Optimal Fresh

The fruit, vegetable and fresh produce expert system

Detailed Report **Printed on** Wednesday, 19 December 2001

Crop raspberry

Maturity stage General
Category Fruit
Plant Part Fruit
Usage Baked, Cooked, Desert, Fresh/ Raw, Preserve/ Jam
Botanical name *Rubus idaeus* L.
Botanical family Rosaceae

Picture source: Sydney Postharvest Laboratory, 1999

Alternate names include

(E) raspberry
(E) red raspberry
(F) framboise
(F) framboisier
(G) Himbeere
(J-K 4?^02A:^
(J-K 72A:^
(J-R ezo ichigo
(J-R kiichigo
(S) chordón
(S) frambuesa

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
2 - 7	**90 - 95**	-0.9	1 - 1	Very Low

† at optimum storage temperature

Recommended to add 20-25% CO2 for transport

Other Properties

Ref	Maturity stage	Air exchange *	Freezing Point (°C)	Ethylene production **	Ethylene sensitivity	Ice compat-ibility	Water loss ***	% Water content	Bruising suscept-ibility
1	General	Very Low	-0.9	Low	Low	Yes		82.5	

* 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	% O2		% CO2		Temp°C		Benefit of controlled atmosphere
		min	max	min	max	min	max	
1	General	5	10	15	20	-0.5	0	Good, (+7 days)

Reference notes

1 Recommended: add 20-25% CO2 for transport

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	93	83	166	146	283	219	584	341	731			3.60

* 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

Humidity compatibility group

Dry 60-80%	Moderate 80-90%	High 90-95%	Very high 95-100%

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	Canada		July	August	-	-
1	UK		July	October	-	-
1	Chile		November	April	-	-
1	Australia		October	March	January	January
1	USA		May	October	June	September

References for raspberry

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.