

Optimal Fresh

The fruit, vegetable and fresh produce expert system



Detailed Report Printed on Wednesday, 19 December 2001

Crop blackberry

Maturity stage General

Category Fruit

Plant Part Fruit

Usage Baked, Cooked,
Fresh/ Raw, Fruit salad,
Pies, Preserve/ Jam



Picture source: Corel, 1998

Botanical name *Rubus laciniatus* Willd

Botanical family Rosaceae

Alternate names include

(C) hei mei zi

(F) mûre

(J-R) kuroichigo

(E) blackberry

(G) Brombeere

(S) mora negra

(E) blackberry, cut leaf

(J-K) 8[2A: ^

(S) zarza

Refrigerated Container/Coolroom Recommendations

Optimum product storage temperature

-0.5 to 0.0°C

Temperature set point

0.0°C

Add a margin for uncertainty in equipment performance if necessary.
For return air control set point add 1°C to delivery set point.

Ventilation (air exchange) settings for containers:

6 m (20') = 10 m³/h = 5 cfm

12 m (40') = 15 m³/h = 10 cfm

Acceptable product temperature at loading into container

-0.5 to 4.5°C

Key Properties

Storage time (days)†	Humidity (% RH)	Freezing point (°C)	Storage time at ambient (~20°C)	Ventilation rate
7 - 14	90 - 95	-0.8	-	Very Low

† at optimum storage temperature

Harvest dry, avoid condensation. Improved by 40% CO₂

Other Properties

Ref	Maturity stage	Air exchange *	Freezing Point (°C)	Ethylene production **	Ethylene sensitivity	Ice compatibility	Water loss ***	% Water content	Bruising susceptibility
1	General	Very Low	-0.8	Low	Low	Yes	H	84.8	

* Air exchange rates: Nil = 0%; Very low = 25%; Low = 50%; Medium = 100%; High = 200%; Very high = 400% fresh air/hour.

** Ethylene production rates at 20°C: Nil = 0 nM; Very low = <4 nM; Low = 4 - 40 nM; Medium = 40 - 400 nM; High = 400 - 4000 nM; Very high =>4000 nM ethylene/kg/hour.

*** Where % weight loss/week is given this is converted as: Low <= 1%; Medium = 1.1 - 3.4%; High = >3.5%

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Controlled Atmosphere

Ref	Maturity stage	% O ₂		% CO ₂		Temp °C		Benefit of controlled atmosphere
		min	max	min	max	min	max	
1	General	5	10	15	20	0	5	Good, (+2 days)

Reference notes

1 Combine with rapid cooling

Respiration* and Heat Transfer

Ref	Maturity stage	0°C		5°C		10°C		15°C		20°C		25°C		Specific heat kJ/kg/EC **
		min	max	min	max	min	max	min	max	min	max	min	max	
1	General	47	68	85	136	155	281	209	432	388	582			3.68

* Respiration values given are in Watts per tonne. 1 W/t = 20.4 kCal/t/d = 82.1 Btu/tn./d = 73.3 Btu/2000 lbs/d = 0.167 mL CO₂/kg/h = 7.0 umol CO₂/kg/h = 0.308 mg CO₂/kg/h

** Specific heat (kJ/kg/°C) = 0.0335 x % water content + 0.8374; Specific heat in Btu/lb/°F = 0.08 x % water content + 0.2

Compatibility in Mixed Storage

Temperature compatibility group

0	7	13	20
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Humidity compatibility group

Dry 60-80%	Moderate 80-90%	High 90-95%	Very high 95-100%
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Not compatible with crops that:

Odours will be absorbed by:

Absorbs odours from:

Seasonal Availability

Ref	Country	Region (where given)	Start Season	End Season	Start Peak	End Peak
1	Australia		January	March	February	February
1	USA		May	October	-	-
1	UK		July	September	-	-

References for blackberry

Values quoted in Detailed Report are taken from a compilation of the best set of figures from all references. This best set of figures is always referred to as Reference 1.

See Reference Report for full listing of all values, original references and alternate names.