



THE LYCHEE

Litchi chinensis Sonn is a tropical /subtropical fruit originated in southern China and southeastern Asia. The lychee belongs to the *Sapindaceae* family



Christian DIDIER

Introduction to *LYCHEE*



Usages



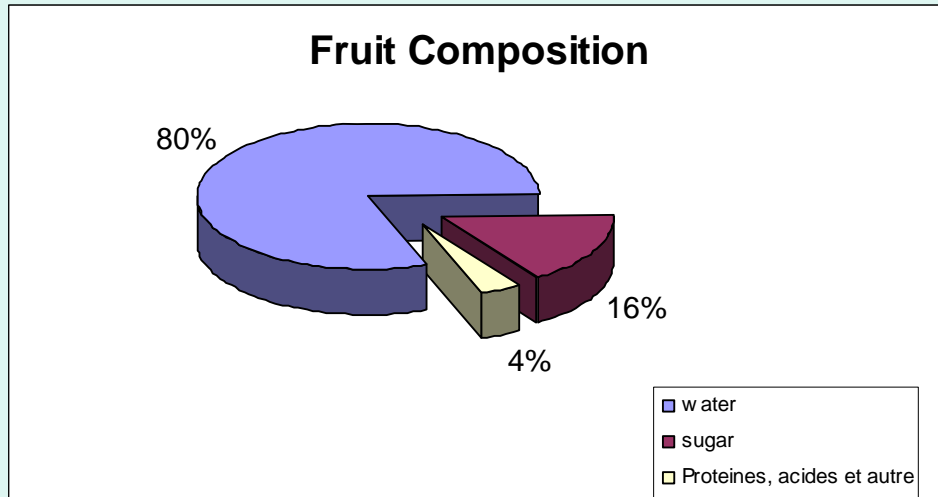
Raw as a dessert fruit



Processed, juice, ice cream..



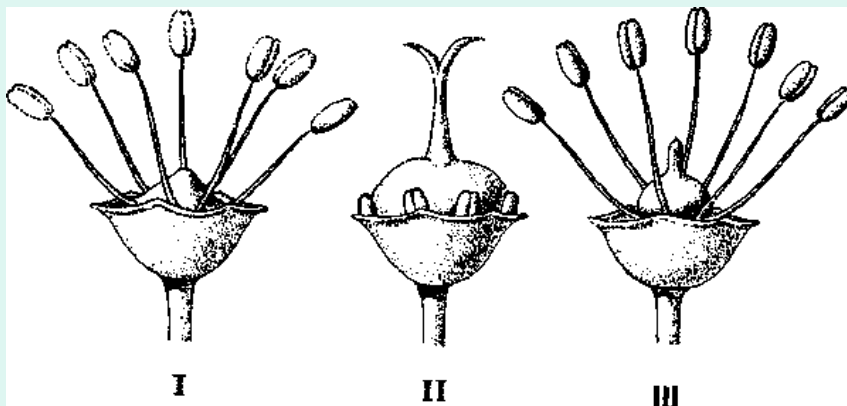
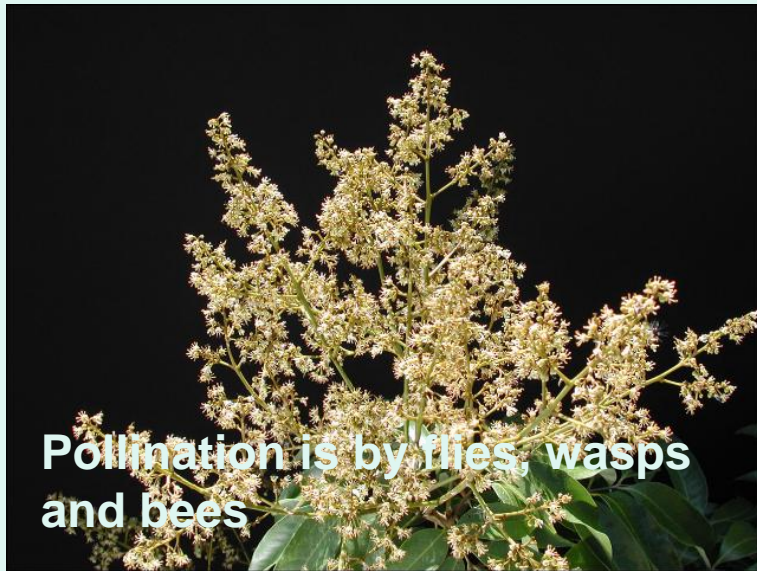
Nutritional Facts



For 100 g of lychee fruit

calories	65	calories	fer	0.4	milligrammes
glucides	15	grammes	thiamine		négligeable
lipides	0.4	grammes	riboflavin	0.5	milligrammes
proteines	0.9	grammes	vitamine B1	0.04	milligrammes
fibres	0.3	grammes	vitamine B2	0.04	milligrammes
calcium	10	milligrammes	vitamine C	45	milligrammes
magnésium	10	milligrammes	beta-carotene		négligeable
phosphore	35	milligrammes			

Botanical description



The male flowers

bisexual flowers

The male flowers

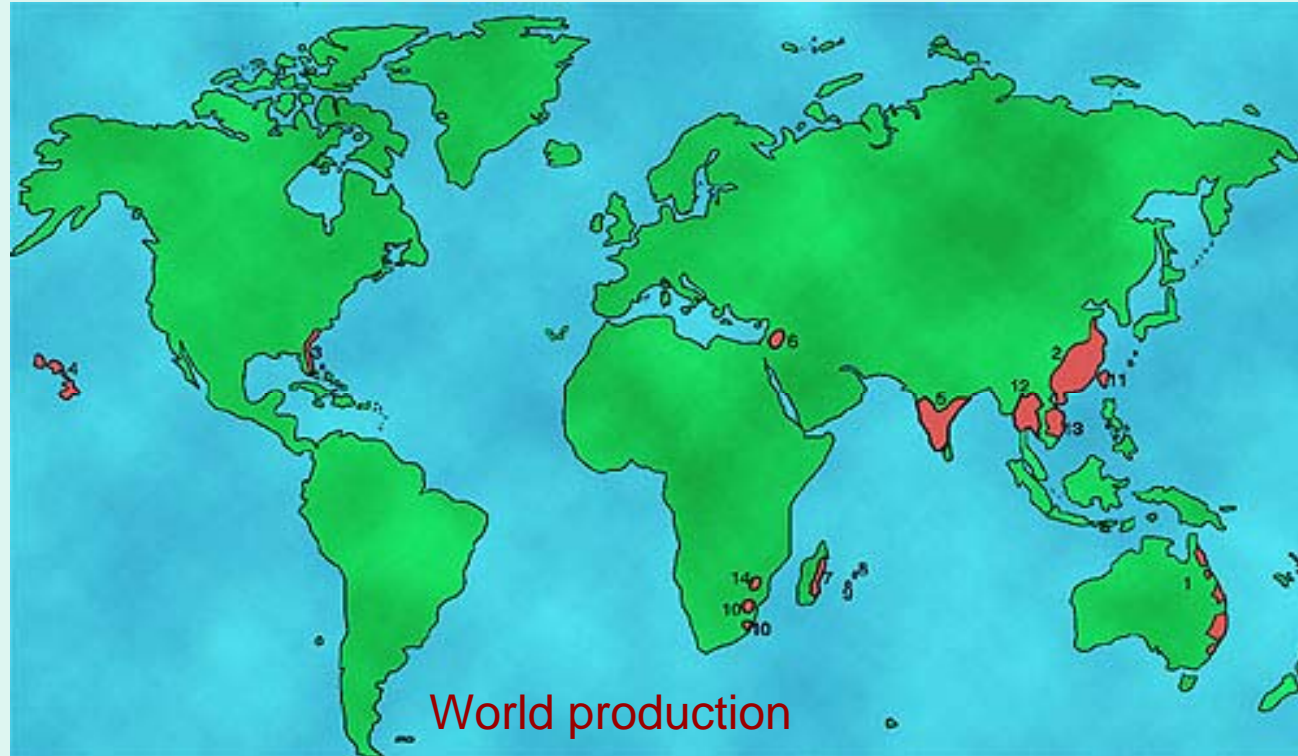


FRUITS

- The fruit is one-seeded and may be round, ovoid or heart-shaped, depending on the variety. The outer covering is a thin, leathery shell (pericarp), which is bright red in most varieties. It is rough in appearance and to the touch, its surface is covered with angular or conical protuberances (tubercles). The shell becomes brown and brittle upon drying



Lychee World statistics



1. Australie

2. Chine

3. Floride

4. Hawaï

5. Inde

6. Israël

7. Madagascar

8. Maurice

9. Réunion

10. Afrique du Sud

11. Taïwan

12. Thaïlande

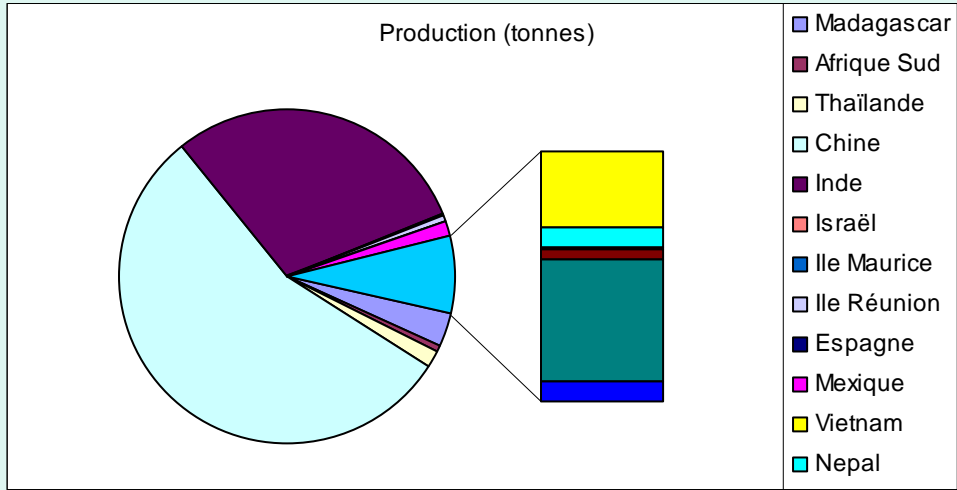
13. Vietnam

WORLD PRODUCTION OF LYCHEE

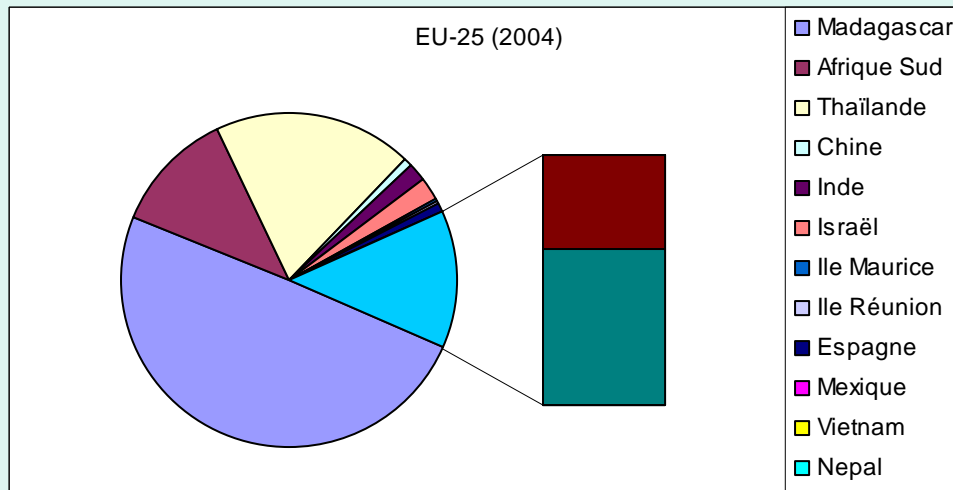


Pays	Area (Ha)	Production (t)	Export
Chine	600 000	1 200 000	295
Inde	95 000	650 000	763
Viet nam	30 000	50 000	47
Thailand	12 000	40 000	8000
Madagascar	25000	75000	20 600
Taiwan	11 800	79 100	
Bangladesh	4 800	13000	
Nepal	2380	14 000	
Australia	1500	6000	2100
Mexique	4000	25 000	?
Afrique du Sud	1500	8000	4930
Reunion	950	11400	200
Israel	300	200	873
Mauricius	350	4200	115
Florida	240	1000	
Total	789820	2176900	37923=1.74 %

World Production (Tonnes)



Export 2004 (tonnes)



The market

Litchi — European Union main imports and exports in 2004

	Total, incl.	FR	BE-LU	NL	DE	IT	UK	IE	DK	PT	ES	SE	FI	AT	PL	CZ	SI
Intra EU, incl.	19 129	3 283	2 199	2 878	5 795	1 411	2 183	74	89	106	100	134	43	453	284	48	31
France	8 243	0	1 727	2 413	2 088	1 313	505	3	0	26	81	19	0	48	0	19	0
Netherlands	5 655	390	279	0	2 987	44	1 614	26	76	26	12	57	13	91	12	10	0
Belg.-Lux.	3 156	2 226	65	69	696	47	26	1	0	0	0	1	0	17	0	7	0
Germany	1 012	25	2	370	0	1	37	0	13	27	7	0	29	292	197	12	0
Spain	440	165	70	13	1	2	0	3	0	26	0	56	0	4	74	0	24
Italy	368	307	28	0	24	0	0	0	0	1	0	0	0	1	1	0	7
UK	255	169	29	13	0	4	0	40	0	0	0	0	0	0	0	0	0
Extra EU, incl.	29 917	13 911	1 926	7 409	112	1 204	3 400	0	3	2	4	24	0	1	11	50	1 849
Madagascar	20 637	12 570	842	4 140	0	1 184	40	0	0	0	0	0	0	0	5	8	1 847
South Africa	4 930	561	1 018	2 236	3	0	1 101	0	0	0	0	0	0	0	5	3	2
Thailand	1 571	155	23	609	66	13	651	0	3	0	1	24	0	1	0	22	0
Israel	873	526	25	197	0	0	124	0	0	0	0	0	0	0	0	0	0
India	763	5	0	0	17	0	740	0	0	0	0	0	0	0	0	0	0
China	295	8	0	156	0	0	130	0	0	0	0	0	0	0	0	0	0
Pakistan	288	0	0	0	0	0	288	0	0	0	0	0	0	0	0	0	0
Mauritius	115	85	1	18	0	7	5	0	0	0	0	0	0	0	0	0	0
Colombia	76	0	0	1	1	0	71	0	0	0	3	0	0	0	0	0	0
Malaysia	74	0	0	53	0	0	21	0	0	0	0	0	0	0	0	0	0
St. Lucia	53	0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0

Source: Eurostat / Customs code: 08109030

Varieties of lychee are distinguished by differences in the physical characteristics of the fruit, the leaves, the tree and the period of maturity ■



Kwai May Red



Salathiel



Kwai May Pink



Haqkip



Wai Chee



Shahi



Brewster



Emporor

AGRONOMY

PROPAGATION METHOD

- Air-Layering (or marcotting)
- Lychee is propagated by air-layering. Air layers are easy to produce : the fruit growth early (after the third year). **The fruits are identical in size, shape, colour and quality as those of the parent tree.**



RECOMMENDED SOILS FOR LYCHEE CULTIVATION

Lychee can be grown in all soil types, but it has a preference for deep well-drained soil, rich in organic matter and slightly acid (pH 5.5 to 6.5).

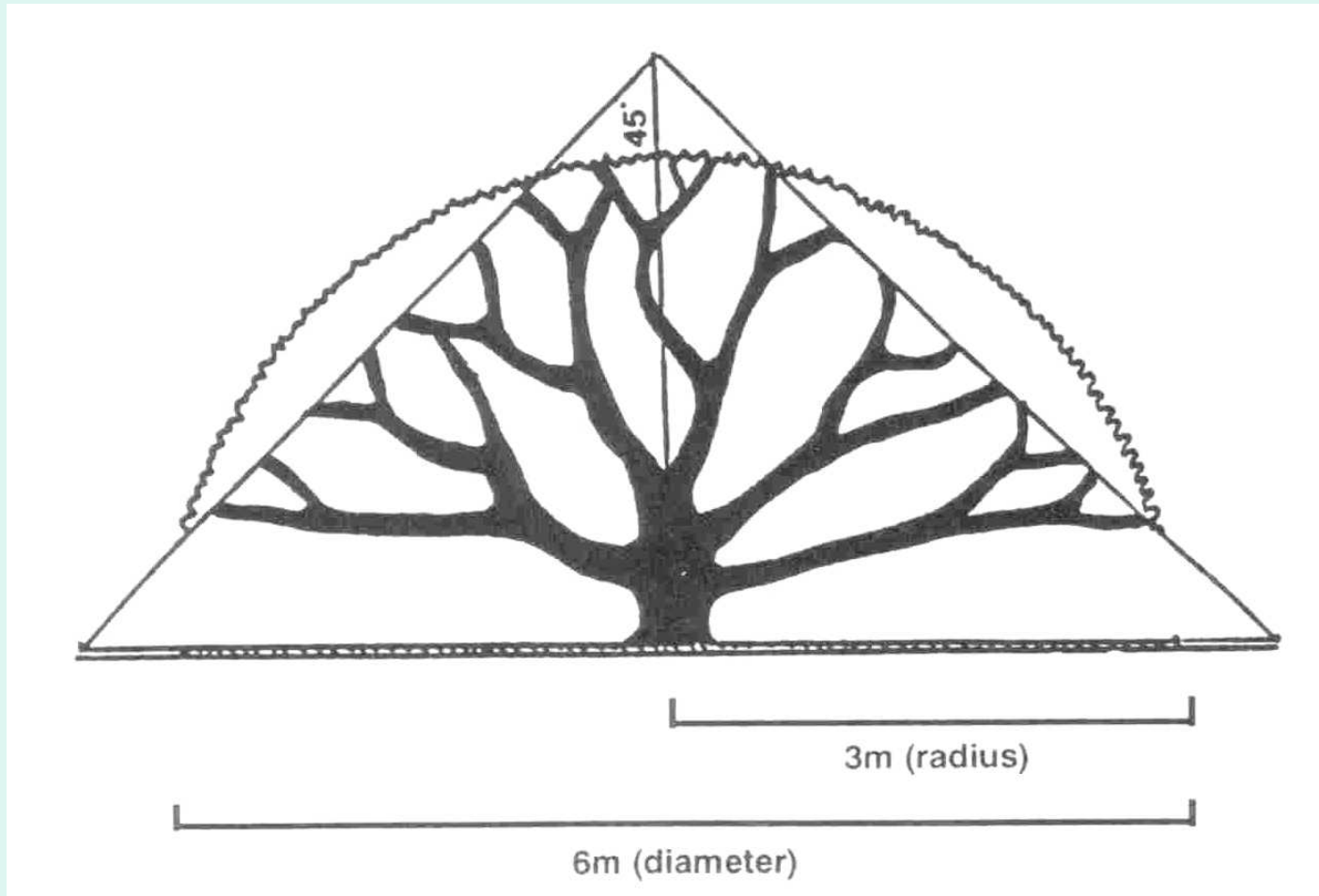
TEMPERATURE and HUMIDITY

Lychees are grown successfully in areas with an average long-term maximum temperature varying between 27 °C and 32°C.

Lychee planting is not recommended in excessively humid zones, because of the likelihood of poor fruit set.

PRUNNING

The ideal tree shape is a semicircle. To achieve this shape as practically as possible, a pyramid is used and its tip is later sawn off. If the diameter is 6 m, the radius and the height will both be 3 m



Problem's in lychees orchards

- ➔ **Irregular bearing**
- ➔ **Fruit drop**
- ➔ **Small production**

Pests and diseases

- **The major pests meet in orchards are :**
 - ⊕ Leaf curl mite (*Aceria lychee*) *Erinose*
 - ⊕ Fruit borer, lychee moth (*Argyroploce illepida* = *Chryptophlebia illipida*)
 - ⊕ Bark borer (*Salagena spp*)
- **The others ones are found but sometimes :**
 - ⊕ Leaf eating insects (Weevil)
 - ⊕ Leafs miners (*Acrocercops heirocosma*)
 - ⊕ Lychee Stink Bugs
 - ⊕ Thrips (*Selenothrips rubrocinctus*)
 - ⊕ And some others, ants, leaf rollers etc.



HARVESTING

- **Optimum maturity : Fruit weight:** Ripe fruits average 21 grams to 25 grams in weight.
- **Fruit colour:** Ripe fruits are red on both the outer and inner surface of the skin.
- **Time from pollination:** Normally 100 to 110 days elapse before maturity.
- **TSS Between 17 to 19**
- **Skin texture:** With some cultivars, maturation can be detected from the skin, which becomes smoother as the small protrusions become flatter.



Post harvest



Box arrivals

Packing house before sulphitation



Shorting grading

Sulphitation process

SO₂ in the conservation of lychee

SO₂ is an anti-oxidant and blocks oxidation reactions by inhibiting polyphenol oxidase, thus preventing browning.

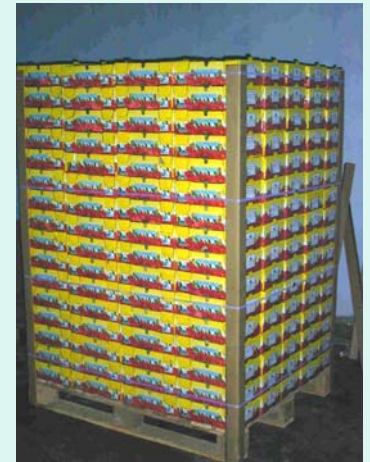
FOR SEA CONTAINER 600 g of 100% of sulphur/1000 Kg during 60 Minutes
FOR AIR FREIGHT 400 g /1000 Kg during 30 minutes



Sulphitation chamber

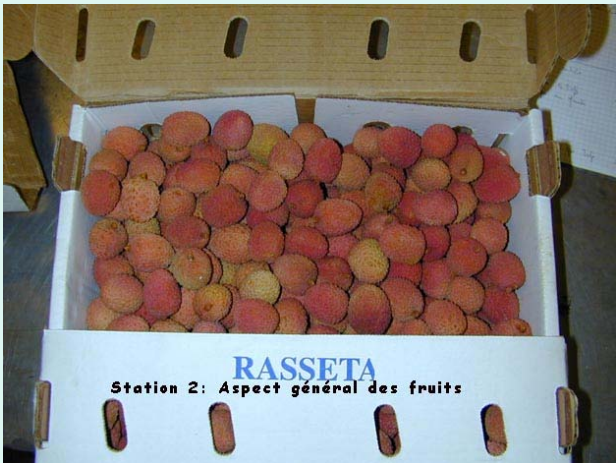


Fruits after sulphitation



Palletisation

Packaging



Cool storage until and during Shipment



Storage at 2 °C



Lychees arrivals after 5 weeks



Thank you for your attention

