# Optimal Fresh

*The fruit, vegetable and fresh produce expert system*

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

## Crop fig

**Maturity stage** General
**Category** Fruit
**Plant Part** Fruit
**Usage** Dried, Fresh/ Raw, Preserve/ Jam
**Botanical name** *Ficus carica* L.
**Botanical family** Moraceae

**Picture source:** Corel, 1998

**Alternate names include**

(C) wu hua quo
(C) wu hua quo
(E) fig
(F) figue
(F) figuier commun
(G) Feige
(G) Feigenbaum
(J-K 2A<^8
(J-R ichijiku
(S) higo
(S) higuera común

## Refrigerated Container/Coolroom Recommendations

**Optimum product storage temperature** 0.0 to 1.0°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') = **15 m³/h = 10 cfm**
12 m (40') = **30 m³/h = 20 cfm**

**Acceptable product temperature at loading into container** **0.0 to 5.0°C**

## Key Properties

| Storage time (days)† | **Humidity (% RH)** | Freezing point (°C) | Storage time at ambient (~20°C) | Ventilation rate |
|---|---|---|---|---|
| 7 - 10 | **85 - 90** | -2.4 | 1 - 2 | Low |

† 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 | General | Low | -2.4 | Medium | Low | | H | 78 | |

* 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%

## 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 | -1 | 5 | Good, (+14 days) |

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## 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 | 18 | 23 | 32 | 38 | 65 | 68 | 144 | 185 | 168 | 279 | 250 | 312 | 3.45 |

* 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: Are sensitive to ethylene

Odours will be absorbed by:

Absorbs odours from: Apples, garlic, leeks, onion

**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 | Australia | | December | April | January | February |
| 1 | USA | | August | January | - | - |

## References for fig

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.*