



Growing information Ranunculus

Pre-sprouting (preparation) information for Ranunculus

The reason you do this is to have bulbs start the development and have a better earlier, higher stem production and more even start on growing your Ranunculus for optimal rooting and flower development.

We ship the bulbs dry.

You have received your Ranunculus bulbs in plastic trays, packed in netlon bags, keep the bulbs dry, well ventilated and at 21 degrees C and keep them in netlon bags.

Ranunculus Butterfly series:

Soak the bags for 12 hours in water at a temperature of 25 c (keep the water at a constant temperature of 25c with an electric boiler) with 5 gr GA3 or 50ppm (Gibberellic Acid per 100 liter, maintain a temperature of 25 degrees C during this 12 hour period otherwise you will not have the GA working. Make sure that the whole bag is submerged in water for the whole period!

After GA treatment: dip the bulbs in a fungicide for about 15 minutes: 1% of Topsin M (active ingredients: thiofanaat-methyand 500 g/l) + ½% Securo (active ingredients: pyraclostrobin 100 g/l + folpet 300 g/l).

Direct after soaking the bulbs for 12 hours and after the fungicide dip, store the Ranunculus in a coldstore at **5c for 3-4 weeks**. make sure that the bulbs do not dry out in the coldstore, keep the bulbs slightly moist with a plant sprayer (every other day) **turn the bags every other day also, otherwise the bottom of the bags will remain too wet and the top of the bag to dry**. Or take plastic crate, add some peat moss in bottom of crate then make layer of moist Ranunculus bulbs and then again add peat moss and repeat this 2-3 times to multiple layers. Important that peat / bulbs do not dry out.

We see very good results with this method, you will get a higher stem production and the production starts earlier.

Its very important to make sure that bulbs do not dry out by planting, only take numbers of bulbs from the cold store what you can plant in 1 hour. When bulbs dry out you will have loss of germination of the bulbs (see the picture below, bulbs planted on the right where dried out at time of planting).



Ranunculus Romance series:

Soak the bags for 8-12 hours in water at a temperature of 25 c with 5 gr GA3 or 50ppm (Gibberellic Acid) per 100 ltr, maintain temp. of 25 c during this 8-12 hour period otherwise you will not have the GA working. Make sure that the whole bag is submerged in water for the whole period!

After GA treatment: dip the bulbs in a fungicide for about 15 minutes: 1% of Topsin M (active ingredients: thiofanaat-methyand 500 g/l) + ½% Securo (active ingredients: pyraclostrobin 100 g/l + folpet 300 g/l).

Direct after soaking the bulbs for 8-12 hours and after the fungicide dip, store the Ranunculus in a coldstore at 5c for 3-4 weeks. make sure that the bulbs do not dry out in the coldstore, keep the bulbs slightly moist with a plant sprayer (every other day) **turn the bags every other day also, otherwise the bottom of the bags will remain too wet.**

Plant the Ranunculus Romance bulbs in a soil temperature below the 10c. Because if you plant with a higher soil temperature, you will have a loss of germination and the bulbs will rot in the soil.

New planting:

- To guarantee a healthy crop, free of pathogens (nematodes, soil insects, fungi) and free of annual/perennial weeds, it is important to disinfect/steam/solarization your soil beforehand in advance.
- Take a soil, water and nematodes sample (before you start preparing the soil and bulbs).
- Take care for a good structure in the soil with sufficient organic material, use aerated water to reduce fungi and bacteria in your water system and soil.
- The challenge is the soil temperature at the time the plantation. High temperatures result in: rotting of the bulbs (parasites and diseases), delay in sprouting and late flowering. Shade the soil at least 2 weeks before planting with shadenets or with lime the greenhouse roof. moisten the soil several times with overhead irrigation 2 weeks in advance to lower the soil temperature and to get the soil evenly moist also.
- Plant in a moist and well-drained soil so the risk of dehydration is reduced, enclosed the bulbs better and the hairy roots can grow more easily.
- After planting the first irrigation must be abundant.

Fertilizing depends on a soil and water sample / analysis.

- PH: 5.8 – 6.3;
- EC: 1.3 to 1.5.

Ranunculus Butterfly series

- Plant on flat beds instead of raised beds, flat beds provide even moisture, less dry edges, more growing surface and lower soil temperature.
- No need to use nets, use a wire to keep the foliage in the bed.
- Watering: in beginning overhead and possible later with drip hoses but overhead all time also okay.
- At the start grow under shade net to reduce the soil temperature and less stress on the plant, if intensity is too high, it could prevent a good vegetative development. (depending on the region).

Ranunculus Romance™ series

- Plant on flat beds instead of raised beds, flat beds provide even moisture, less dry edges, more growing surface and lower soil temperature.
- Grow Romance™ in 1 layer of nets.
- Watering: overhead in the beginning and later you need to water only by drip hoses
- At the start grow under shade net to reduces the soil temperature and less stress on the plant, if intensity is too high, it could prevents a good vegetative development. (depending on the region).

Start of the cultivation

Until some years ago, only phosphate was known for a better root development. Now we know that the plants have a preferred order as it comes to the absorption of elements. In the first stage of growth they need sulfur, followed in order by boron, silicon, calcium, nitrogen, magnesium and last but not least phosphorus.

The availability of these elements – especially boron, silicon and calcium – are essential for a good start of the plants. If one of these elements is not (enough) available, the chain will be broken and the growing process might start slower or with more problems. Apply your fertilizer according to your soil sample. For more information about fertilization see the 2nd appendix.

Spacing

Ranunculus Butterfly: planting in the soil, 30 cm apart from each other in the row, with 35 cm of space between the rows and with 3 rows per bed (**9 bulbs per meter bed**).

Ranunculus Romance: planting in the soil, 20 cm apart from each other in the row, with 20 cm of space between the rows and with 4 rows per bed (**20 bulbs per meter bed**).

Planting depth: approximately 1-2 cm of soil **on top** of the bulbs.

1 m t r	1 mtr bed Butterfly			
	30 cm	30 cm	30 cm	
	*		*	
	30cm	*		
	*		*	path
	30cm	*		
	*		*	
	30cm	*		

1 mtr bed Romance				
25 cm	25 cm	25 cm	25 cm	
*		*		
20cm	*		*	
*		*		path
20cm	*		*	
*		*		
20cm	*		*	
*		*		
20cm	*		*	
*		*		
20cm	*		*	

Plant the bulbs with the center of the bulb facing up and the end of the roots down. Be careful of not damaging the bulbs when planting. Give water after planting so the soil is moist and encloses around the bulbs.

Top of the bulb:



Plant in moist soil, water a few times before planting so that the soil encloses the roots better and the hairy roots can grow more easily. It is very important, especially in the beginning of the crop, to keep the soil moist at all times!

First 2-4 weeks you will see your Ranunculus sprouting in the ground, try to keep night temperatures around 15 degrees C at night and during day as cool as possible.

When plants have sprouted and are growing for about 4-5 weeks and you have sufficient foliage on the bulbs growing lower the night temperature to as cool as possible. (no frost) You get best quality Ranunculus when growing is as cool as possible, you can grow as cool as 2-4 degrees C. if possible keep sides open of greenhouse.

During night keep well enough ventilated to prevent mildew.

Grow Ranunculus as cool as possible, for the best performance.

Approximately 1week after planting, drench the soil with a 'cocktail' so the rooting is easier:

- Risolex;
- Topsin;
- Proplant/previcure or Ranman Top (active ingredient cyazofamide 160 g/l), Ranman Top works also against Phytium

Diseases and insects:

Botrytis and Mildew: spray with Flint, Ortiva or Switch (the only remedy that works curatively at low temperatures) and use leaf fertilizers + trace elements to make the leaves harder.

Leaf spot: spray preventive with Luna Privilege and use leaf fertilizers + trace elements to make the leaves harder. Because this disease is very contagious, it is important to spray preventive.



Leaf spot disease

Xanthomonas: gives round, purple-red spots, often with a yellow circle. Spray preventively with, for example, Serenade or Ranman Top. Use leaf fertilizers + trace elements to harden the leaves.

Erwina: spray preventive with copper oxychloride.

Do regular spotting in the greenhouse to check for:

Attach blue sticky traps to prevent thrips.

Attach yellow sticky traps to prevent leaf miner.

Caterpillars, Aphids (Tepeki), Leaf Miners (Vertimec), Spider Mites, Thrips and Whiteflies. And spray when needed.



Damage by caterpillars

Dead leaf cells:



The images above show a combination of moisture and low temperature. You can prevent this damage by using a fan for more air circulation.

Fungicides active ingredient:

	Active ingredient	Operating mode
Pitcher	folpet 460 g/l en fludioxonil 60 g/l	Botrytis, Fusarium, leaf spot, Rhizoctonia and Phoma
Collis	kresoxim-methyl (100 g/l) + boscalid (200 g/l)	powdery mildew, botrytis, rust, Botrytis and fusarium
Luna Privilege	fluopyram 500g/l	powdery mildew species, Sclerotinia and Botrytis
Alibi Flora	azoxystrobin en difenoconazool	rust, phoma, leaf spot, Rhizoctonia
Ranman Top	cyazofamide (160 g/l)	Botrytis, Xanthomonas and Phytophthora
Amistar	125 Difenoconazool + 200 Azaxystrobin	Rhizoctonia
Switch	Fludioxonil en Cyprodinil	Botrytis, Rhizoctonia and Colletotrichum
Flint	trifloxystrobin 50%	leaf spot, botrytis, powdery mildew, purple spot
Ortiva	Azoxystrobin 250 g/l	powdery mildew, rust and botrytis
Teldor	fenhexamid	Botrytis
Luna Sentation	fluopyram en trifloxystrobin (250 + 250 g/l)	powdery mildew, botrytis, Colletotrichum and Sclerotinia

Click on this link: <https://www.monarchflowers.nl/en/images/growing-videos>

Do not pull the stems from the bulb always cut with knife!

Cool water buckets night before in cooler to have cold water in harvesting buckets.
When flowers are cut early in the morning, as soon as possible place them in water at a temperature of 4 degrees C (even before bunching) and store them in a cooler. If the crop is harvested later during the day and the stem dries in and will absorb less water, that is why it is important to place directly in water after cutting.

Cutting stage Ranunculus Butterfly: sometimes you could have an early stretched flower stem on the first stem produced. This early first stem needs to be pinched to the other flowers (pinch only the top flower). This pinch is only on the very first flower stem. And when the flower stems develop into normal stems, start cutting when 2-3 flowers are showing color and 1 flower is open. You can cut stem at ground level.

Cutting stage Ranunculus Romance: let the flowers open and close for 3 days and then cut the flowers for maximum size. (this gives you larger flowers and longer vase life)
Harvest Ranunculus Romance flowers when the flowerbud is soft and only early in the morning. You can cut stem at ground level.

Add a Chlorine tablet of Florissant 520 into a bucket with water to be placed in the cooler.

Green Works also supplies other summer flower starting material, like: Peonies, Oxypetalum Bridal Series®, Scilla peruviana and Asclepias Beatrix®.

For more information, please consult [our website](#) or contact:

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Also, follow Green Works on [Twitter](#), [Facebook](#), [Instagram](#) and [LinkedIn](#) for more relevant information about Helleborus or. Queens™ amongst other things.



Green Works is the grower specialized in young planting material for Peonies, Ranunculus, special pot plants and summer cut flowers. Green Works also is a large grower of peonies for the successful cultivation for cut flower and trade, in the Netherlands and abroad. We supply within the Netherlands and globally to professional growers and (export) traders. With support in cultivation, promotion and sales, Green Works offers a total package to put an unique and healthy product on the market: www.green-works.nl/en

Green Works can never be held liable for any cultural information given and only to be used as a guideline. The grower is at all times responsible for his own action and to read the label of the chemicals being used.
