging out the plants

It can happen that a plant has to be removed. However, if a plant has always performed well, leave it untouched if possible! Peonies start to flower richer every year, and when the plant is taken out, it takes many years before it becomes as beautiful as you remember it!

If the plant still needs to be removed, and you want to replant it, harvest it early October. Use a fork and carefully pry around the plant until it comes loose. Be careful not to break the handle of the digging fork - many digging forks would have preceded.

## **Cracks and storage**

Wash the harvested plant from soil using a garden hose. Study the plant well; this means looking carefully at how the roots run and where the eyes are. Then carefully cut with a sharp knife in the right direction and carefully try to tear the pole apart.

Try to keep plants with 3 to 5 beautiful eyes (growing points) and sufficient root system. Finally, shorten all roots to a length of 10-15 cm. In this way you stimulate the new plant (s) to make new eyes and roots - you force it to rejuvenate. Then plant this "new" plant (s) as soon as possible at the new location (s).

If the circumstances of your (new) garden require this, you can also save the plant (s) by 'digging them up': digging a trench in a quiet spot, laying the plant (s) in there and then a layer of soil on top of it. This way the plants are well preserved until you plant them out.

## **Transplant**

Whatever you do - never replant an old plant in its entirety, this almost always leads to disappointment. Old large plants then fully consume the old reserves and do not make new roots, so they will not devlop well at their new spot. Always treat harvested plants as explained above when cracking!

## **Preparation:**

- \* Take soil sample
- \* Very good drainage
- \* Free from root weeds
- \* Good soil structure
- \* Pre-fruit i.v.m. nematode attack
- \* Timely spraying

## Cooling:

September / October / November peonies are harvested and stored until planting time. Cooling temperature: Up to November no cooling but outside temperature Save November / December at 2 degrees. Store the rootstocks in January at 0 to –2 degrees, but be aware to not aim a fan at the plants, to prevent them for drying out. Drying out the root is disastrous for the peony. If it is not clear whether the plants will be planted before the winter, the plants must be kept above 5c to prevent the peace from being broken and the plants starting to sprout.

# Soil type: sand / clay

On sandy soils bed 1.50m wide the minimum space between 2 lines must be 35 cm. Miter plants if you prefer to plant 3 lines.

Full field minimum space 40/45 cm.

On sandy soils you get larger root system because then they will grow away easily. On clay soil bed 1.50 m wide 2 lines of plants on ridges minimum space 40/45 cm. This will lead to a shorter firmer root system (more content)

## Planting time:

- \* Draining the soil
- \* Tillage very important i.v.m. structure / water management
- \* prepare a schedule for planting
- \* Take into account spray beds / flowers
- \* Take into account the location of tunnels in the future (harvest spread / more yield).
- \* Plant in moist soil
- \* Outside: September March (autumn best time)
- \* Upright head / eyes

## Plant depth:

Plant depth +/- 5 cm soil on top of the roots (If flowers are planted too deep, fewer flowers)

# **Growing time:**

1st & 2nd year no commercial harvest (depending on species). If peonies are well taken care for, the plant can remain fixed for 10 to 20 years.

## Watering:

Watering is an important component for growth. In the spring the growth of the Peony can go very fast. The weak flowers can be repelled in poor weather, dry wind and night frost. Therefore, do not wait in the spring until the soil is dry, but sprinkle the crop on time if necessary to prevent bud drying / repelling.

Fertilization: (depending on soil samples)

Peonies are classified as highly needy summer flowers. The nitrogen use of the peony focuses on the first part of the growth. Therefore, ensure that the nitrogen is available to the plant in time. A poor, limb crop is more susceptible to Botrytis.

End of January: sprinkle lime nitrogen + potassium For attendance: 7-14-28 / 12-10-08 + organic material

After flowering: 12-10-08 + spray bitter salt + repeat after 1 month

Normal fertilization gifts kg / ha for peony on an annual basis (with normal land valuation)

N requirement 150 kg / ha Phosphate, kg P2O5 100 kg / ha Potassium, kg K2O 225 kg / ha Magnesium, kg MgO 100 kg / ha

Before emergence it is possible to fertilize with:

Organic material Nitrogen (N)

Phosphate

Sprinkle half dose of potassium

Magnesium Calcium

Shortly before flowering, correcting / controlling fertilizer can be applied with:

Nitrogen via leaf spraying because of the larger butt.

Magnesium via leaf spraying because of the fast uptake

Calcium via leaf spraying because of the rapid absorption of trace elements including manganese and iron via leaf spraying

After flowering, give fertilizer for creating the buds next season (the basis for flower planting takes place in July and August)

- \* Sprinkle potassium half
- \* Nitrogen at least 50 kg
- \* Magnesium (bitter salt)

Make sure that sufficient water is available for the plant during this period to absorb the fertilizers. An active soil life is therefore important; moist soil and a correct organic matter content (due to hygiene, all crop residues should be removed after the growingseason ) are very important to promote the absorption of the above mentioned fertilizers.

#### Climate:

#### Greenhouse:

It is important that peonies get enough cold in the winter, cooling gives eye / stem development. It is possible that the eyes are on the plant but due to insufficient cooling these eyes do not develop, so do not grow out.

#### **Outside:**

Protecting plants against hard frost in the spring (buds can freeze out).

## Weed control:

Before emergence: carry out crop spraying, the grower must ensure that the soil is closed i.v.m. root / eye damage. Spray before February 15th with a suitable herbicide on a wet soil without rain. If the herbicide desiccate on a crop, the branch will hardly grow any further.

During growth: with appropriate resources. This can with a herbicide which is suitable for peonies.

Autumn: spray with a minimum of 5 weeks after clapping (September / October) crop with Round Up

#### Diseases and pests:

The Peony has relatively few problems with fungal diseases. spraying against Botrytis is of course necessary:

On emergence: (when soil breaks) watering plants completely (spraying with 1/4 liter of water) with Sumislex / Collis prevents many problems (foot rot / dying plants / Botrytis) in the remaining growing season.

During growth: spraying against Botrytis.

After flowering: spray against Botrytis every 2 to 3 weeks (add Bitter salt to the botrytis spray to harden the crop a little) after clapping / mowing: remove crop residues. Also perform a spray with Collis i.v.m Botrytis through wounds on the plant. The fungus then settles in the crop and does not get really visible. In the autumn, the fungus forms winter traces that survive the winter on the border of ground and air. This is also the place where the attack starts in the spring

A fairly new attack in peonies = Phytophthora. Add a Phytophthora remedy regularly during the spraying against Botrytis.

The most common insect pests are: Leaf nematodes, Lettuce Root Borer (prevent sludge / keep soil loose) and louse. Fluff: Fluff is carried out in April (depending on species), to allow the head bud to develop more.

# Harvest:

April - May - June (depending on inside / outside & assortment).