

Fertilizer Guide

BLACK RASPBERRIES (Blackcaps) (Western Oregon—West of Cascades)

Blackcaps are one of several types of caneberries grown in western Oregon.

The fruit is produced from shoots that grew the previous summer. Canes that have produced a crop can be removed after harvest or the following February or March. Many commercial mechanically harvested fields do not prune out old fruiting canes. The root stock is perennial and capable of producing fruiting canes for a number of years.

Proper fertility is important in the production of profitable crops but is only one of many factors involved. Deep, well drained soils are essential. Other management practices include the use of high quality plants; accepted training practices; effective disease, insect, and weed control; the avoidance of deep cultivation; and the following of other generally accepted practices.

Blackcaps are grown on both dry and irrigated lands, but irrigation usually results in considerably increased yields.

Fertilizer recommendations are based on plantings in which the rows are 9 to 10 feet apart and the plants spaced 2½ feet to 3 feet apart in the row. If distance between plants in the row is greater, the fertilizer rate may be reduced accordingly.

Soil samples should be taken the year previous to planting and should be the basis for fertilizer applications.

Recommended soil sampling procedures should be followed in order to estimate fertilizer needs. The Oregon State University Extension Service agent in your county can provide you with soil sampling instructions, soil sample bags, and information sheets.

NITROGEN (N)

In new fields apply N in continuous bands shortly after setting the plants. Band N on both sides of the row, 4-6 inches to the side. N can be banded with P and/or K.

On established plantings N can be banded at the edge of the root zone or broadcast over the surface. Root pruning should be avoided when fertilizers are banded

The past season's growth can be an aid in determining the amount of N to apply. February to mid-March applications have been most effective on established plantings.

N recommendations are:

New planting	20-40 lb N/A
Established planting	30-60 lb N/A

When a heavy sod crop or straw has been plowed under prior to planting, the initial N application should be doubled.

PHOSPHORUS (P)

Blackcaps have shown a marked response to P in soils testing low in P.

Band placement of P is most effective in new plantings. Band P on both sides of the row. Band should be 4 to 6 inches to the side of the row and 4 inches deep.

On established plantings, if equipment is available, P should be banded into the soil when it is required. Place P bands at the edge of the root zone or no deeper than the depth of cultivation.

If the OSU soil test for P reads (ppm):	Apply this amount of phosphate (P ₂ O ₅) (lb/A):
0-20	80-100
20-40	60-80
40-80	40-60
Over 80	None

POTASSIUM (K)

Blackcaps respond markedly to K if the soil test for K is low. In new fields, K should be broadcast and mixed with the soil before planting.

A split K application should be used if over 80 lb K₂O/A is recommended. At least 50% of the K should be broadcast before planting and the remainder should be banded with N and P after planting.

In established plantings K should be banded or broadcast, alone or in combination with N, P, and possibly other fertilizers.



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If the OSU soil test for K reads (ppm):	Apply this amount of (K ₂ O) (lbs/A)
0-150	60 - 100
150-250	40 - 60
250-350	30 - 40
Over 350	None

If the OSU buffer test for lime reads:	Apply this amount of lime (T/A):
Below 5.2	4-5
5.2-5.6	3-4
5.6-5.9	2-3
5.9-6.2	1-2

SULFUR (S)

Dormant sprays of lime-sulfur or other calcium polysulfide compounds normally supply enough S; also S is contained in some N-P-K fertilizers.

MAGNESIUM (Mg)

With new plantings, if the pH of the soil is below 5.4 and the soil test value for Mg is below 1.5 meq/100 g soil, apply 1 ton/A of dolomite lime prior to planting and work into the soil. Dolomite lime is an effective liming material and is equal to ground limestone in reducing soil acidity.

With established plantings applications of 15 to 20 lb Mg/A, usually applied in the form of potassium magnesium sulfate banded after planting are recommended when the Mg soil test value is below 1.5 meq Mg/100 g soil.

BORON (B)

Blackcaps require B in very small quantities, but are very sensitive to excess B. Too much B can be as harmful as too little.

B should be either broadcast, boom sprayed, or applied as a foliar spray. B should not be banded.

If the OSU soil test for B reads (ppm):	Apply this amount B (lb/A)
Below 0.50	2*
0.50-1.50	1-2
Over 1.50	None

*This is for one year only. Apply 1 to 1½ lb B/A per year thereafter. This application may be omitted the last year of the planting.

LIME

Blackcaps are moderately tolerant to soil acidity.

Lime applications are suggested when the soil pH is 5.5 or below, or when calcium (Ca) levels are below 5 meq Ca/100 g of soil.

The liming rate is based on 100-score lime.

Lime is most effective when applied well in advance of planting and worked into the soil. A lime application is effective over several years.

The use of nearly all N fertilizers increases soil acidity and thereby increases the need for lime.

Evaluate the soil acidity problem when making new plantings. The lime application should allow for some decrease in soil pH during the life of the planting.

For soils needing lime which are low in Mg (less than 1.5 meq Mg/100 g of soil) 1 ton/A of dolomite lime can be used as a Mg source. Dolomite and ground limestone have about the same ability to neutralize soil acidity.

Fertilizer guide #3, Liming Materials for Oregon, which is available from your local OSU Extension Office, provides additional information on lime.

MANURE

Manures contain variable amounts of all plant nutrients. All of the nutrients in manure are not completely available the first year. The following table gives the approximate average content of some nutrients in fresh manures.

Kind of Manure	Nutrient & water content (%)			
	Water	N*	P ₂ O ₅	K ₂ O
Dairy	87	0.5	0.16	0.44
Beef	82	0.65	0.43	0.53
Poultry	73	1.30	1.02	0.50
Hog	84	0.45	0.27	0.40
Sheep	73	1.00	0.36	1.00
Horse	60	0.70	0.25	0.60

* About 50% of the N is available the first year.

Losses of N sometimes exceeding 50% can occur during manure storage or following application to the surface of soil. N loss is least when fresh manure is spread and worked into the soil immediately.

P, K, Mg, B and lime recommendations are based on soil test values from the Soil Testing Laboratory, OSU, Corvallis, Oregon.

The recommendations are largely based on experience in growers' fields.

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