

Brambles

General Information

The success of a bramble planting is highly dependent upon its location. The site should have full exposure to sunlight and good air circulation. It should also be somewhat protected, however, as brambles are quite susceptible to winter injury. Temperatures below $-20\frac{1}{2}$ F will injure most fruit buds above the snow line. Colder temperatures, especially if no snow cover is present, can kill canes to the ground, or damage roots, causing plants to die in the early summer when not enough water can be taken in to support them.

The soil should be well-drained; brambles will not tolerate “wet feet.” Wet soils encourage the spread of Phytophthora root rot which will destroy brambles. Do not plant brambles where potatoes, tomatoes, or eggplant have recently been grown, because these crops carry Verticillium, another root rot fungus which can infect brambles. Avoid planting brambles near any wild brambles. Wild raspberries and blackberries harbor insects and virus diseases which will spread to cultivated plants. If possible, destroy all wild brambles within at least 600 feet of your planting.

Always obtain raspberry plants from a reputable nursery which certifies their plants to be virus-free. Raspberries are best planted in the early spring. Plant your rows at least 8 feet apart, preferably 10 to 12 feet apart to ensure adequate air circulation, as well as room for harvesting and pruning operations.

Raspberry plants are shallow-rooted and thus are

Table 32. Recommended optimal soil characteristics for growing brambles.

Soil Characteristic	Desirable Range*
pH	5.8-6.2
Organic matter	4 to 6 %
Phosphorus	20-30 ppm
Potassium	120- 180 ppm
	Base Saturation >3.0
Magnesium	100-150 ppm
	Base Saturation >5.0
Calcium	1000 - 1500 ppm
	Base Saturation >50.0

*Desirable range will vary with soil types (sand, silt, or clay), soil organic matter, and pH.

poor competitors for water and nutrients if weeds are present. A 3 to 6" layer of mulch will help to conserve soil moisture and inhibit weed growth. Coarse sawdust, wood chips or bark make good mulching materials. Straw, (free from weed seed), or pine needles work well, but need replenishing more frequently. Mulching of raspberry plantings is not without risk. The use of a permanent mulch may delay fruit ripening and plant hardening-off in the autumn, increasing the risk of winter damage.

Proper pruning is a crucial part of pest management for raspberries. Remove old second year canes in the fall and also thin out weak, spindly first year canes. In the early spring, thin out the remaining canes, leaving only those with good height, large cane diameters and no symptoms of winter injury, insect or disease damage. Everbearing varieties (e.g., Heritage) may be completely mowed down each year in early spring before growth starts as pruning practice.

Plant rows should be narrowed to a width of 2 feet or less. When finished, there should be no more than 4 or 5 canes per foot of row remaining. Canes which have been cut should be removed from the planting and destroyed. Pruning in this manner will greatly reduce the incidence of most raspberry cane diseases by increasing air circulation and reducing disease inoculum. Check with your Cooperative Extension office for details of proper varieties and cultural techniques for brambles, or see NRAES 35, *Bramble Production Guide* available through New England Extension Fruit Specialists. See source page at end of this guide for more information on ordering the *Bramble Production Guide*.

Table 33. Number of bramble plants per acre at different spacings.

Feet between plants in row	Spacing Between Rows		
	8 FEET	10 FEET	12 FEET
2	2,722	2,178	1,815
3	1,815	1,452	1,210
4	1,360	1,090	907
5	1,090	870	726
6	907	726	605
8	680	544	453
10	544	435	362

Table 34. Postplant nitrogen recommendations for brambles.

Year	IRRIGATED			NON-IRRIGATED		
	Sandy	Loamy	Clay	Sandy	Loamy	Clay
FALL-BEARING REDS (NO SUMMER CROPS)						
1	40	30	25	35	30	25
2	80	70	60	70	65	50
3+	120	100	90	90	80	70
SUMMER-BEARING REDS						
1	35	20	25	30	25	25
2	55	50	45	45	40	35
3+	80	70	60	60	50	40
SUMMER-BEARING BLACKS AND PURPLES						
1	30	25	25	25	20	20
2	45	40	35	35	30	25
3+	60	50	45	45	40	30

Note: Rates should be adjusted according to leaf tissue analysis
Courtesy Cornell University.

Table 35. Critical nutrient values for bramble tissue analysis.

Element	Deficient	Below Normal	Normal	Above Normal	Excessive
N (%)	1.80	2.00	2.50	3.00	>3.00
P (%)	0.23	0.25	0.35	0.40	>0.40
K (%)	1.45	1.50	2.00	2.50	>2.50
Ca (%)	0.57	0.60	1.70	2.50	>2.50
Mg (%)	0.27	0.30	0.70	0.90	>0.90
Mn (ppm)	45	50	150	200	>200
Fe (ppm)	48	50	150	200	>200
Cu (ppm)	6	7	30	50	>50
B (ppm)	28	30	40	50	>50
Zn (ppm)	18	20	35	50	>50

Source: PennState University

Diseases

Fruit and Foliage Diseases

Botrytis Fruit Rot; Gray Mold (*Botrytis cinerea*): Raspberries are very susceptible to fruit rots caused by fungi, especially during wet weather. To prevent fruit rots from becoming a major problem, encourage air circulation and rapid drying of the plants and fruit by maintaining narrow plant rows, and proper cane thinning. Harvest fruit regularly. Do not allow overripe or rotten fruit to remain on the plants.

Management: Infections can occur as early as

bloom, so preventative fungicide sprays should be applied beginning at that time, and followed-up with additional sprays when wet weather is predicted. See pest management schedule for recommended materials and timing. To prevent molds from developing after harvest, cool the fruit as rapidly as possible after picking and maintain them at about 33½F until they are sold. Never place raspberries in containers more than 3 fruit deep, and avoid rough handling.

Powdery Mildew (*Sphaerotheca macularis*): Powdery mildew affects susceptible cultivars of red,