

Introduction to Ranunculus asiaticus

Also called the Persian buttercup. The genus belongs to the buttercup family Ranunculaceae, which includes Aconitum, Anemones, Eranthis, Clematis and Delphinium. Ranunculus are excellent cut flowers because of their longevity, long stems and large assortment of colors. The tubers are a uniform, undifferentiated (identical) structure composed of stem tissue, specifically developed for the purpose of food storing. Ranunculus perform best in cool temperatures.



are the most unique flowers! They vary in shades like a chameleon, not only from first opening to full flower, but within the variety as well even though one color is predominant.



The Ranunculus we offer are from **2** countries:

France (pages 4 - 13) and The Netherlands (pages 16 - 23)

(They each have their own characterististics and unique growing instructions, see pages 14 and 15.)



We are privileged and honored to be the exclusive distributor in

North America for

Comptoir Paulinois,

distinguished growers of all Ranunculus series with the exception of the Butterfly and Romance series.

For Certicate of Clean Growing See Page 23

The following French Ranunculus are available this year:





The "Cadillac" of Ranunculus. These remarkable French Ranunculus, similar to La Belle, are a result of more recent breeding which produces improved tubers. Ongoing intense breeding is being done to increase the number of varieties. Amandines do best in cooler temperatures but the advantage is that they also tolerate somewhat warmer temperatures which extends the flowering season. Amandine varieties have strong, tall stems with the largest flowers.



rie Flower Bulbs

Clones are French Ranunculus produced 100% from Tissue Culture. All the work is done in laboratories including cross breeding which is much more labor intensive than for non Tissue Culture Ranunculus. Therefore these tubers are more expensive. However, they also have many benefits including new colors and better, disease-free varieties.

Gigi has the same characteristics as the Amandine Ranunculus, including tolerating somewhat warmer temperatures. Currently, we carry only the most popular white variety, also called Snowflake.

Half Clone Page 9

French Ranunculus continued

Half Clone varieties are a combination of both reproduction methods.

One parent is from Tissue Culture while the other parent is from seed production. Therefore the costs are much lower than the Clones, yet they have many of the benefits of the Clone Ranunculus.

Current Ranunculus breeding is focusing on the Half Clones as it will benefit future production of tuberous roots and cut flower production.



means "beautiful" in French and indeed, these flowers are very attractive and the colors are gorgeous. This original French group blooms earlier than the Amandines but tolerate less heat.

If La Belles are planted at the same time as the Amandines they will bloom first followed by the Amandines, thus extending the total production time and season.



All varieties in this group are 100% double flowering. They contain many of the bright and bold colors of the other groups (mostly La Belle) with one unique difference; the centers of the flowers are green.

These varieties, like La Belle, bloom earlier but do not tolerate heat well.
For best results, grow in a cool environment.



Ednie is the semi-exclusive distributor in North America of Butterfly, Romance, and Novelty Ranunculus.

These following series originate in Japan and are bred by AYA ENGEI Co. Ltd. and produced from 100% Tissue Culture. These varieties are breeder right protected and subject to royalties.



This unique group of Ranunculus is completely different from the others, yet very attractive especially as cut flowers. The difference between the flowers of Butterflies and others is that they are bunch flowering; each stem can have 7 to 12 flowers.

The flowers are longlasting because the petals are covered with a thin wax-like layer which also makes them sparkle.



Romance Ranunculus have very large, attractrive flowers with long, SOLID stems, making them disease-resistant.

The varieties are all named after French and Italian cities. The flowers are long lasting.



In addition to the Butterfly and Romance groups, we offer Novelty Ranunculus. Poodle Ramlia is now included here. It's uniqueness is what describes these Novelties best.

For further description see the column "Description" and of course study the picture. We suggest to do some trials with these varieties to see if these suit your market and/or climate.

LIMITED AVAILABILITY!!





flowers are known for their vigor and plant perfomance. Depending on the environment, the plant will start flowering 8 to 10 weeks after sprouts have emerged. As shown in the picture, some support wire helps with production.

Amandines tolerate somewhat warmer temperatures.
For continued flower productions this series should be planted at the same time as the La Belle Ranunculus.
La Belles flower 2 to 3 weeks earlier than the Amandines, but Amandines will bloom for at least 2 weeks longer.



| | Amandine | Description | Bulb Size | Amandine Information | Plant Months |
|--------------------|---------------------|--|-----------------------------------|---|----------------------|
| Amandine BARBY | BARBY | Large pink flowers have creamy white centers and black hearts. Excellent. | 3 - 4 4 - 5 5 - 6 7 - up | produces 4- 8 stems produces 6-10 stems produces 8-12 stems produces 10-15 stems | September - April |
| | BLACK | Brownish maroon flower petals have slight white edges. Unique, smaller flowers. | under of | Strong stems Vigorous plants Tolerate | |
| | BONBON | Pleasant darker pink flowers. Early and floriferous. | | somewhat warmer temperatures | |
| | CHAMALLOW | Soft peach pink flowers start lighter in color, greenish centers. Large! | | 7 | |
| Amandine BLACK | CREAM | Outside petals are nearly white while most petals are lemon yellow surrounding green centers. Tall stems, midseason. | | | |
| Amandine BONBON | | | T | | |
| | | | | | |
| r Bulbs | Amandine CHAMALL | OW | | Amandine CREAM | 3// |







Amandine

VIOLET



Description

Bulb Size in cm

Amandine Information

Plant Months

SALMON

Many shades of pastel salmon-orange flowers have dark hearts. Early blooming.

3-4 4 - 5 Strong stems Cool nights are September -April

SCARLET

Most flowers are fireengine red, turning darker towards the base. Early blooming. 5-6

ideal 7 - up • Large flowers

> Generally taller than La Belles

VIOLET

Bright Fuchsia-colored buds turn into a bright violet color as flowers open. Tall.

WHITE

Pure snow-white flowers start off with creamy centers before turning all white. Early, floriferous.

YELLOW

Darker yellow buds turn into buttercup yellow flowers, lighter on the outside. Tall.

YELLOW **PICOTEE**

Golden yellow flowers (some orange), some petals have beet-red markings. Tall, floriferous.



Cross breeding is in progress for new Amandine varieties by our grower Mr. Bernard Bideau who started this excellent series. We applaud him and his family for their perseverance to deliver excellent quality product.









for Cut Flower Production















Growing Tips for Ranunculus asiaticus to ensure Optimum Production

A Good Start is Half the Battle...

Since there is a distinct difference between treating
French Ranunculus versus Dutch Ranunculus prior to planting,
we have separated them.

Growing Tips for French Ranunculus

Upon Arrival of the Tubers

If tubers will not be planted immediately upon arrival, please store them at 65-70°F. (18-21°C.) in a well-ventilated area. Keep the tubers dry; watch the humidity.

Pre-Plant Soaking & Pre-Sprouting

Soaking tubers and storing them at cold temperatures for several weeks to pre-sprout tubers prior to planting in the beds or crates is frequently done especially if the soil temperature where the pre-soaked tubers are to be planted is warmer than 60°F. (15°C.).

HOWEVER, if soil temperature where the plants are to be grown is cooler than 60°F. (15°C.) the following can be done:

- Soaking tubers for 10-12 hours just prior to planting in "moving water" at a temperature of 60-64°F. (16-18°C.) so container overflows. It adds oxygen to the water by continued dripping water.
- When this is finished, take the bag with tubers out of the water and let the tubers drip-dry. Soak the tubers in a solution with RootShield® PLUS + WP or similar for a half hour before planting as a natural disease preventative.

Not all tuberous roots like being transplanted. This cool soil (60°F./15°C.) method is easier and with the help of the natural preventative will prevent root diseases.

The preventative (RootShield® *PLUS* + WP or similar) can also be applied as an initial drench after planting but is not as effective as the tuber dip. Repeat the drench at half strength once plants are well established.

The reason we strongly recommend RootShield® *PLUS* + WP or similar rather than other chemicals is because it is labeled for organic use and many of our customers are certified organic growers.

Planting - Soil

Ranunculus can be planted in raised beds or crates placed in greenhouses, tunnels, shade houses or outside, depending on the climate zone. Make sure the tubers are covered with 1" (2-1/2 cm.) of soil. Optimum results can be achieved if the night temperatures are cold (40-50°F. or 5-10°C.) and day temperatures do not exceed 60-65°F. (15-18°C.) initially. A light frost does not hurt the plants. Once the plants are established, day temperatures may be warmer.

Soil should be sterile, moist and well-drained as roots do not like to be wet. Ideal pH is 5.8 to 6.0. Covering the soil with straw or white cloth (or similar) will keep the bulbs cool(er) which is especially important for the warmer locations.

Spacing the tubers depends on the watering method. Rows are preferred if drip tape is used. (See watering). Plant 4 tubers (size 5-7 cm.) per square foot or 12 tubers per square meter. (6" or 15 cm. apart).

Watering

If drip tape is used (for even watering) remember that initially the beds should be watered well (overhead or by hand) to ensure that the entire bed is watered up to 12" (30 cm.) deep. Often Ranunculus do not get enough water, although over-watering is not recommended either.

Support Wire

For optimum results and even light distribution, suppport wire is recommended.

Tall, straight stems are obtained when wire is used.

Fertilizer

Although Ranunculus are heavy feeders, wait until the plants are established. An E.C. of 2.2 to 2.3 (NPK) is recommended. The type of fertilizer depends on the growing temperatures.

Temperatures

As indicated earlier, Ranunculus do best in cooler environments: cool nights and somewhat warmer days. When the temperatures rise above 75°F. (24°C.) productivity will go down.

Harvesting

Harvest the flowers as soon as the buds start swelling and show color. The sepals covering the buds should be separated at the top.

Cut flowers early in the morning (coolest part of the day) with a sterilized knife. Do not pull or twist the stems.

Place the flowers in buckets of pre-chilled water and store them cold as soon as possible at 34-35F. (1-2°C.), even before bunching. Add Calcium Nitrate (the best water preservative) to the water at the rate of 1/2 tsp per gallon of water (2 g. per liter).







Growing Tips for Dutch Ranunculus

Upon Arrival of the Tubers

If tubers will not be planted immediately upon arrival, please store them at 70°F. (21°C.) in a well-ventilated area.

Keep the tubers dry in the netlon bags; watch the humidity.

Pre-Plant Soaking & Sprouting

There is a distinct difference between the Butterfly Ranunculus and the Romance Ranunculus as far as Pre-Plant Soaking, hence we separated the two. the Novelty group follows the Romance instructions. Soaking the tubers will start the development sooner and promotes a more even start. It will give optimal rooting and flower development.

Butterfly Ranunculus

Soak Butterfly tubers for 24 hours just prior to planting in "moving water" at a temperature of 77° F. (25° C.) with 50 ppm (5 gram) Gibberellic Acid (GA) per 26 gallons (100 liter) water. Make sure the entire netlon bag is under water and water temperature is maintained.

- Romance & Novelty Ranunculus
- Soak Romance tubers for 12 hours just prior to planting in "moving water" at a temperature of 77° F. (25° C.) with 50 ppm (5 gram) Gibberellic Acid (GA) per 26 gallons (100 liter) water. Make sure the entire netlon bag is under water and water temperature is maintained.
- When this is finished, take the bag with tubers out of the water and let the tubers drip-dry. Soak the tubers in a solution with RootShield®
 PLUS + WP or similar for a half hour before planting as a natural disease preventative.
 - The preventative (RootShield® PLUS + WP or similar) can also be applied as an initial drench after planting but is not as effective as the tuber dip. Repeat the drench at half strength once plants are well established.

The reason we strongly recommend RootShield® *PLUS* + WP or similar rather than other chemicals is because it is labeled for organic use and many of our customers are certified organic growers.

Planting - Soil for Butterfly Ranunculus

Planting - Soil for Romance & Novelty Ranunculus

Always check the planting media or soil by taking a soil sample before preparing the planted area/crates. Always check the pH as this will dictate the outcome of all crops. If the pH is off (high or low) the intake of nutrients will be hampered one way or the other.

- It is very important that the tubers are planted immediately after the soaking process is completed. However, if this not possible, store the tubers at 41° F. (5° C.) making sure the tubers do NOT dry out during cold storage.
- It is very important that the tubers are planted in moist soil immediately after the soaking process is completed. However, if this not possible, store the tubers at 41° F. (5° C.) making sure the tubers do NOT dry out during cold storage.

Only take out the number of bulbs from cold storage that can be planted within ONE (1) hour. If bulbs dry out germination may be sporadic or not at all.

It is extremely important that tubers do <u>NOT DRY OUT</u> after planting. Plant in moist soil, which may need to be watered a few times prior to planting. This causes the soil to cling to the new roots and improves hair-root growth with no air-pockets.

Soil temperature for planting Romance & Novelty Ranunculus <u>must</u> be below 54°F. (12°C.) in order to germinate well.

Higher temperatures will result in poor or no germination.

Ranunculus can be planted in raised beds or crates in greenhouses, tunnels, shade houses or outside, depending on the climate zone. Make sure the tubers are covered with 1" of soil. Optimum results can be obtained if the night temperatures are 40-50°F. (5-10°C.) while day temperatures should not exceed 60-65°F. (15-18°C.) initially. A light frost does not hurt the plants. Once the plants are established, day temperatures may be warmer.

Plant the tubers with the center of the tuber up and the ends of the roots down. Be careful not to damage the tubers while planting. Make the tubers get watered imediately so the soil is moist and no air pockets around the tubers for optimum roots.

Soil should be sterile, moist and well-drained as roots do not like to be wet. Ideal pH is 5.8 to 6.3. Covering the soil with straw or white cloth (or similar) will keep the bulbs cool(er) which is especially important for the warmer locations. E.C. 1.3 to 1.5.

Spacing Butterfly Ranunculus

Planting in soil, tubers should be 12" (30 cm.) apart in a row. Each row should be 14" (35 cm.) apart. This translates into 9 tubers per square yard (meter).

Support Wire Butterfly Ranunculus

Butterfly Ranunculus do not need require support net or wire.

Spacing Romance & Novelty Ranunculus

Planting in the soil, tubers should be 8" (20 cm.) apart in a row. Each row should be 8" (20 cm.) apart. This translates into 20 tubers per square yard (meter).

Support Wire Romance & Novelty Ranunculus

Romance and Novelty Ranunculus prefer one layer of support net or wire.

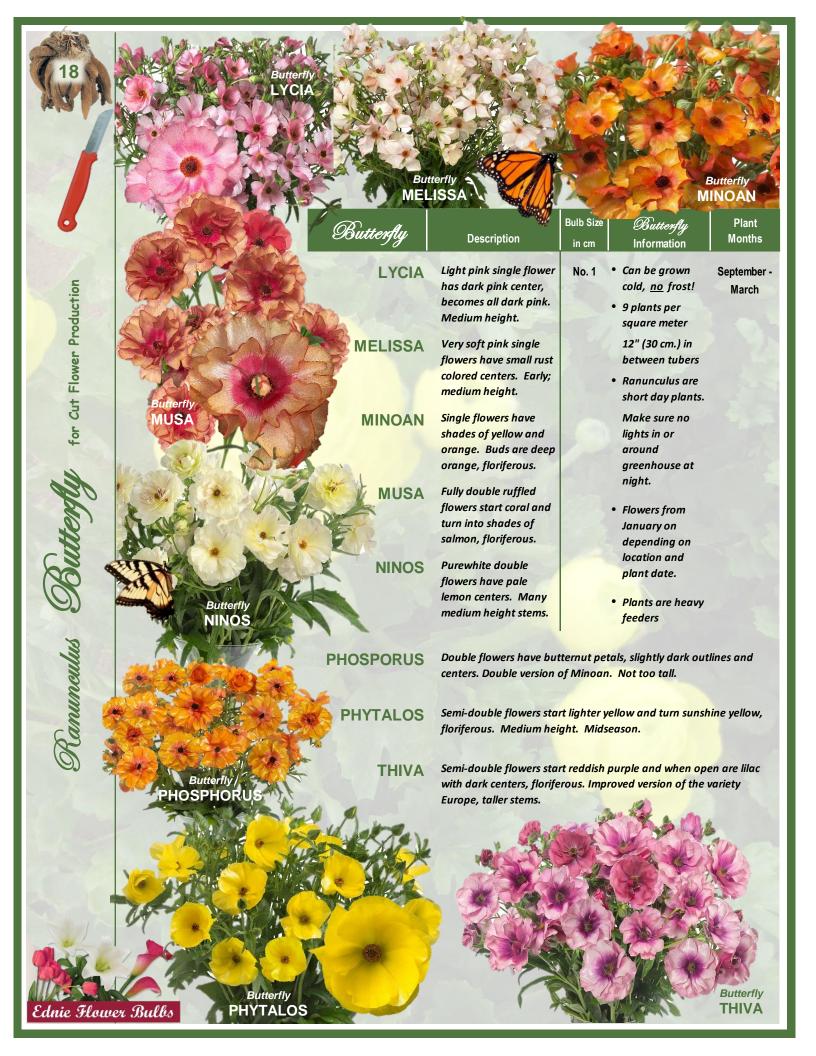
Additional Indormation

- During the 2 4 weeks when the Ranunculus are emerging, try to keep the night temperatures around 60°F. (15°C.) and a cool as possible during the day.
- During the following next 4 5 weeks the foliage will develop. Once sufficient foliage has developed, lower the night temperature to as
 cool as possible, but do not freeze. The plants thrive well at 36-40°F. (2-4°C.), perhaps by opening (side) vents of greenhouse for plenty of
 fresh air for optimum performance.
- Make sure there is plenty of ventilation during the night to prevent mildew. Watch humidity; too high humidity will cause stretching and weak plants.

























We are pleased to inform you that our French grown Ranunculus are certified "healthy", free from and All tubers exported to North America are washed in clear water only.





Ranunculus

