

Skin Separation & Nutritional Value of Data Palm



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Table (2) Major date **exporting** and **importing** countries in 2010.

Exporters		
Country	Quantity (metric tons)	Value (1000 US \$)
United Arab Emirates	237,898	22,306
Saudi Arabia	73,362	78,126
Pakistan	121,681	48,690
Iraq	120,123	35,913
Egypt	19,562	18,529

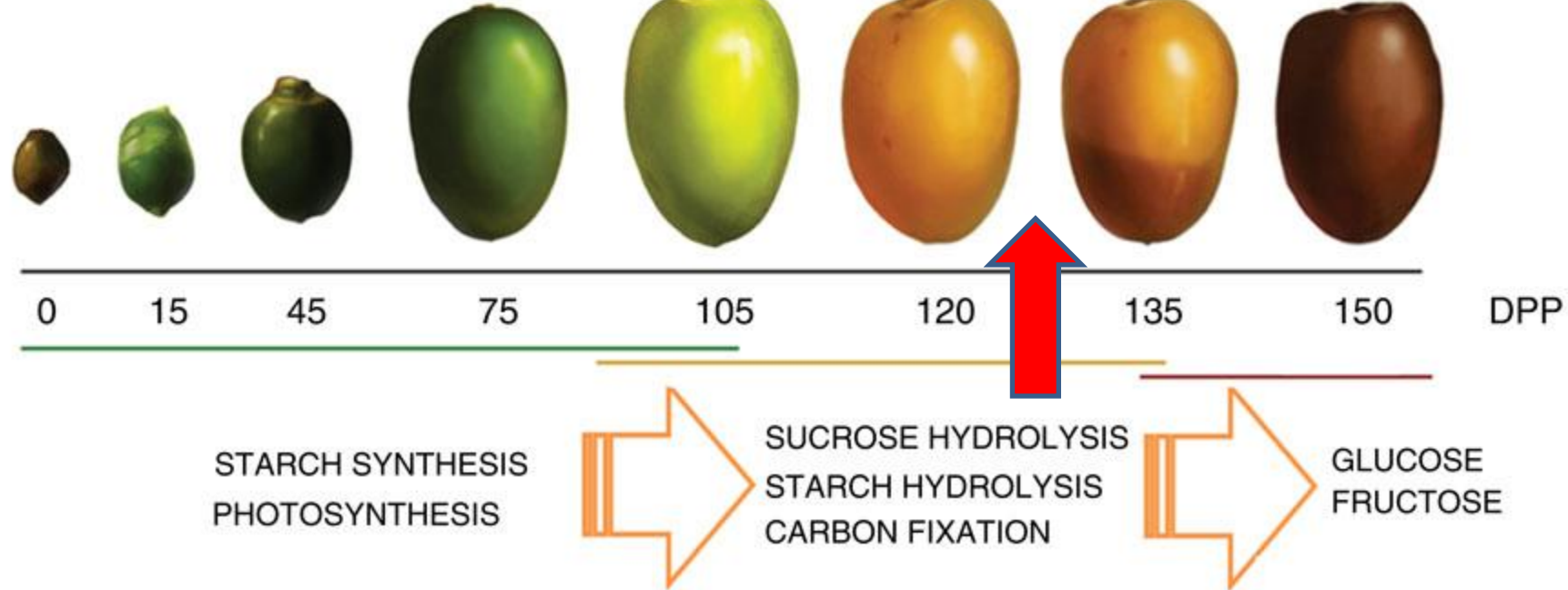
Importers		
Country	Quantity (metric tons)	Value (1000 US \$)
United Arab Emirates	227,726	25,613
India	193,467	95,042
Morocco	51,449	77,894
France	28,171	72,011
Russian Federation	20,814	29,166

The main date palm cultivars in Palestine



Figure (). Samples of Dates at different stages of maturity.



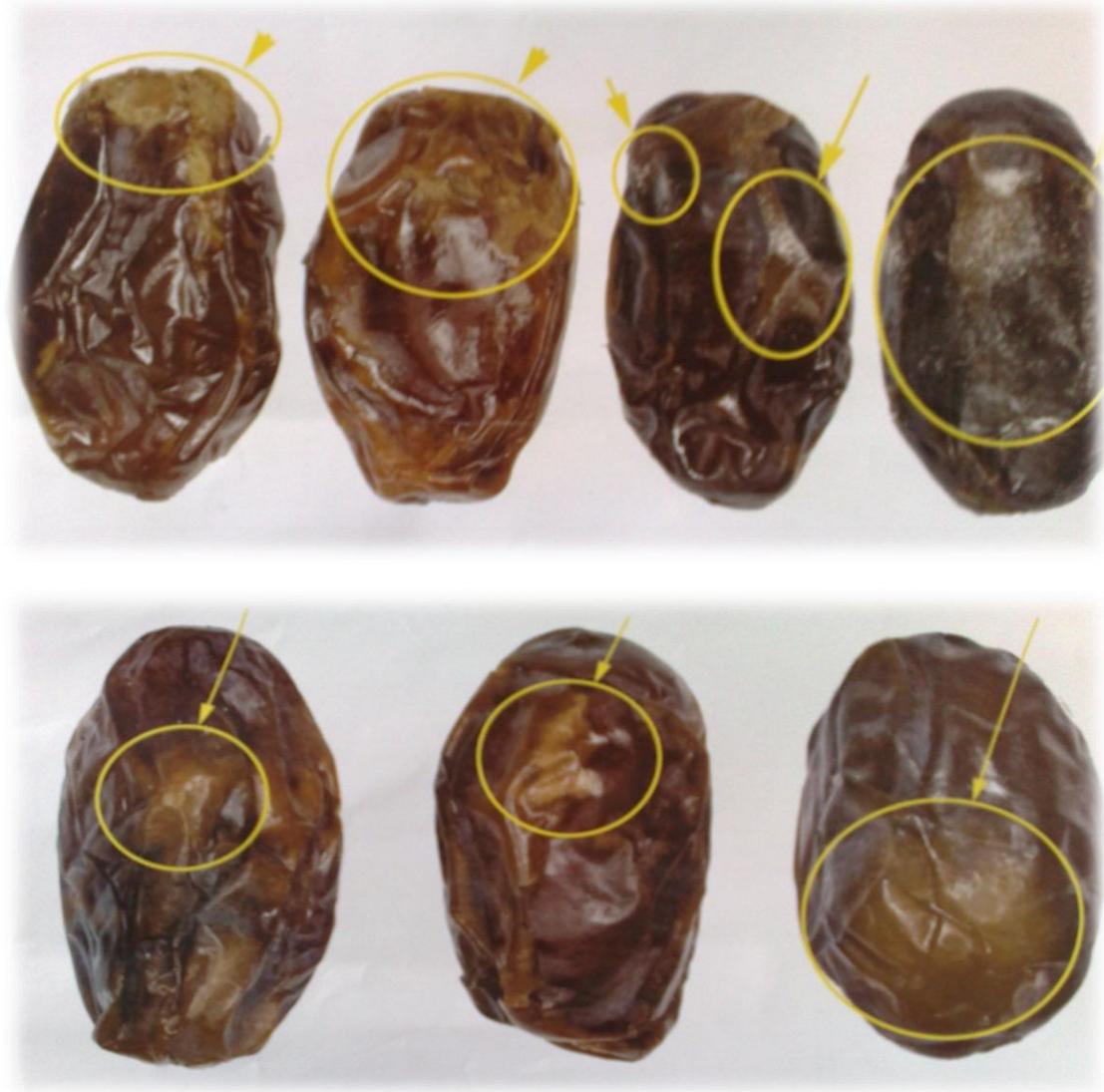
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Major Physiological disorder in Date Palm Fruits

1. Sugaring.
2. Skin separation (loose skin)

Definition of skin separation:

Air content between the skin and fleshy parts of the fruit.



Skin separation and its commercial disadvantage in Date palm fruits is a world wide concern. Skin separation is mostly known in several varieties as Barhee and Majhul.

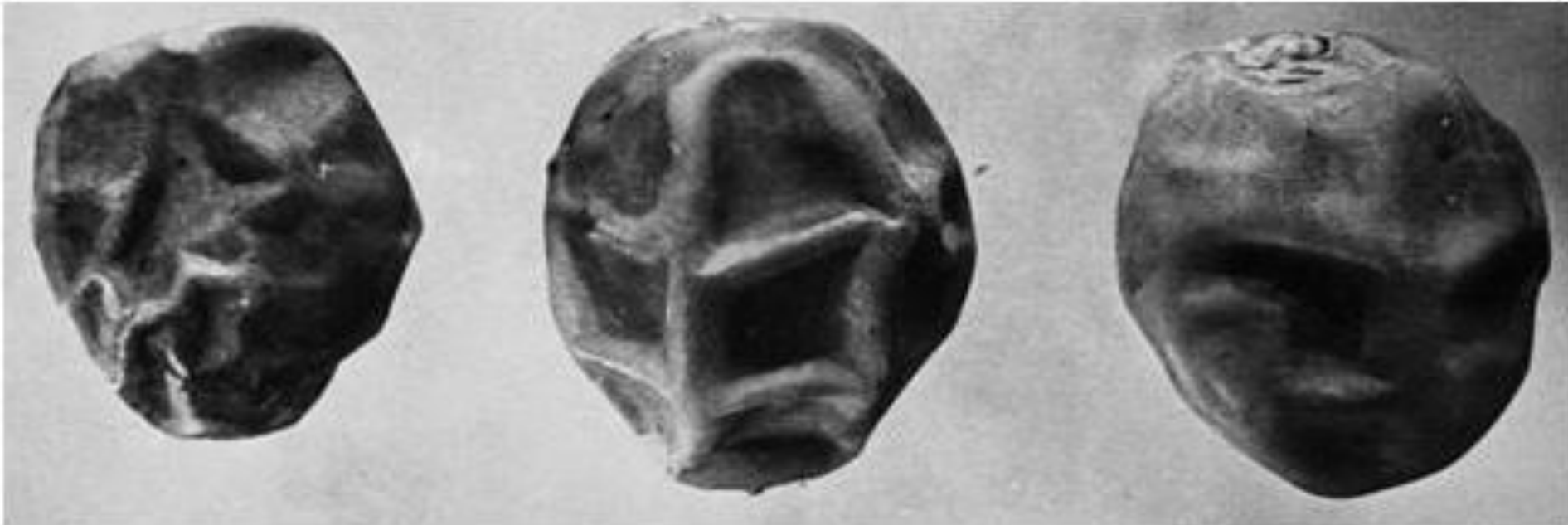
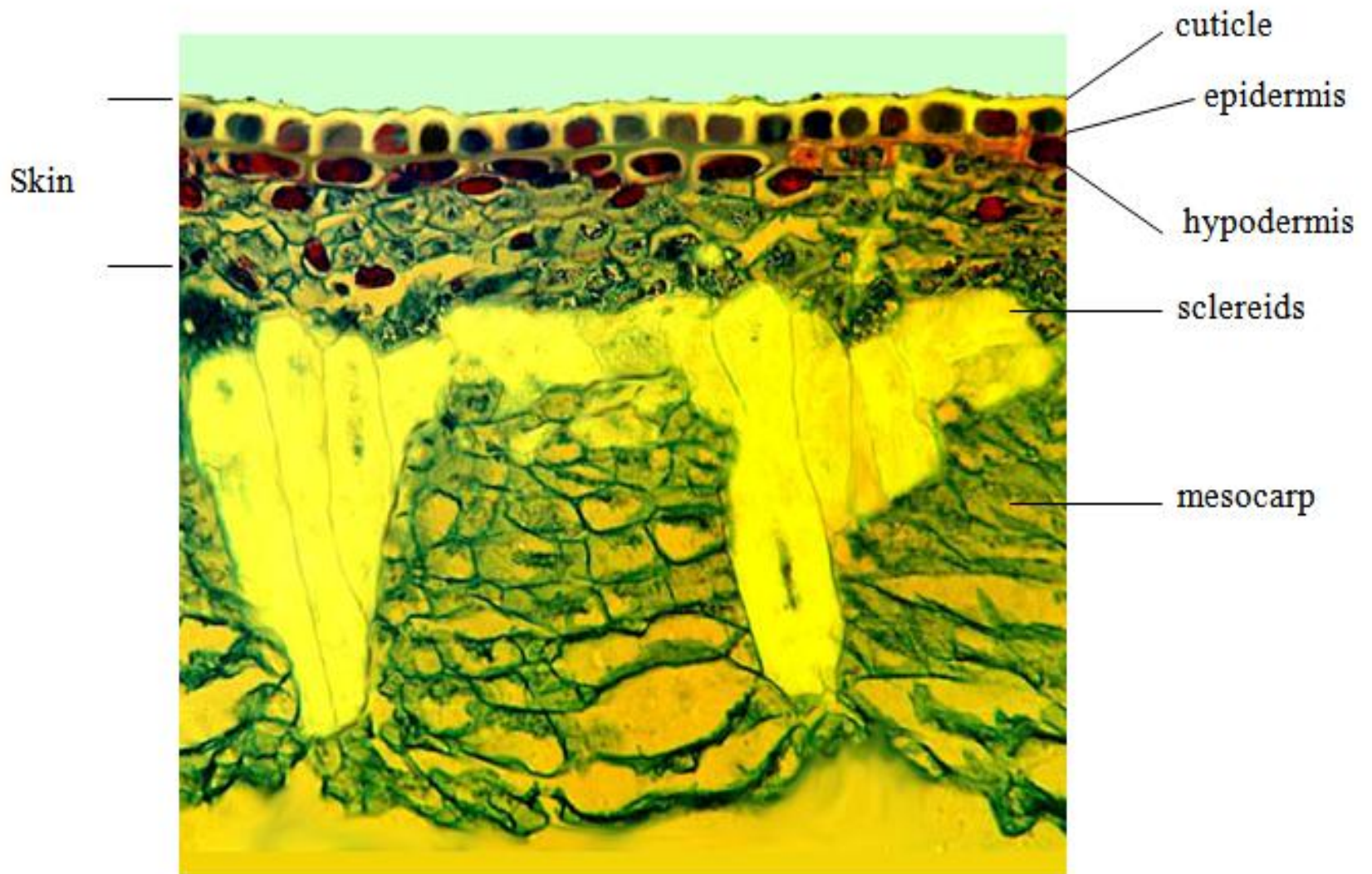


Figure 7. A Majhul Date 'A'. Immediately after ripening, the skin does not adhere to the Mesocarp and It is about to be separated. 'B'. A "non skin separating" fruit, 'C'. A "skin separating" one





The reasons for skin separation:

1-Anatomical Properties

2-Ash and water content

3-Skin Swelling

4-Skin Thickness

5-Skin Elasticity

6-Fruit Coating and Perforating

Figure 1. Schematic draw of cell structure of stoma and tissues in the vicinity of **Barhee** fruits

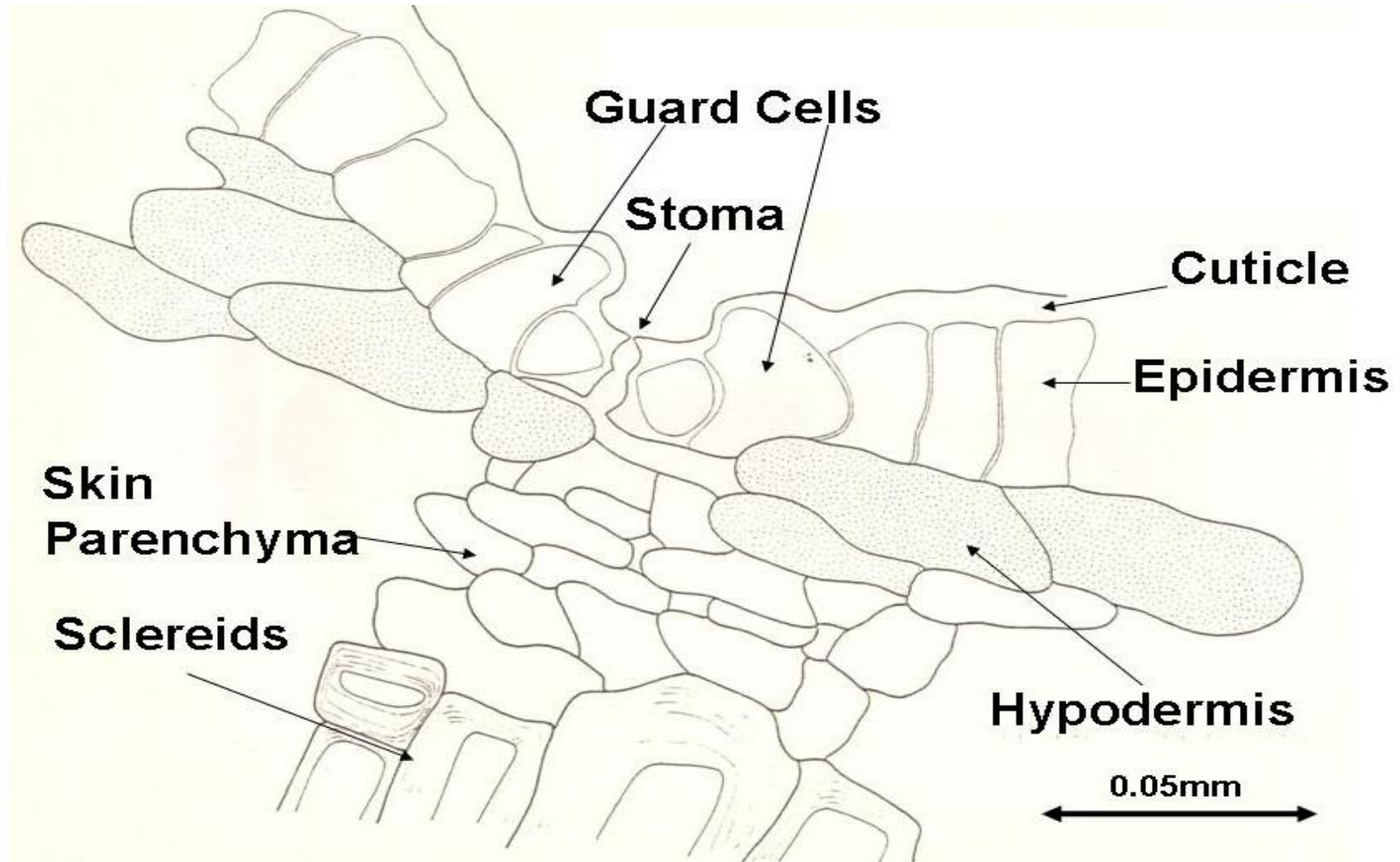


Photo 7. Ripe and desiccated **Barhee** fruits treated after perforating



Photo 6. Ripe and desiccated Barhee fruits treated by soaking in XA 0.3



❑ **Sorting:** it should be done to eliminate injured, decayed, and otherwise defective produce culls before the other handling process.






❑ **Grading:** is classified based on **fruit weight**:




Grading	Fruit weight
Small	< 15 g
Medium	15-18 g
Large	19-21 g
Jumbo	22-24 g
Super jumbo	> 24 g






Skin separation classification based on air content of fruit:

Class	Air content	
Class A	0-5 %	
Class B	5-30 %	
Class C	> 30 %	

Skin separation classification based on **air content of fruit:**

Class	Air content	Fruit weight (g)	Fruit length (mm)	Fruit diameter (mm)	
Class A	0-5 %	19.54 a	47.81 a	25.78 a	
Class B	5-30 %	18.81 a	46.49 ab	25.42 a	
Class C	> 30 %	18.92 ab	45.17 b	25.33 a	
	LSD 0.05	0.63	1.46	0.97	

Skin separation classification based on air content of fruit:

Class	Air content	Seed weight (g)	Seed length (mm)	Seed diameter (mm)	
Class A	0-5 %	1.32 a	25.07 a	9.41 a	
Class B	5-30 %	1.13 b	25.13 a	9.11 a	
Class C	> 30 %	1.30 a	24.52 a	9.43 a	
	LSD 0.05	0.10	0.93	0.38	

How to manage skin separation

1. Planting on suitable distance 9 m X 9 m
2. Proper pruning
3. Proper fruit thinning
4. Water stress during fruit maturity and ripening
5. Avoid planting in high humidity sites

Nutritional Value of Dates

Calories:

Dates are high in calories with 100 grams of date flesh providing up to 314 calories.



Proteins and Fat:

Dates are low in proteins and fat but high in sugars, which mainly comprise of fructose and glucose.

Vitamins:

Dates are moderate sources of vitamin A with 100 grams serving providing 149 International Units (IU) of this vitamin.

They also contain adequate levels of B complex vitamins such as (vitamin B6), Niacin (B3) and riboflavin(B5) as well as vitamin K.

Minerals:

Dates are a rich source of minerals like **selenium, copper, potassium, magnesium, manganese, calcium and iron.**

They contain abundant amounts of potassium with 100 grams serving providing 696 mg or 16% of the daily recommended levels of this electrolyte.

They are also an excellent source of iron, providing 0.90 mg in 100 grams serving which is 11% of the recommended daily intake.

Health Benefits of Date Fruit



1. Cures Anaemia

2. Treatment of Constipation

3. Prevents Abdominal Cancer:

Abdominal cancer includes stomach cancer, renal cancer, pancreatic cancer, liver cancer

Research has shown that dates work to reduce the risk and impact of abdominal cancer

4. Good for Heart:

they are a rich source of potassium which has been shown to reduce the risk of stroke and other heart diseases.

5. Promotes Weight Gain:

They are a great source of sugar, proteins and many essential vitamins.

6. Bone Health:

Packed with significant amounts of minerals, dates are useful in strengthening bones and curing painful diseases like osteoporosis. Minerals such as selenium, manganese, copper and magnesium found in dates.

7. Dental Health:

Dates contain fluorine, an important chemical element that inhibits tooth decay by removing plaque as well as strengthening the tooth enamel.

8. Beneficial for Pregnant Women

9. Maintenance of Healthy Skin

10. Healthy Hair