Optimal Fresh

The fruit, vegetable and fresh produce expert system

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

Crop melon, cantaloupe

Maturity stage General
Category Vegetable
Plant Part Fruit
Usage Fresh/ Raw, Fruit salad
Botanical name *Cucumis melo* var.*cantalupensis*
Botanical family Cucurbitaceae

Picture source: Corel, 1998

Alternate names include

(E) melon, cantaloupe
(E) rockmelon
(F) cantaloup
(F) mélon
(G) Warzenmelone
(G) Zuckermelone
(J-K 7 ,] @ [0L
(J-R kyantaroopu
(S) cantalupo
(S) especie de melón

Refrigerated Container/Coolroom Recommendations

Optimum product storage temperature 2.0 to 5.0°C

Temperature set point **2.0°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') = **30 m³/h = 20 cfm**
12 m (40') = **60 m³/h = 35 cfm**

Acceptable product temperature at loading into container **2.0 to 7.0°C**

Key Properties

Storage time (days)†	**Humidity (% RH)**	Freezing point (°C)	Storage time at ambient (~20°C)	Ventilation rate
14 - 21	**85 - 90**	-1.2	3 - 5	Medium

† at optimum storage temperature

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	Hard		-1.2					92	
1	General	Medium	-1.2	High	Medium	Yes	H (4.8)	92	Very High
1	Ripe		-1.2					92	

* 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	3	5	10	20	2	5	Good, (+14 days)
1	Fresh Cut	3	5	6	15	0	5	Good

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	15	18	26	29	41	47	100	115	132	191	182	209	3.92

* 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

Reference notes

1 0°C chilling temperature

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: Are sensitive to ethylene

Odours will be absorbed by:

Absorbs odours from:

Ethylene-sensitive fruits and vegetables from *Optimal Fresh* database

(High sensitivity.)

Chinese broccoli	Chinese cabbage	apple	apricot
asparagus	atemoya	avocado	banana
bean, French	bitter melon	bok choy	broccoli
brussels sprouts	cabbage	carrot	cauliflower
celery	cherimoya	chicory	collards
corn, sweet	cucumber	custard apple	eggplant
endive	fuzzy melon	globe artichoke	guava
kale	kiwifruit	kohlrabi	leafy greens
lemon	lettuce	litchi	long bean
mamey sapote	mandarin	mango	mangosteen
melon, cantaloupe	melon, honeydew	nashi	nectarine
okra	olive, fresh	onion, green	papaya
parsnip	passionfruit	pea, green	peach
pear	persimmon	plum	potato
pumpkin	quince	rambutan	rhubarb
sapodilla	silver beet	spinach	squash, soft rind
squash, zucchini	sweet potato	tamarillo	tomato
turnip greens	watermelon	yam	

Seasonal Availability

Ref	Country	Region (where given)	Start Season	End Season	Start Peak	End Peak
1	Canada		August	September	-	-
1	Australia		January	December	December	March
1	USA		May	October	-	-

References for melon, cantaloupe

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.