

Magoebaskloof  
& Haenertsburg Village

## Berry Festival

Date: 9th & 10<sup>th</sup> February 2013

### Blueberry History



The blueberry may be small, but it's no youngster. Botanists estimate blueberries burst onto the scene more than 13,000 years ago!

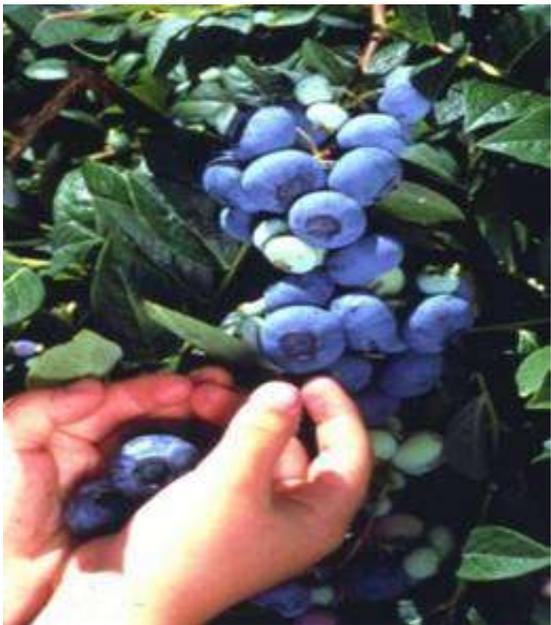
Blueberries are indigenous to North America and have deep roots in our country's history. When Europeans arrived on the continent, the Native Americans were already enjoying blueberries year-round. They dried blueberries in the sun and added them whole to soups, stews and meat, or crushed them into a powder rubbed into meat as a preservative. According to legend, Native Americans gave blueberries to the pilgrims to help them make it through their first winter.

### How Blueberries Grow

Botanically speaking, blueberries (genus *Vaccinium*) are part of a plant family that includes the flowering azalea, mountain laurel and heather-plants. They like acid soil and plenty of water. What the little blue dynamos<sup>SM</sup> do with this simple start is quite remarkable.

Highbush blueberries – the ones you find in grocery stores – grow on bushes that are often planted in long rows. The bushes can grow up to 12 feet tall, but most peak at about 6 feet. In the spring, clusters of beautiful white blossoms pop up all over the bushes and are pollinated by bees. Each blossom eventually becomes one blueberry – first hard and green, then reddish-purple, and finally blue, sweet and ready to eat!

For the fresh market, blueberries are mainly picked by hand and the blueberry workers gather the berries in large bins and transport them by truck or tractor from the field to a packing plant, where the blueberries are sorted and any bruised or unripe ones are removed. Only round, plump berries pass the inspection point. The best fresh blueberries are cleaned and packaged in clear clamshell containers with labels indicating where they were grown and packed. These containers are stored in large refrigerated rooms until they're taken to market.



## Buying & Handling Blueberries

### Fresh Blues

When you go to buy fresh blueberries, look for ones that are firm, dry, plump and smooth-skinned, with a silvery surface bloom and no leaves or stems. Size isn't an indicator of maturity but color is—berries should be deep purple-blue to blue-black. Reddish berries aren't ripe, but you can use them in cooking. Avoid blueberries that look soft or shrivelled or have any signs of mold. If you see juice stains in a container of blueberries, it means the fruit might be bruised. Refrigerate fresh blueberries as soon as you get them home, either in their original plastic pack or in a covered bowl or container. Be sure to wash your berries before you start snacking, and eat them within 10 days of purchase (that's the easy part!).

### Frozen Blues

You can find frozen, unsweetened blueberries packed in poly bags or boxes in the frozen food section of your supermarket. When you grab a bag of frozen berries, they should feel loose and not clumped together. They've been individually quick frozen so you can remove a few at a time or use them in larger portions.

Store your frozen blueberries in the freezer. If you don't use the whole bag, return the unused portion to the freezer promptly. Some people like to pop frozen blueberries right into their mouths or onto ice cream and yogurt, but if you choose to thaw your berries, cover and refrigerate them and use them within three days.

### Freezing Your Own Blues

Have you ever thought about freezing blueberries at home? Anyone can do it! The key is to use fresh blueberries that are completely dry when you pop them in the freezer. Don't worry about rinsing the berries before you freeze them; simply place them, still in their original containers, in resealable plastic bags and store them on your freezer shelf. If you prefer to rinse the berries first, dry them well with paper towels, transfer to freezer containers or resealable plastic bags and freeze. The berries will freeze individually and you can remove just the portion you need. If you didn't wash your blueberries before freezing them, you should rinse them just before use. For best results, use your home-frozen blueberries within six months.



## Health

Don't let their miniature size fool you – blueberries are proof that, when it comes to health benefits, good things really do come in small packages. Especially in small, blue ones!

The health benefits of blueberries are even bigger than you might know. They're low in fat, have just 80 calories per cup, and scientific studies show that blueberries contain substances with antioxidant properties<sup>1</sup>. Antioxidants help to neutralize free radicals, which are unstable molecules linked to the development of a number of diseases, including cancer, cardiovascular disease and other age-related conditions such as Alzheimer's.

Blueberries are high in Vitamin C, which promotes a healthy immune system, and manganese, which plays an important role in bone development. They're also a good source of dietary fiber, which contributes to heart health, helping to keep cholesterol in check.

Plus, one easy way to make sure you're eating a balanced diet is to fill your plate with a rainbow of fruits and vegetables ... and blueberries provide that perfect shade of blue!

## Berry Recipes









Berry Drinks





## Early History of Raspberries

According to research, the red raspberry or *Rubus idaeus*, is native of Asian Minor and North America. The first to note an appreciation for this fruit were the people of Troy, who used to gather them in the foothills of Mt. Ida, at the time of Jesus Christ. Other literary records can be found in 4th century writings, by Palladius, who was an american agriculturist. Archaeologists have found seeds in Roman forts in Britain, so it is believed that the Romans are responsible for spreading raspberries throughout Europe.

## Medieval History of Raspberries

By the Middle Ages, wild berries were widely known and used as a food, as well as for medicinal purposes. Their juices were sometimes used in art, for paintings for example.



King Edward I of England - He made raspberries famous and encouraged their cultivation throughout Great Britain In these times, only the rich could afford raspberries! King Edward I (1272 - 1307) is credited for encouraging cultivation of raspberries, which underwent a fast increase in popularity and availability

## How to Grow Raspberry

The most important causes of raspberry success are careful selection of plant types, a solid trellising system, and ongoing care that matches the plant type. If this is provided, your plant will reward you with decades of high fruit yield and a lot of satisfaction.



### Choosing your variety

The techniques illustrated here are for the classical everbearing variety called 'Summit'. Ideally, you should ask your local greenhouse what plant is more suited for your climate zone, and you should also ask for rooted canes that are certified as disease-free.

I chose an everbearing type because it will produce more fruit: if you nurture it well it's going to provide you with lots and lots of raspberries for cakes, gifts for your neighbours, packs of frozen berries and whatnot.

Summer-bearing varieties only fruit for about a month, and then it's all over. Everbearing varieties fruit around July, while summer-bearing begin production a few weeks earlier.

If you're trying to add variety to your garden you could consider adding a summer-bearing variety such as Brandywine, or even some yellow raspberries such as the "Golden" or "Fall Gold" and "Golden Harvest".

### How Many Plants?

Raspberry plants are extremely prolific and even planting a single cane will almost guarantee you will have dozens in a couple of years.

As for space, I suggest a two-tow strawberry patch 9 feet wide and at least 20 feet long. Allow 4 to 6 feet between tows as that will provide you enough space for picking fruits comfortably.

Raspberry plants tend to suffer from root rot, and they are gross feeders. A good idea would be to build a raised bed (about 20 inches high is enough), filled with 4/5 garden topsoil plus 1/5 sand, manure and peat. Raspberries prefer slightly acidic pHs of around 6. An ideal period to do this is around spring, so you will be ready to plant in spring.

Of course you can also plant raspberries directly in your garden, but be sure that you have a deep soil that drains well, or the plants will die to root rot.

Also, try not to grow your raspberries in a place where you previously grew tomatoes, potatoes and peppers, since it will increase the risk of your plant wilting to verticillium.

## Planting Raspberries

The best time to plant raspberry bushes is in early spring, well through summer (for summer-planting you will need a very healthy plant though). If you plant them in spring, you will often get the first fruits in summer!

Bare-root plants are to be soaked in a half strength solution of vitamin B1 growth stimulant (1/2 teaspoon per quart water), for six hours. After that, plant immediately (certainly don't leave them in the solution for more than a day, and don't wait too long to plant them or they'll die quickly).

After this, dig a 1-foot-deep, 1-foot-wide hole, put in some well-rotted manure and organic fertilizer, or 4-20-20 and mulch to retain moisture.

Plants should be set 3 to 5 feet apart, and mulch shouldn't be more than 3 inches deep. Dig a hole 1 foot deep and wide per plant. In our case, we set the plants 3 feet apart in the row. Put a handful each of rotted manure and fertilizer in the hole. Add some water, pop the plant in, then carefully tuck the soil around and over its spread roots to make a small depression or basin at the surface, a place for rainfall to accumulate. Sprinkle some more rotted manure in this depression to provide a jump start for growth, then cover the ground around the plants with your mulch -- no more than 3 inches deep. We laid landscape cloth over our path between the rows and covered it with wood chips. Drip irrigation is the ideal way to water raspberries, and this is the easiest time to install it.



## T-bar Trellies

If all goes well, your raspberry plants will produce so much fruit that they will need external support to avoid falling over: a t-bar trellis is the ideal instrument to provide this support cheaply and effectively. Bury a 6-foot post 1 foot in the ground, then fasten 30-inch crossbars with sturdy screws across the top and middle of each post. Add two tiers of wire, one 2 feet off the ground and the other stretched from the ends of each crossbar (a 16-gauge wire will do).

## Pruning Raspberries

The purpose of pruning is removing the old, unproductive canes to make room for younger, healthier ones. Some of your new canes will start fruiting at their top in late summer, through fall. Wait until spring, keeping track of these canes, and prune these 1-year-old canes.

You should only cut them to just below the fruiting area (about level with the top support wire), as this will let them fruit in July, while new primocanes will grow rapidly from between the old canes.

These primocanes will fruit in late summer, and should be then thinned and their suckers cleared away (unless you want your entire garden filled with raspberries!).

In the second year, 2-year-old canes should be completely removed to make room for new ones (i.e. cut them at ground level), while 1-year-old canes should be trimmed as described before. Applying some well-rotted manure in early spring will ensure more production.



## Raspberry Pests and Diseases

A good rule for keeping your raspberry plants healthy is to keep them damp in summer and dry in winter: mulching extensively is useful for keeping moisture to a good level, and remember that a drip system is the best way to water them.

Raspberry plants also need a lot of nitrogen to grow to full size (about 7 feet). Many growers use a lot of nitrogen, but I believe it's best to stop it around fruiting time: too much nitrogen will encourage the plants to produce leaves, but you want them to produce fruit instead!

Although raspberries are usually very sturdy and do not get many diseases, they can still be attacked by aphids, fruit worms and nematodes. Another danger is posed by maggots, who girdle the emerging canes and break them off at soil level.

Raspberries are self pollinating, but will need the aid of bees or other insects to self-pollinate, so try to find a spot with a beehive in the vicinity.

Other diseases you may encounter are root rot (very common if you overwater), fruit rot and spur blight. Fruit rot can be solved by picking fruit frequently in wet weather, and pruning the bush a bit.

Root rot manifests itself with the plant dying after flowering, at the first sign of warm weather.

Spur blight's symptoms are brown stains on primocanes, from midsummer to fall, during weather with high levels of humidity. The best "cure" here is prevention, which can be achieved with a lime-sulphur solution applied as a dormant spray

## Health Benefits of Raspberries

### Ellagic Acid

Raspberries' most peculiar nutrient is ellagic acid, a natural phytonutrient belonging to the family of tannins, which is probably the most important antioxidant found in raspberries. Ellagic acid is frequently sold in health food stores as a dietary supplement.

### Antioxidants, Ellagitannins and Anthocyanins

Ellagic acid, as well as all the other antioxidants found in raspberries, are useful to prevent damage to cell membranes and DNA, since they prevent the action of free radicals by quenching their oxidant potential. Other important phytonutrients contained in raspberries are flavonoids: the most represented are quercetin, kaempferol and two cyanidin-containing molecules, cyanidin-3-glucosylrutinoside and cyanidin-3-rutinoside.

### *Vitamin content*

While discovering all these new and peculiar phytonutrients is cool, we shouldn't forget about traditional nutrients, especially vitamins.

Raspberries are an excellent source of vitamin C, manganese, folate, riboflavin, magnesium, niacin, potassium and copper. This makes them a very good source of B class vitamins, as well as an excellent source of soluble dietary fiber.

### *Protection from Macular Degeneration*

A study published in the Archives of Ophthalmology involving 110,000 subjects of both sexes evaluated the effects of consuming fruits, vegetables, antioxidant vitamins such as A,C and E and carotenoids on the risk of developing Age-Related Macular Degeneration.

