

Fertilizer Guide

FG 49
Revised January 1983

RED RASPBERRIES (Western Oregon—West of Cascades)

Good fertilizer usage helps produce profitable crops of raspberries. However, fertilizer is no substitute for good management. Other management practices include selection of adapted well drained soils and sites; use of high quality certified plants; disease and insect control; shallow cultivation; weed control, including use of recommended chemicals; rodent control, particularly for field mice; and timely harvest. Irrigation improves yields in most fields.

Water levels in the soil during the winter should not be closer than 2 feet to the surface even for a few days.

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)

Some red raspberry varieties are more vigorous than others and may require less N to give the desired amount of cane growth. Growers are advised to pay special attention to the amount of cane growth. Annual application of N should be reduced when there is too much cane growth. More N will increase growth where needed. Canes 7' high and 3/8" to 5/8" in diameter are most desirable.

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

N may be banded in late winter or early spring of the second and succeeding growing seasons. Bands should be top dressed or placed just below the soil surface in order to avoid root pruning.

	Apply this amount N (lb/A)
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Planting year	40 to 60
Feb/Mar, 2nd year or older	60 to 80

PHOSPHORUS (P)

Band placement in the root zone gives most efficient results from P.

In new fields, P is usually banded with N, or N and K. Place bands 4 to 6 inches to the side of the caneberry rows and 4 to 6 inches deep.

On established plantings place P bands at the edge of the root zone and no deeper than the depth of cultivation.

If the OSU soil test for P reads (ppm):	Apply this amount of phosphate (P_2O_5) (lb/A):
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0-20	100-120
20-40	80-100
40-60	60-80
Over 60	None*

*Apply the lowest rate (above) the next year, in February or March.

POTASSIUM (K)

K is needed in relatively large amounts by raspberries.

In new fields, K may be broadcast and plowed down before planting.

A split application with 1/2 to 1/3 of K being plowed down before planting should be used in new fields if the recommendation exceeds 90 lbs K_2O/A . The remaining K should be banded with N and P after planting. Excessive amounts may cause burning of new feeder roots. This burning is accentuated in sandy or dry soils.

In fields two years old or older, K can either be banded or broadcast, alone or in combination with N, P, and possibly other fertilizers.

If the OSU soil test for K reads (ppm):	Apply this amount of (K_2O) (lbs/A)
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75-150	80-100
150-250	60-80
250-350	40-60
Over 350	None*

*Apply the lowest rate (above) the next year, in February or March.

SULFUR (S)

Dormant sprays of lime-sulfur or other calcium polysulphide compounds supply enough sulfur



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for raspberries; also, S is contained in some N, P, and/or K fertilizers.

MAGNESIUM (Mg)

The specific Mg requirements for red raspberries are unknown. Applications of 15 to 20 lbs Mg/A banded after planting are suggested when the soil test value for Mg is below 0.8 meq Mg/100 g soil. The Mg can be mixed with other fertilizer elements.

Both Mg and calcium are supplied in dolomite lime. Dolomite should be worked into the field before planting preferably the previous summer, fall, or earlier) at 1 to 1½ T/A.

BORON (B)

Red raspberries need B in very small quantities as it is important for normal development of flowers and berries. As plants are very sensitive to excess B, too much can be just as harmful as too little.

B should either be broadcast, boom sprayed, or applied as a foliar spray. It should not be banded. It can be added to most of the sprays--particularly Bordeaux mixture. Dry applications should be made in late winter.

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. Follow with 1 lb B/A the next year.

LIME

Raspberries are moderately tolerant to soil acidity.

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.

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.

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

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.

For soils needing lime which are low in Mg (less than 0.8 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. Use of manure can increase the problem with symphyliids.

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

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