FARMING MANAGEMENT PRACTICES

GROWING BERRIES

LAREAULT









7 PLANTING TIPS

SITE PREPARATION

It is better to be prepared prior receiving your fruit plants. Then, choose a sunny spot free of weeds.

PLANTING SEASON

Planting must be done early in the Spring.

CROP ROTATION

Make sure to not crop veggies or berries at the same location year after year.

WELL-DRAINED SOIL

Choose a site which will facilitate the evacuation of water.

PH CONTROL

Please verify the requirements of the pH for each of your fruits.

COMPRESSION AND DEPTH OF THE GROUND

No matter your plantation's method, please ensure to put the plants at the right level and to press the ground firmly around the roots.

FIELD IRRIGATION

Proper drainage and good irrigation are key elements to ensure optimum plant growth.

DID YOU KNOW...

THE STRAWBERRY

The strawberry is the real traveler! Native species are initially found in Europe, Asia and North America. Collectively called the wild strawberry, it is the ancestor of the strawberry.

Everything begins when she is accidentally discovered by Louis XIV 's spy. She will afterward be imported in France in the 18th century by Amédée François Frézier.

F. Ananassa's hybrid is a crossing between Fragaria Chiloensis (the Chilean strawberry) and the Fragaria Virginiana (the Virginian strawberry).

From then on, we started to cultivate the crossing of these two varieties. A botanist named after Antoine Nicolas Duchesne will then study the species and that is why now we know the strawberry under Fragaria Ananassa Duch.

STRAWBERRY CROP-TYPES

All of these techniques have different attributes. With the exception of the protected culture which can be made in soilless substrate exempt from soil.

PROTECTED CROPS

MATTED-ROW SYSTEM

ANNUAL HILL PLASTIC SYSTEM

STRAWBERY'S SITE PREPARATION

First, the choice of location takes into account several factors: Choosing a sunny, weed-free location is essential. Prior to removing weed, use appropriate weeding techniques to keep planting area weed free. Also, nutrient and PH requirements must be adjusted if needed.

- If there is no natural drainage, plant in raised beds that have been built the fall preceeding planting.
- The soil must be rich with a PH of nearly 6.5
- Apply manure as needed, and use both green and chemical fertilizers to achieve the ideal fertilization.

STRAWBERRY'S PLANT TYPES

GREEN TOP

Green Top plants are still commonly used for matted row system. Freshly extracted early in spring, Green Top plants have just emerged from the winter dormancy and must be kept refrigerated, but not frozen before planting.

During plantation, an irrigation method should be provided following planting and the following days if the conditions are drying. Irrigation will be reduced when younger rootlets emerge from winterized roots.

FRIGO PLANT

It first became popular with the development of the Plasticulture system. The Frigo plant is extracted from the soil in fall and is then refrigerated under zero for long periods of time. When you received your plants, it is necessary to open the boxes and take those to a shady location as quickly as possible until plants thaws.

A period of 24 to 48 hours is essential depending on the weather conditions. Typically for small quantities, the transport time is sufficient to thaw the plants. If you are not planting not planting right away, it is not advisable to refreeze the plants, but rather to keep them near the freezing point, until plantation.

STRAWBERRY'S PLANT TYPES

PLUGS

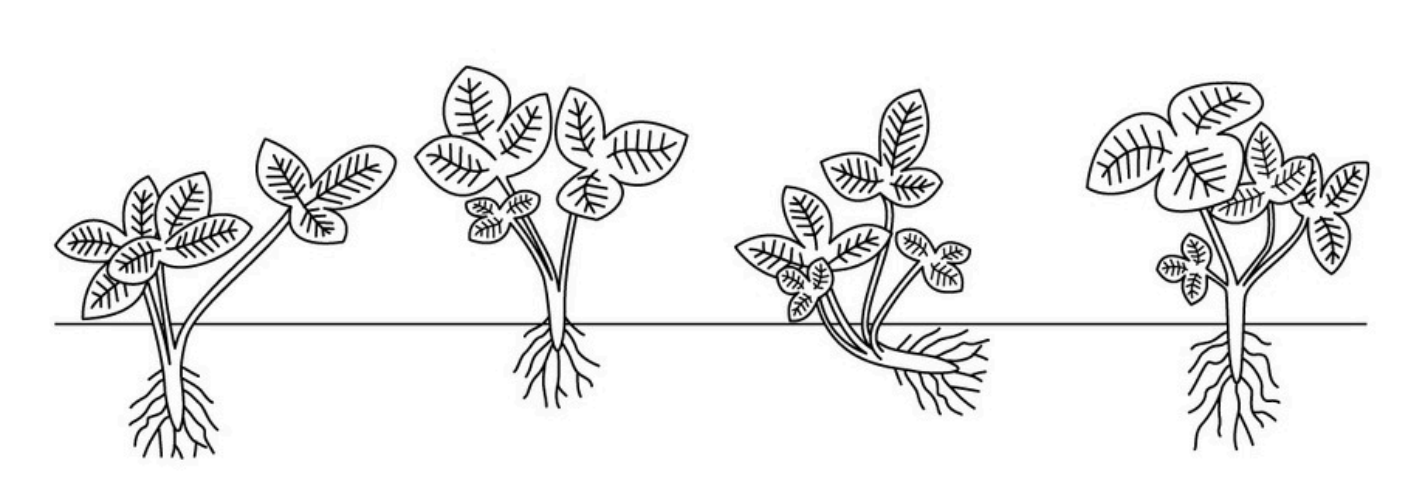
These are recommended for crops grown under glass or in substrate and the Hill-system. Plugs are available starting mid-august. In August, plug plants are actively growing with an autonomous root ball and will also be easy to implant in substrate.

Regarding commercial plantation, it is advisable to use the overhead irrigation for three days straight following plantation. In exceptional circumstances, plugs may be kept refrigerated at 4 degrees celsius. Therefore, it should not be stored for a period less than 10 days. During that period root drying should be monitored.

HILL SYSTEM PLASTIC MULCHED

PLANTATION

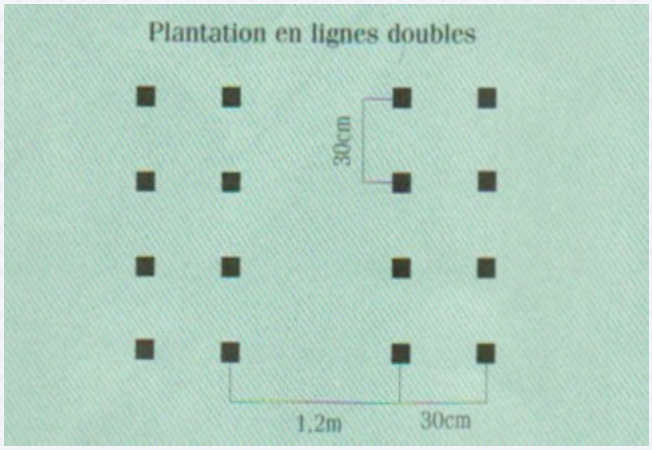
Prior planting, it is recommended to rotate crop for 4 years, avoiding a return of eggplants, peppers, potatoes, tomatoes, and raspberries to prevent Verticillium Wilt, Pythium, and Phytophthora. Cultivation, green manure, herbicide and fallow can be used. Following it with Fall tillage.



Trop bas | Trop haut | Trop bas | Idéal

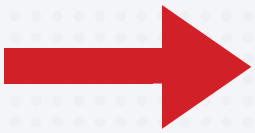
It is best to plant as soon as possible in Spring. Plant spacing will vary depending on the variety, the type of culture and the machinery being used.

High-density system supports several planting methods. The most common consist of raising beds with plastic mulch measuring up to 30 cm high and 80 to 100 cm wide on the top of the bed. The beds are spaced at 1.2 M or more depending on the size of the machinery used. Crowns are planted in double rows on the mound about 30 cm between the rows and between the plants. These dimensions may vary depending on crop varieties and soil types. A drip irrigation hose will be incorporated when laying the plastic between the two rows.



HILL SYSTEM PLASTIC MULCHED

PLANTATION MAINTENANCE



JUNE-BEARING

Weed control between rows is recommended and different herbicides are available. It is best to remove the flowers to promote the growth of the crowns. An increasingly popular practice is to keep the flowers for a small harvest in mid-July.

Trimming runners is to be expected once or twice in the season. At the end of the growing season around mid-October, winter coverage will be applied to finalize the Fall growth.

In regions where snow regularly disappears during the winter, it is recommended to double the cover or add a layer of straw late in November before snowfall. In the spring it will be necessary to remove the straw and put back the cover to favor the precocity of the flowering.

As soon as 5 to 10% of the flowers are open, the covers are removed in order not to impair with pollination.

EVER-BEARING

Maintenance and over-wintering recommendations of June-Bearing varieties make sense for Ever-Bearing plugs varieties as well. Regarding the Frigo plant, pruning flowers are recommended by removing the first and the second floral truss. It will help to balance and triggered production peaks of August and September.

HILL SYSTEM PLASTIC MULCHED

FIRST YEAR HARVEST

Make sure there is 3-5 cm of water per week. Irrigate less at a time, but more often in light soil. If freezing occurs at the time of flowering, irrigate with low volume jets during the whole period when the temperature is below the freezing point. Nozzle against pathogen and insects according to the results of scouting or the specific needs of the strawberry.

If scouting information is not available, a repression program is to spray twice; A first time at the beginning and a second just at the end of flowering. In this way, the negative impacts on beneficial insects are minimized and the use of insecticide / fungicide treatments is optimized.

RENOVATION

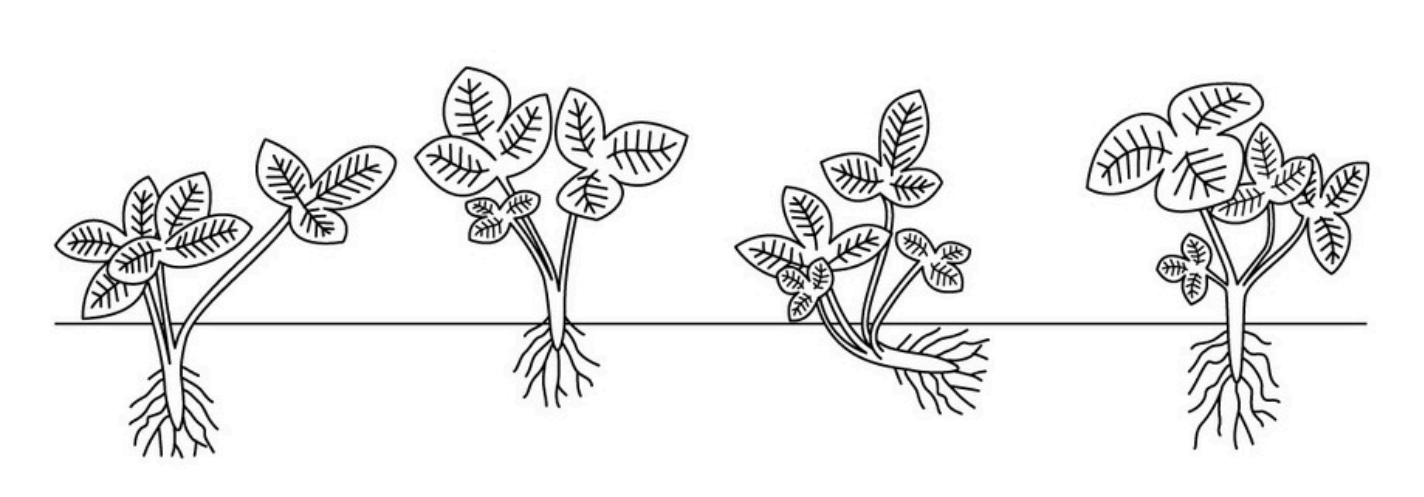
High-density crop is derived from annual strawberry production as practiced in Southern US. The renovation of these planting are practiced for the June-Bearing varieties, but less for the Ever-Bearing varieties. In the latter case, planting are protected from winter by means of winter cover, but the success and the quality of the harvests the following spring, although very early is questionable.

For June-bearing varieties, renovation is possible and more profitable. Following the end of the harvest, the foliage is mown without damaging the crown. The foliage will grow and the runnings will be cut in mid-August to balance floral initiation and crown production for the next harvest. Too many crowns will decrease the size of the fruit the following year.

MATTED ROW SYSTEM

PLANTATION

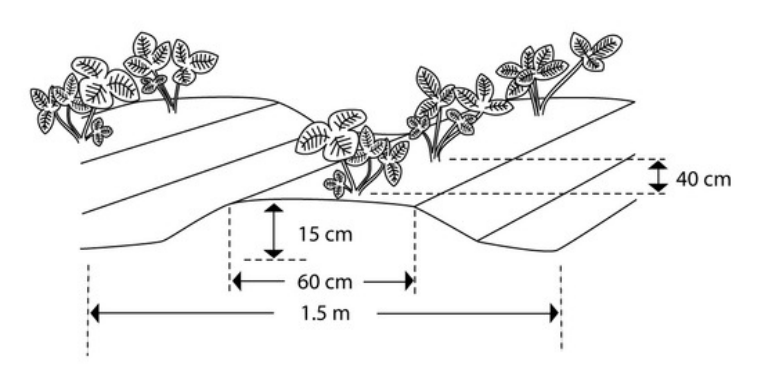
Prior planting, it is recommended to rotate crops for 4 years, avoiding a return of eggplants, peppers, potatoes, tomatoes, and raspberries in order to prevent Verticillium Wilt, Pythium, and Phytophthora. Cultivation, green manure, weed-killer and fallow can be used. Following it with Fall tillage.



Too low | Too high | Too low | Optimal

It is best to plant as soon as possible in Spring. Plant spacing will vary depending on the variety, the type of culture and the machinery being used.

Commonly, we plant 40-50 cm on the row and 120 cm between the rows. It is recommended to use produced and controlled plants in such a way to meet the quality standards appropriate to controlled quality standards. Which will ensure the absence of systemic pathogens such as viruses and Phytophthora as practiced at Production Lareault for more than 50 years.



MATTED ROW SYSTEM

MAINTENANCE PLANTATION

Depending on the type of plant purchased, keep the plants in the refrigerator until planting. Plant in such a way that the crown of the plant is just below the surface of the soil. (See the first figure on page 10.). Add water to the plantation and irrigate as necessary to facilitate rapid establishment.

For the urban farmer, high-phosphorus fertilizer-type fertilizers are no longer recommended for environmental reasons. The use of well-mixed soil organic amendments and additions of Mychorhyzes and other beneficial organisms are recommended.

In addition, to promote soil aeration, the simplest solution for the urban farmer is to use frequent mechanical weed control. For professionals, weed control and application of a herbicide will help control weeds on the row. Flower removal, runners placement, irrigation and band application of fertilizers are practices that will promote the rapid development of daughter plants. The latter and the mother plants are the basis of an abundant harvest in the first year.

Mechanical weeding at the end of the season will also be used to trim the beds at the correct width (40-45 cm) and to dig the aisles for a better survival of the plants in the winter. Application of a herbicide and end-of-season straw application will complement maintenance work before winter.

MATTED ROW SYSTEM

FIRST YEAR HARVEST

Remove the straw early if as soon as possible yield is the objective. If winter has been particularly difficult, apply soluble fertilizers such as 20-20-20 as soon as the new foliage appears. Make sure there is 3-5 cm of water per week.

Irrigate less at a time, but more often in light soil. If freezing occurs at the time of flowering, irrigate with nozzle of flow rate during the whole period when the temperature is below the freezing point. Spray against pathogens and insects according to the results of screening or the specific needs of the strawberry.

If detailed information is not available, a repression program is to spray twice; A first time at the beginning and a second just at the end of flowering. In this way, the negative impacts on beneficial insects are minimized and the use of insecticide/fungicide treatments is optimized.

RENOVATION

A relatively weed-free healthy strawberry can be renovated for a second year of harvest. As soon as harvest is completed, perform mechanical weeding or apply a broadleaf herbicide and mow the foliage, taking care not to damage the crowns, and thin the bedding width.

Apply a full fertilizer such as 10-10- 10 and then thin the rows to 20-30 cm in width. Maintain a constant soil moisture for the rest of the growing season.

DID YOU KNOW...

THE RASPBERRY

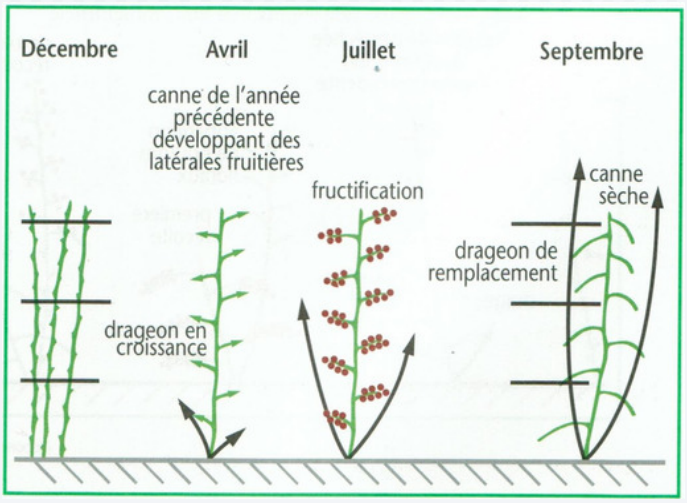
Coming from late 16° century, connected to a latin word raspecia, raspeium : meaning raspberry. There is also some connection with old french and german the word « rasp » mean a rough berry referring to the appearance.

Brambles from the mount Ida from greek mythology the raspberry get it's name from two mountain ridges one from Mysie near Troy and the other from Creta. It is described as a lower spreading bush with underground perennial parts. In fact the underground parts somehow rhizomatous, will emit annually semi-ligneous canes with or without spines.

FLORICANES OR PRIMOCANES ?

FLORICANE (SUMMER FRUITING)

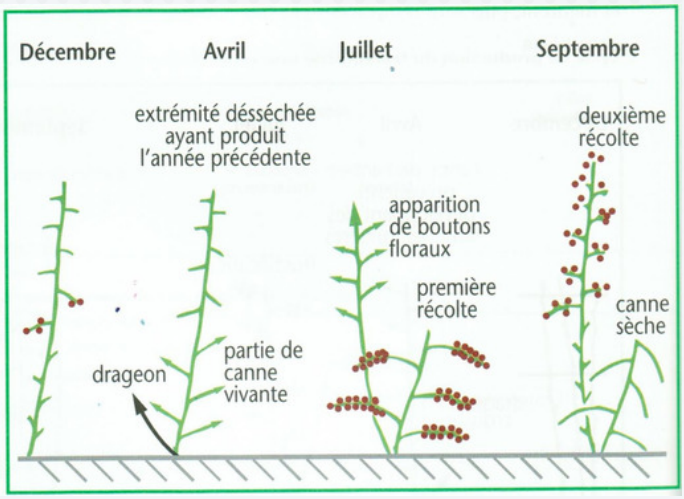
Floricane raspberries growth on a 2 years cycle. The first year will see a vegetative growth of the canes, flushing in the spring and slowing down late summer and getting dormant in September. Buds on this canes, located at the axil of the leaves, will differentiate in flowers and will fruit the following season. This will require enough cold to lift the dormancy by natural cold accumulation or artificial cold in a cooler. Canes that did produce the second war will die and dry out at the end of the second summer. At the same time, vegetative canes will grow and replace those last dried out canes. This will necessitate an annual pruning to move the dried out canes.



PRIMOCANE (FALL FRUITING)

Primocane raspberry is also cycling on a two year period. The difference is that the vegetative buds will differentiate mcc really in flower buds and won't necessitate chilling and cold dormancy lift up to produce fruits. In fact, some of the florican varieties are summer fruiting varieties so late that do not have enough time to develop fruiting buds in our conditions. In the exceptional fall season, we commonly see the variety Nova or Prelude, develop a light crop in the fall.

That being said, primocanes variety will bear fruits on the first year growth from the top of the cane going down. This will permit an annual mowing of the all the canes. But it is also possible to double crop, by cutting late fall or early spring only the top part of the canes that did fruit. The following spring the remaining buds will flower and produce a crop on the bottom of that same cane.



RASPBERRY CULTURE TYPES

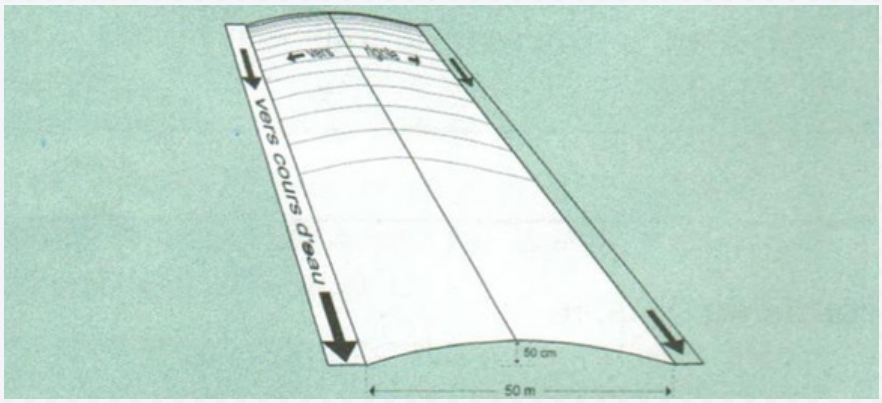
Raspberry is being cropped traditionally in open field. Florican varieties will need a trellising system to avoid cane damage loaded with fruits at harvest. It does facilitate maintenance at planting and during the vegetative growth period. Trellising is less critical for primocanes raspberry if they are mowed every year. Berries and canes are sensitive to weather aggression like rain and winds.

Sheltered culture, whether it's an umbrella type, un heated high-tunnel are gaining in popularity because of the protection to the wind and hard rains they offer. The reduction of cull fruit losses due to weather events and the ease of working under the tunnel explains most of it. Shelter cultures are compatible with soil culture or soils or substrate cultures. There is a lot of variation of methods and techniques to produce raspberries in soilless or substrate culture. Those cultural choices although comes with a high level of technical skills and money investments.

RASPBERRY'S SELECTION AND SITE PREPERATION

A good productive raspberry patch is always in a well-drained soil. A high organic matter, the cool soil will be favorable. Heavy type soil with low drainage capacity will be unfavorable. If drainage is difficult, then it is recommended to plant on raised beds that are at least 35 cm higher than the centers of alleys. For all other considerations on site, preparation refers to the strawberry cultural methods.

All considered, Raspberry can be planted in the fall, tillage and cultivation before planting must be done in the middle of summer. Soil fertility corrections can be made at the same time. If needed, it is also time to prepare the hill structures of your plantings. middle row covers crop can sow in august when germination and growth are optimal.



Formation of 2% inclined boards facilitating flat surface drainage. If necessary, the ridge tillage through the board increases the surface drainage even more.

RASPBERRY'S PLANTATION

For a spring plantation incorporates the needed fertilizer and prepare the ground as soon as possible. Site selection will be guided according to variety, cultural methods, and machinery specs. Normal plant spacing range from 40 to 60 cm on the row and 3 M between the rows. Planting in the higher density range will allow a more rapid establishment and an easier weed control. Do not plant back after raspberry ao any other Rubus production, such as blackberry and black raspberry. We strongly recommend to us plants that have been produced under quality control protocols focused on systemic disease elimination and control, like viruses and phytophthora, as performed at Production Lareault for more than 60 years. We invite you to browse our web site or catalog to look at variety descriptions and comparative tables.

Upon plant, arrival keeps them in a refrigerated room at 2° to 4°C until planting time. When string the plants make sure they are planted deeper than the depth they were in the nursery before digging. You will notice a marking left by the dirt on the canes. This is especially relevant for fall planting where soil movements from winter freezing may uplift the plants. For home gardeners and hobbyist, we do not recommend anymore the use of plant starts fertilizers high in phosphorous for an ecological reason. We recommend adding organic base amendments well mixed with the ground with beneficial fungus and bacterial like Mychorhyzae.

One important factor to a successful plantation is to use dormant plants and to cut the cane back to ground level as soon as the planting is done. Hence the cane development won't be slowed down by fruiting buds growth on the upper part of the cane. This technic won't be as good if the plants are not dormant at planting.

RASPBERRY'S MAINTENANCE

IFrequent mechanical weeding is an effective way to eliminate weeds and ensure aeration of the ground. Later on, herbicide application will help maintained weed suppression for the harvest season.

A strict weeding strategy the first two years will insure the longevity of the raspberry patch. If you choose to sow the alleys, a regular mowing is needed to prevent grass invasion on the row.

For open ground alleys, a regular cultivation will be needed until a spring cereal is done in the middle of august. To complete the initial fertilization application, two nitrogen application will be done as a banded application.

RASPBERRY'S HARVEST YEAR

In a case of a poor growth the first year it is more profitable to cut back the canes to the ground once more in the spring to hasten a more dense cane development. This will promote a better row development and at the same time will reduce weed invasion in the empty spots.

A better yield the third year will compensate largely the lack of revenue the second year. Early in the spring apply a residual herbicide, apply also a granular fertilizer adjusted to leaf and soil analysis results and recommendations. Supply irrigation to ensure 3 to 5 cm water input per week, this will become critical when fruit are enlarging right after fruit set.

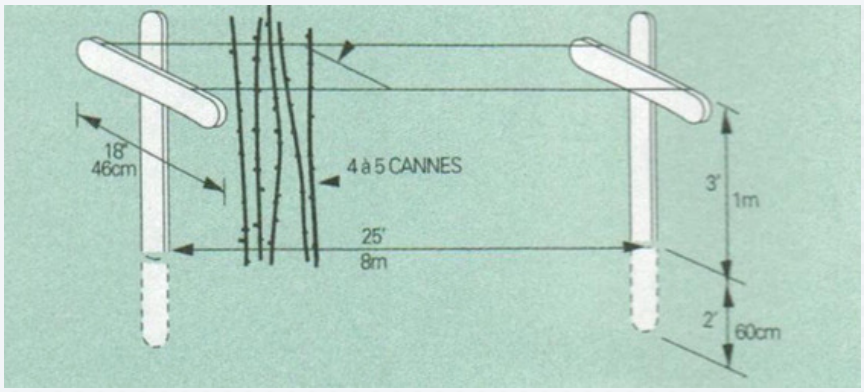
Water more often but with less duration in a sandy ground. Raspberry pruning is still a neglected subject. It is the most important factor to reach the best yields. The first goal of pruning is too thin the width of the rows and must be performed when the emerging canes reach a height of 15 to 20 cm and again a second time just before harvest.

The severity of thinning is guided by the ideal numbers of canes needed for a uniform yearly harvest. This canes density beige 10 per row meter, the thinning is done consequently. Hence the pruning of the old canes after harvest will be facilitated. Canes that have been grown in a more sunny surrounding will be more healthy, with a larger size promising a sustain yielding.

RASPBERRY'S PRUNING AND TRELLISING

Canes trellising is another way to keep constant good yields.
Overloaded fruiting canes will be supported vertically by wires (nylon or metal) to avoid them falling in the alleys. Those wires will retain the canes by wires stretched on each side of the rows. Different methods are available to perform such supports and are adapted to each grower needs.

Central tying system



Another method of summer fruiting raspberry production will use the trellising to alternate each side of the treillis with a vegetative side and fruiting side. Each side switching each year. This will allow opening the canopy to bring light in the middle of the row and facilitate canes pruning in the fall.

That method can be applied to the complete row and doing so, will be named biennial production. That is done by mowing to the ground the entire row after harvest and waiting another two years before harvest. The first year the row will grow vegetatively and will be thinned either mechanically or chemically.

Commercial growers will use contact herbicide to control row width during summer growth, as this can be done also mechanically. A cane pruning will be needed in the fall to keep a good cane density before fruiting.

This method suits well for U-pick operation, sinning it, helps disease controls, increase fruit size. One can see over a number of fruiting cycles a yield diminution of this growing method.

DID YOU KNOW...

THE BLUEBERRY

Blueberries are one of the few North American fruit species and have a colorful history dating back to pre-colonial times. The blueberry was collected and used by the Natives for centuries before the arrival of the settlers of Europe.

The blueberry was sacred to the Natives in part because the end of the berry was in the shape of a five-pointed star. The Natives believed that the berries were sent by the Great Spirit during a great famine to relieve their children's hunger. When the English settlers arrived in America, they tried to implement English farming practices. Associated with an attempt at community life, this proved disastrous.

The New England settlers almost died of hunger until the Natives interfered and taught them how to preserve fruit during the winter. The blueberries used by the Natives were indigenous. Today most of the blueberries that are grown are the variety that grows in the bushes that were domesticated in the early 20th century by Elizabeth White and Dr. Frederick Coville. Since then, the culture has been so successful that America participates in more than 90% of the world's production.

HIGHBUSH OR LOWBUSH BLUEBERRY?

HIGHBUSH BLUEBERRY

Highbush blueberries are less resistant to cold but more tolerant to heat. They grow much higher than Lowbush varieties and grow like a real bush. The height varies according to the different varieties and can reach up to 12 feet. The fruits will be of a good size and of very good quality. Size, flavor, and texture may vary considerably according to the different cultivars.

LOWBUSH BLUEBERRY

Lowbush blueberries are found in the northern and therefore they are less tolerant to the heat. The plant reaches about 45 cm making it an excellent ground bush. It can, therefore, be used in landscaping as an ornamental floor bush. Blueberries tend to be medium-sized but sweet and intensely tasty.

BLUEBERRY'S SITE PREPARATION

Highbush blueberries are not very hardy, fruit buds will be damaged when winter temperature goes below -32°C. Good orchard sites on the hills and mountains slopes remain the best sites for high bush blueberry culture.

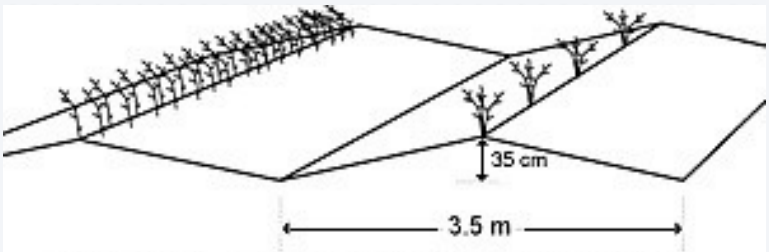


Illustration of raspberries (left) or highbush blueberries (right) planted on raised rows

Success is possible on well-sheltered sites protected from the wind or with low type varieties combined with a good snow cover. In that last possibility, fruits will be set in the 65cm near the ground and pruning will be conducted accordingly.

Blueberries have requirements that differ from most cultivated plants. Ideally set in an acid sandy soil with an ideal pH of 4.8. Others sol type can be amended with organic products like peat, or composted barks, to modify the structure. Before planting dig a ditch oral the row length and filled with peat moss. With a rototiller, mix the peat and ground together. If the site has the drainage issue, put the peat on top of the ground, rototill and shape a hill to facilitate drainage.

HIGHBUSH BLUEBERRY'S PLANTING AND MAINTENANCE

Plant highbush at 1.3-1.5 m on the row and 2.5-3.0 m between rows. To favor cross-pollination and increase fruit setting and size, it is advisable to plant 3 different varieties. Plant deeper so the base of the plants is covered by the ground for the first 5 to 8 cm. Thorough irrigation is needed after planting.

Blueberries are naturally found on poor grounds. A common mistake is to damage them by over fertilization. Do not supply fertilizer at planting, but do so two weeks later. For small plantings, apply (30-10-10) done with ammonium sulfate. For commercial plantings apply 25gr per plant of ammonium sulfate (21-0-0) on a radius of 30 to 60 cm around each plant. Start fertilizing end of April or early in May. Repeat every 3 weeks, but no later than early July, especially if a sawdust mulch is used. Increase the dosage gradually as the planting matures without exceeding 100-125 gr. per plant per year. In the end of summer and in the fall, apply potassium and magnesium sulfate (SulPoMag) in the same dosage.

Water supply is the main factor of success, so keep a constant humidity. On the other end will not tolerate water excess of shortage. A sawdust mulch is strongly suggested, Ramial chipped wood is also suggested. A mulch cover of 5 à 8 cm is well indicated. An irrigation system must be set up for plantation time. For the first two seasons removed flowers to boost growth. After 3 to 4 years prune at the end of the winter removing the oldest branches at the bottom of the ground. For a top fruit quality harvest only once a week. Bird's netting and deer fences are suggested if a nuisance. At the end of harvest season starts spreading bait station to control rodents, and keep at it all along winter.

LOWBUSH BLUEBERRY'S SELECTION AND SITE PREPARATION

Lowbush blueberries have the same requirement for the soil than the highbush. Although it is found in more northern latitude tannins southern cousin, it is considered less hardy.

Lowbush really need snow over to survive or are very thick mulch. With its limited height 30-40 cm, this requirement is easily met.

LOWBUSH BLUEBERRY'S PLANTING AND MAINTENANCE

As for planting and maintenance, proceed as for highbush blueberries. The dwarf type is planted 40-60 cm on rows spaced 1.5M apart. After a few years, when the plants are not vigorous, cut the dwarf blueberries to a level with a pruning shears or pruning shears. A season without production will follow, but future harvests will be even greater.

HIGHBUSH BLUEBERRY'S CONTAINER CULTURE

Container culture is gaining in popularity. Combined with an appropriate winter protection, this enables the use of varieties much less hardy but far more productive. Commercial substrate companies have designed knowledge to guide you in the choice of the best substrate. The substrate containing peat moss and composted bark have to be looked at.

If you intend to use compost or slow release fertilizer we advise caution. Blueberry root systems are fine and fragile, it lacks root hairs commonly found in other plants. That's what makes blueberry more dependant on irrigation and more sensitive to high salinity or too much fertilizer

DID YOU KNOW...

THE BLACKBERRY

Blackberries are present on most continents in the temperate zones.
They can be found in mountain regions of the warmest climates. Over 400 species are listed among which figure dwarf plants, bushy types or vine climbers. Those plants are generally perennials and fruits are forming on last year growth. Although blackberries are present as wild plants in northern France, they have not been cultivated until the 20° century.

The popular belief tends to conclude that the land planted with brambles was uncultivated, no one had ever attempted any culture. The problem is actually the difficulty of clearing or working with these plants which are very thorny. The first bramble cultures were made in North America in the 19th century, and began with the hybridization of different wild species.

Canada's burr was used in this work because of its great hardness and its frequent absence of thorns. Unfortunately, varieties often developed further south do not adapt well to our rigorous winters. Canada's brambling seedlings have many large, upright or arched stems, almost totally inert. The alternate leaves are composed of 3 to 5 leaflets. The white flowers cluster in terminal clusters of 5 to 35 flowers. Flowering takes place in July and the fruit, first red, becomes black at maturity in August-September. Harvest one or two days after the uniform black coloring has been reached to allow the fruits to fully develop their aroma. Unlike raspberries, the receptacles remain attached to the fruit.

BLACKBERRY'S SELECTION AND SITE PREPERATION

Apart from the planting distances on the row which are larger (1 to 2 m), the choice and preparation of the site, as well as the planting and the maintenance of the mulberry tree, are the same as for the raspberry. For the size of the thornless mulberry crawler, group the new rods and tie them loosely on the first wire (60 cm from the ground) of a two-wire tying. Cut the branches to 10 cm from the main stems.

BLACKBERRY PLANTING AND MAINTENANCE

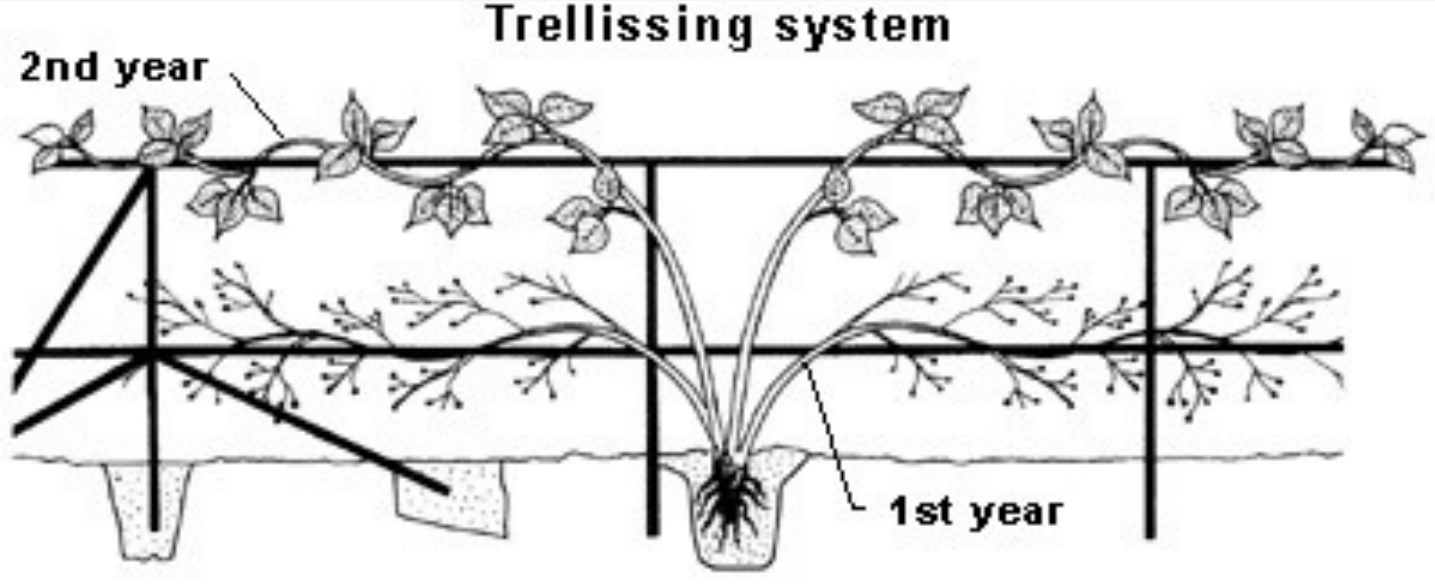
The following year, after trimming the damaged or excess stems, attach the others to the second wire (160 cm from the ground) for harvesting. Proceed as for the previous year for the new stems.

The trowel should be nearly 2M high with posts spaced 3 to 5 M. Harvest from August to October when the fruit is very ripe. At the end of the season, remove completely the stems that have brought back. Mulberry trees are less demanding than raspberries in fertilization but are more fragile to changes in the environment. This is why field crops can produce variable results, whereas near a vegetation shelter near the undergrowth they produce well.

The sunshine remains important, but exposure to the wind will be harmful. Other requirements are similar to raspberries. The rusticity of the blackberry is less great than that of the raspberry. It will be important to protect the winter by placing the stems on the ground, or in potted plants by placing the plants on the ground and covering them with a winter cover. The use of repellent and bait station to rodents and mullet becomes necessary.

BLACKBERRY'S SUB SHELTERED AND SUBSTRATE CULTURES

The blackberry fits very well with the culture under shelters with or without substrate. The substrate recommendations remain the same as strawberry and raspberry. The planting distances and the trellising are the same as before.



DID YOU KNOW...

THE DWARF SOUR CHERRY

Dwarf sour cherries originate from Middle East Asia according to 19th-century botanists. Romans mentioned it during their military campaign, after tasting them in a city called Cerasus, now Gireseum in Turkey. The sour cherry that has long been cultivated locally is the Montmorency. Dwarf sour Cherry is a cross between Prunus fructicosa from Siberia with Prunus Cerasus. Further development of those hybrids started in the 1940s at the University of Saskatchewan with Dr. Les Kerr. In 1999 the first commercial variety was introduced: SK Carmine Jewel.

That dwarf sour cherry is a shrub (Maximum height of 2,5M) that can yield up to 15Kg of berries per bush. They are extremely hardy and can tolerate -40 °C (Zone 2b). Berries are better in quality than the typical sour cherries, like Evans and Montmorency. They are larger in size and sweeter. Harvest period starts in July until late August, like the high-bush blueberries. The lifespan of a bush can be of 20–25 years. Those plants are auto fertile (Honeybee mainly).

DWARF SOUR CHERRY'S SELECTION AND SITE PREPERATION

Dwarf sour cherry bushes will grow in different soil types but will prefer light soil with a pH of 6 to 7. They are not very demanding in fertility and the needs for soil preparation of the raspberry plants will do just fine.

Like gooseberries, dwarf sour cherries flowers may be hurt by spring frost, so site location must be selected to minimize that risk. Bushes themselves are very hardy to winter conditions and can tolerate -40 °C.

DWARF SOUR CHERRY'S PLANTING AND MAINTENANCE

Upon arrival of plants unwrapped the boxes and keep plants outside in carriage trays and make sure they don't lack watering until planting. Spaced the rows to facilitate the harvest and the machinery movements. We recommend a minimum row spacing of 4 M between the rows and 1.5 to 1.8 on the row.

Annual fertilization is recommended in the spring or early summer when the flush of growth is occurring. Do not feed them late in the summer because this will impair fruit initiation and reduce hardening in the fall. Irrigation is needed for the first three years after planting. At the end of the growing season, it is advisable to slow down watering to trigger hardening. Sowing the aisle with a cereal or grass seeds will keep humidity and will encourage competitiveness for water later in the season, triggering hardening more. We suggest having hedge sheltering planting against prevailing winds to avoid buds dry out in the winter.

One bush can yield 10 to 15 kg of berries at maturity. There is no need to prune flowers. Prune the plants in late winter before the release of dormancy. Do not prune in summer or fall, this will provoke more vegetative growth and discourage hardening. Remove branches that intermixed in the middle of the bush to avoid wounds. Do not prune more than 25% of the total wood volume in one year to avoid overstimulation of vegetative growth and revert the bush in a non-flowering mode, thus reducing yield next season. Make sure you favor light penetration in the bush center and start pruning only after the 4th or 5th year of growth. Dwarf sour cherry is auto fertile and does not need a second variety or cultivars to cross pollinate. Bees will favor pollination and are recommended.

Under our humid climate in the east part of the continent as compared to the continental climate of the Prairies, where those varieties have been developed, protective spray program against fungi is mandatory. If not, early defoliation will occur and your bushes will be set back in the middle of summer. Consult your local agronomist to know more about the appropriate spray program for your culture. Insects, bacterial canker are to monitor, but dwarf sour cherries are less susceptible to black knots than native varieties are.

DID YOU KNOW...

THE HASKAP

Honeyberry/ Haskap/ Edible Honeysuckle (Lonicera caerulea L.)

Originating from the same botanical family of the honeysuckle, the haskap is a super hardy bush with an upright growth, spreading a little bit, with a height varying from 1 to 2 M and a width of 1 M. Japanese were the first one to use it followed by the Russian. The first botanical collection goes back to the 1950s and will be gradually used for breeding work in North America in 1990s. University of Saskatchewan breeding efforts have substantially contributed to developing the curiosity for this crop in North America. The yield of 2 to 4 kg per plants have been observed.

Haskap is a thornless bush that is non-suckering. Flowers can tolerate -7 °C and open very early in the spring. The bush itself can stand as cold as -45 °C in the winter. Flowering is very early as mid-April depending on the spring. Berries are harvested just before the first summer fruiting strawberries. The haskap fruit is then harvested from early June to end of June.

HASKAP'S SELECTION AND SITE PREPERATION

Haskap will prefer well-drained soil with a good fertility and a pH around 5.5 to 7.0. It can tolerate a wider range of pH, but with lower yields. We suggest choosing sites that fit best for orchards, including a light slope and a prevailing wind protection. The plantation of a wind-break hedge is suggested or necessary. Water supply facilities will also be considered.

HASKAP'S PLANTING AND MAINTENANCE

We recommend planting as soon as possible after plant reception. Upon arrival of plants, unwrapped the box and keep them outside in a carrying tray, and make sure they are well watered until plantations. Space the rows to facilitate the machinery circulation and ease the harvest. We suggest a minimum of 4 M between the rows and the spacing of 1 M on the row. In a heavy soil situation plant on a small hill or mound, mulches are recommended either organic or plastic mulches to control weeds. Organic mulches such as twigs shave or wood shaves will limit weed growth and maintain a good humidity at the base of the shrub. A layer of 15 cm thick is suggested. Drip irrigation is significant for the first years of growth and the feeding the years after.

Planting can be made in early spring followed by irrigation and this for the next three first year. High phosphorous feeding is optional and results are mitigated by the natural level of phosphorous in the soil. One can plant deeper (3 to 5 cm) than the original pot soil level to promote lateral shoots at the plant base.

HASKAP'S POLLINATION

Haskap is not an auto fertile plant and needs one or two different varieties with a compatible genetic to achieve a good fruit set and good size of berries. At the present time, Berry Blue and Aurora offers some of the best compatibility with the other varieties.

There are a lot of different strategies to maximize the efficiency of pollination. Pollinators insects will follow the row when feeding on the flowers, so one can plant a pollinator variety every 4 to 6 plants on the same row to make sure the pollinator insect will grab some of the pollen. Another strategy consists of an alternate variety of each row of a compatible variety.

This will be compatible with mechanical harvesting. Since flowering of Haskap is very early, bumble bees that are more active under cool temperatures will be a good choice for pollination. Any site modification that will encourage bumble bees nesting near the Haskap patch will be worthwhile.

HASKAP'S FEEDING, PRUNING AND NUISANCE

FEEDING

Growth observations on haskap show that raspberry recommendation for soil amendments and feeding will do fine. Fertilize in the first years after the establishment, in early spring is necessary.

Do not overfeed since the root systems are fragile, and make sure you do not put any fertilizer near the main stem. Whether it's organic or synthetic, put the fertilizer at the outer edge of the foliage when looking from the top of the plant.

The use of a drip system will facilitate the split of the fertilizer in smaller quantities during the growth phase. High levels of feeding in early spring will burn the roots as commonly seen in blueberries. After early July gradually decrease feeding and favor magnesium and potash sulfate amendments. For watering, a weekly supply of 2.5 cm including natural waterfall will suffice.

PRUNING

Pruning of the bush is essential to prolong juvenility and lifespan of the stand. This will help open the plant structure to favor aeration and light penetration. This will also be helpful to clean lower branches to ease mechanical harvesting. In theory, you want to rotate the canes every four years. Pruning will star after three to four years of growth after planting. It is recommended to prune in early spring just before bud swelling.

NUISANCE

Haskap can be prone to powdery mildew that will show right after harvest. The leaves will turn brown and may start to dry out if occurrence is high. Preventative fungicide like sulfur base products is a solution to consider before spraying with synthetic fungicides.

This fungus will not kill the plants, neither does it weaken its hardiness. As of today there is no indication that this cause significant yield losses. Birds are attracted by the fruit since there is nothing else that good on the market at that time in spring. Dear have not shown interest so far, rodents although must be controlled in the same way it's done in the blueberries patches.

DID YOU KNOW...

THE ASPARAGUS

This perennial vegetable plant originates from the eastern Mediterranean. Indeed, traces of wild varieties have been found in South Africa and North Africa. Furthermore, archaeologists believe it would have been cultivated in Egypt.

Asparagus has been consumed for more than 2000 years. It was first appreciated for its medicinal properties. Asparagus fell into oblivion during the medieval period but continued to be cultivated by the Arabs.

ASPARAGUS'S SELECTION AND SITE PREPERATION

Asparagus grows well in a sunny spot and well-drained fertile soil, with a pH of 6.5-7.0. Prepare the soil one year in advance to control perennial weeds. If necessary, apply lime, compost, and a complete fertilizer as indicated by soil analysis.

ASPARAGUS'S PLANTING AND MAINTENANCE

Before planting, incorporate a fertilizer rich in phosphorus at a depth of 10 cm. Place the plants at a distance of 30 cm in a furrow 30 cm deep and cover 5 cm of soil. Distancing the furrows from 1.3-1.5 M.

As the spears grow, fill in by bringing soil back into the furrow to cover it at the end of the season. Irrigate and fertilize as needed. In the following spring, cut the old stems to the soil. Fertilize, irrigate and weed when necessary, taking care not to damage the crowns of the plants. If the new stems or shoots are large enough, harvest them for the first two weeks.

Subsequently, let the stems develop to ensure the accumulation of reserves in the crowns. These reserves ensure the harvest of the next season. Monitor insects and spray as needed. Do the same for subsequent seasons. The harvesting period may last 1 month. The larger the spears are, the longer the harvest will be.

DID YOU KNOW...

THE GOOSEBERRY

Gooseberry is native to Europe, where it is particularly popular. The English love it in their kitchen. They have created a sweet and sour sauce that accompanies mackerel; This sauce would have given its name to the gooseberry in French, that could be literally translated to mackerel currant. The gooseberry grows on a thorny shrub with single large berries. Red currant bears clusters of smaller berries.

"Blackcurrant" (Ribes nigrum) is a black berry that comes from the blackcurrant bush, native to Northern Europe and looks like a blueberry. Its culture began in Europe in the middle of the 18th century. Its fruit is covered with a thin little translucent skin similar to that of the grapes. Their juicy, sour and aromatic pulpit contains tiny seeds. The grape currant (Ribes rubrum, Sanctorum, vulgar, etc.), sometimes called "gadelle" in Quebec, originates in Northern Europe and Asia.

GOOSEBERRY'S SELECTION SITE PREPERATION

The site and choice of soil for the currants, black currant can be the same as for strawberry. Although they tolerate better heavier soils because they retain their moisture during the hottest periods. In the case of heavy soils, the mounding is always necessary. In light soil, carefully monitor the levels of boron and magnesium.

The Ribes are generally very hardy in our winters; we must watch the damage due to spring frost to the flowers, so choose sites that favor air circulation as is the case for the blueberry.

GOOSEBERRY'S PLANTING AND MAINTENANCE

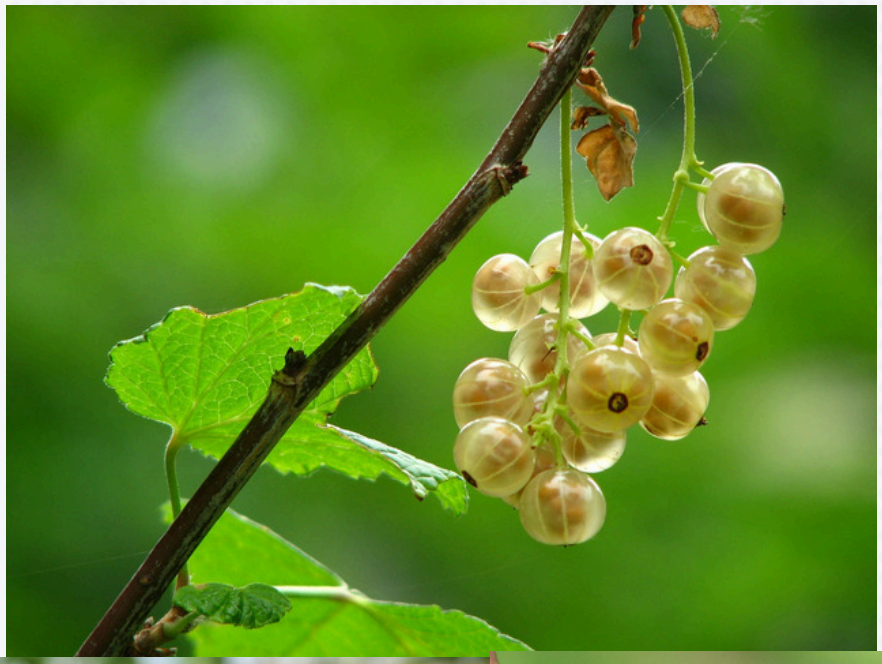
Plant very early in spring, at a distance of 1.2-1.5 m on rows spaced 3 m apart. Place the plants deeper than they were in the nursery. Cut back the stems 1/3 of their height and keep only 2-3 stems. Irrigate and fertilize 2 weeks after planting with a full fertilizer or a fertilizer rich in nitrogen.

A 10 cm thick mulch will retain the moisture required for good seedling growth. Starting the second year, trim annually when still dormant. Old stems, diseased, misdirected or in overabundance are cut down to the ground. For the blackcurrant, keep up to 5 vigorous new stems each year. The wood of 2 and 3 years old will bear the most beautiful fruits. After 3 years, eliminate the old stems because their productivity decreases.

The currant and the red currant will yield more on older wood. So keep 3-4 new vigorous stems each year. After 5 years, the old, unproductive stems are eliminated. Spray foliage to control pathogens and pests as required. Blackcurrant is an alternative host for white pine blister rust. It is, therefore, necessary to avoid planting them if there are white pines in the neighborhoods.

GOOSEBERRY'S POLLINATION

Currants and red currants are self-fertile, on the other hand, the blackcurrant is not and therefore, needs a pollination variety. Bumblebees, like blueberries, will be your best pollination allies.



ADDITIONAL INFORMATION

This page provides producers with valuable resources and information on land management, conservation practices, risk management and other educational resources.

MAPAQ

http://www.mapaq.gouv.qc.ca/

AGRI RÉSEAU

https://www.agrireseau.net

OMAFRA

http://www.omafra.gov.on.ca/