Atul Rajasthan Date Palms Ltd
March 5, 2009

Atul Rajasthan Date Palms Ltd (ARDP) was incorporated with the aim of transforming the economy and ecology of arid regions by production and sale of tissue culture raised date palms.

ARDP is a joint initiative of Atul Ltd and Rajasthan Horticulture Development Society, Government of Rajasthan, based on Public Private Partnership Model. The Company is a subsidiary of Atul.
Purpose

We are committed to significantly enhance value for our Stakeholders by:

• Fostering a spirit of continuous learning and innovation,
• Adopting the developments in science and technology,
• Providing high-quality products and services, thus becoming the most preferred partner,
• Having people who practise Values and high standard of behaviour,
• Seeking sustained, dynamic growth and securing long-term success,
• Taking responsible care of the surrounding environment and
• Improving the quality of life in the communities we operate in.
Values

We are committed to institutionalise our Key Values

**Integrity** – Working with honesty and highest standards of professionalism

**Understanding** – Connecting with others based on understanding of human relationships

**Unity** – Harnessing unique abilities through interconnectedness and interdependence

**Responsibility** – Taking ownership of actions with a spirit of trusteeship

**Excellence** – Striving from within to improve, innovate and excel
The Blessed Tree

Helps to,

- Create food and nutrition security
- Generate wealth in desert areas
- Empower rural marginalized farmers, particularly women
- Develop downstream Fruit Processing industry
- Generate rural direct and indirect employment
- Develop sustainable green ecology in arid regions
- Improve soil health through root and microbial actions
- Restrict advancement of deserts
- Save foreign exchange through import substitution
# Date fruit – Complete food

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Units</th>
<th>Value</th>
<th>Value</th>
<th>Nutrient</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proximates</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>Vitamins</strong></td>
<td></td>
<td></td>
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<tr>
<td>Water</td>
<td>gm</td>
<td>22.50</td>
<td></td>
<td>Vitamin C</td>
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<tr>
<td>Energy</td>
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<td>Thiamin</td>
<td>Mg</td>
<td>0.09</td>
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<tr>
<td>Protein</td>
<td>gm</td>
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<td>Riboflavin</td>
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<tr>
<td>Lipids</td>
<td>gm</td>
<td>0.45</td>
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<td>Niacin</td>
<td>Mg</td>
<td>2.2</td>
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<tr>
<td>Carbohydrate</td>
<td>gm</td>
<td>73.51</td>
<td></td>
<td>Pantothenic acid</td>
<td>Mg</td>
<td>0.78</td>
</tr>
<tr>
<td>Fiber</td>
<td>gm</td>
<td>7.5</td>
<td></td>
<td>Vitamin B-6</td>
<td>Mg</td>
<td>0.192</td>
</tr>
<tr>
<td>Ash</td>
<td>gm</td>
<td>1.58</td>
<td></td>
<td>Folate, total</td>
<td>Mcg</td>
<td>13</td>
</tr>
<tr>
<td><strong>Minerals</strong></td>
<td></td>
<td></td>
<td></td>
<td>Folic acid</td>
<td>Mcg</td>
<td>0</td>
</tr>
<tr>
<td>Calcium, Ca</td>
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<td>32</td>
<td></td>
<td>Folate, food</td>
<td>Mcg</td>
<td>13</td>
</tr>
<tr>
<td>Iron, Fe</td>
<td>Mg</td>
<td>1.15</td>
<td></td>
<td>Folate, DFE</td>
<td>Mcg_DFE</td>
<td>13</td>
</tr>
<tr>
<td>Magnesium, Mg</td>
<td>Mg</td>
<td>35</td>
<td></td>
<td>Vitamin B-12</td>
<td>Mcg</td>
<td>0.0</td>
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<tr>
<td>Phosphorus, P</td>
<td>Mg</td>
<td>40</td>
<td></td>
<td>Vitamin A, IU</td>
<td>IU</td>
<td>50</td>
</tr>
<tr>
<td>Potassium, K</td>
<td>Mg</td>
<td>652</td>
<td></td>
<td>Vitamin A, RE</td>
<td>Mcg_RE</td>
<td>5</td>
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<tr>
<td>Sodium, Na</td>
<td>Mg</td>
<td>3</td>
<td></td>
<td>Vitamin E</td>
<td>Mg_ATE</td>
<td>0.1</td>
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<tr>
<td>Zinc, Zn</td>
<td>Mg</td>
<td>0.29</td>
<td></td>
<td>Lipids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper, Cu</td>
<td>Mg</td>
<td>0.288</td>
<td></td>
<td>Fatty acids, total saturated</td>
<td>gm</td>
<td>0.191</td>
</tr>
<tr>
<td>Manganese, Mn</td>
<td>Mg</td>
<td>0.298</td>
<td></td>
<td>Fatty acids, total monounsaturated</td>
<td>Gm</td>
<td>0.149</td>
</tr>
<tr>
<td>Selenium, Se</td>
<td>Mg</td>
<td>1.9</td>
<td></td>
<td>Fatty acids, total polyunsaturated</td>
<td>gm</td>
<td>0.031</td>
</tr>
</tbody>
</table>
# Date fruit – Promotes well being

## Health
- Balanced Diet
- Prevents Digestive Problems
- Keeps Heart Healthy
- Prevents Anaemia
- Reduces Constipation
- Improves Eyesight
- Boosts Energy
- Strengthens Bones
- Relief from Intoxication
- Reduces Allergies
- Prevents Diarrhoea
- Provides Healthy Pregnancy
- Provides Healthy Hair
- Used as Face Pack

## Medicinal
- **Fruit cures:**
  - Sore throat
  - Fever
  - Abdominal problems
  - Enema
  - Gonorrhoea
  - Constipation
  - Bronchial catarrh, etc.

- **Seed paste cures:**
  - Ague
Date fruit downstream

Tamar dates

Date health bars

Assorted products

Date jam

Date bits

Fresh dates

Date chutney
A journey that began in 2008 endeavours to improve the economy and ecology of the arid regions of the world which started with India
Facilities

ARDP was inaugurated and dedicated to the people of India by Mr Ashok Gehlot, Honourable Chief Minister of Rajasthan on April 1, 2012

Land: 25 acres

Production (in vitro) facility: 0.5 acres

Hardening (ex vitro) facility: 2.5 acres

Electricity with 100 % DG back-up: 1 MW
Facility
Production (in vitro)
Facility
Production and Quality Control

Production

Quality Control
Growth stages
(in vitro)

Bud Proliferation

Multiplication Cultures

Shooting Cultures

Rooting Cultures
Facility

Primary Hardening (ex vitro)
Technology
Organogenesis

Obtained from Atul Ltd, based on the Agreement signed between the UAE University and Atul Ltd.

This historic agreement was signed by His Excellency Dr Abdulla Al Khanbashi, Vice Chancellor, UAE University, UAE and Mr Sunil Lalbhai, Chairman and Managing Director, Atul Ltd, India in presence of His Highness Sheikh Nahyan bin Mubarak Al Nahyan, Minister of Scientific Research and Higher Education of the UAE and His Excellency Mr Talmiz Ahmad, Ambassador of India to the UAE.
Technology Transfer Agreement
Pioneering Endeavour

• ARDP is the first company of India to bring tissue culture raised date palms on a commercial scale in the country.

• ARDP deploys state-of-the-art technology to produce world-class date palms.

• ARDP facility is one of the largest in the world for date palms.

• Atul was awarded the Khalifa International Date Palm Award 2009 and Siemens Ecovatives Award 2010 for its efforts to green the deserts.
Recognitions

Mr Sunil Lalbhai, CMD, Atul Ltd receives Khalifa International Date Palm Award 2009

Mr B N Mohanan, Whole-time Director, Atul Ltd, receives Siemens Ecovatives Award 2010
Global Perspective

• Starting with India, ARDP aims to green the deserts across the world.

• Demand for tissue culture raised date palm plants in traditional and new markets is expected to increase.

• Besides India, ARDP sees a promising market potential in Africa, Asia, Australia, North America and South America.
## Global Date Palm Plantation 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Area harvested (hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Arabia</td>
<td>172,297</td>
</tr>
<tr>
<td>Algeria</td>
<td>162,134</td>
</tr>
<tr>
<td>Iran</td>
<td>154,274</td>
</tr>
<tr>
<td>Pakistan</td>
<td>93,088</td>
</tr>
<tr>
<td>Morocco</td>
<td>70,433</td>
</tr>
<tr>
<td>Tunisia</td>
<td>51,000</td>
</tr>
<tr>
<td>Egypt</td>
<td>41,652</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>41,159</td>
</tr>
<tr>
<td>Sudan</td>
<td>36,288</td>
</tr>
<tr>
<td>Oman</td>
<td>31,348</td>
</tr>
<tr>
<td>Libya</td>
<td>30,056</td>
</tr>
<tr>
<td>China</td>
<td>10,500</td>
</tr>
<tr>
<td>Others</td>
<td>61,729</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,093,997</strong></td>
</tr>
</tbody>
</table>

Source: Food and Agricultural Organization of the United Nations
## Global Date Fruit Producers
### 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Quantity (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>1,373,570</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>1,122,822</td>
</tr>
<tr>
<td>Iran</td>
<td>1,016,608</td>
</tr>
<tr>
<td>Algeria</td>
<td>724,894</td>
</tr>
<tr>
<td>Iraq</td>
<td>619,182</td>
</tr>
<tr>
<td>Pakistan</td>
<td>557,279</td>
</tr>
<tr>
<td>Sudan</td>
<td>432,100</td>
</tr>
<tr>
<td>Oman</td>
<td>268,011</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>239,164</td>
</tr>
<tr>
<td>Tunisia</td>
<td>180,000</td>
</tr>
<tr>
<td>Libya</td>
<td>165,948</td>
</tr>
<tr>
<td>China</td>
<td>150,000</td>
</tr>
<tr>
<td>Others</td>
<td>453,125</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,302,703</strong></td>
</tr>
</tbody>
</table>

Source: Food and Agricultural Organization of the United Nations
# Global Date Fruit Importers 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Quantity (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>247,300</td>
</tr>
<tr>
<td>Qatar</td>
<td>37,249</td>
</tr>
<tr>
<td>France</td>
<td>28,359</td>
</tr>
<tr>
<td>Yemen Republic</td>
<td>27,621</td>
</tr>
<tr>
<td>Niger</td>
<td>24,933</td>
</tr>
<tr>
<td>United States</td>
<td>22,630</td>
</tr>
<tr>
<td>Others</td>
<td>215,843</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>603,935</strong></td>
</tr>
</tbody>
</table>

Source: Food and Agriculture Organization of the United Nations
Date fruit ripening stages

After pollination, a date fruit takes several months to reach full maturation or Tamar stage. During this period, the fruit passes through a number of distinct phases.

- **Kimri**
  - Not edible
  - Bitter

- **Khalal | Doka**
  - Yellow or Red
  - Early ripening stage,
  - Crunchy to eat,
  - Slightly Sweet

- **Rutab | Dang**
  - turning Brown,
  - Ripe,
  - Soft, Moist,
  - Sweet

- **Tamar | Pind**
  - Brown or Black,
  - Soft or Semi-soft or Dry
  - Sweet
Products

- ARDP primarily produces 4 varieties of date palms using tissue culture technique:
  - **Barhee** – originally from Iraq
  - **Khalas** – originally from Saudi Arabia
  - **Khunezi** – originally from Oman
  - **Medjool** – originally from Morocco

- These are the most suitable varieties for cultivation in India and sought after varieties in the world.

- Fruits of Barhee, Khalas and Khunezi varieties have little or no astringency and are suitable for eating raw or fresh or as a table fruit during the season. These varieties can be harvested and eaten at *khalal* | *doka* stage before the onset of rains.

- Fruits of Medjool are astringent at *doka* stage; however they can be ripened to soft dates (*pind khajur*) and processed to prepare dry dates (*chhuhrara*)

- ARDP also offers tissue culture raised male date palms.
Barhee

The fruits are ovoid in shape, medium to small in size, colour is golden yellow in Khalal, apricot yellow in Rutab, and light brown in Tamar stages. Much preferred variety to eat in the Khalal stage with little or no astringency. When ripe, it is very sweet, soft, with thick flesh and rich flavour.
Khalas

The fruits are Ovoid elongated in shape, medium in size, colour is apricot yellow in Khalal, yellowish brown in Rutab, and brown in Tamar stages. The fruit has sweetness that is not high or low. It is eaten either fresh or semi-dry.
Khunezi

Fruit is ovoid elongated in shape, medium in size, colour is red in Khalal, dark red in Rutab, and dark brown in Tamar stages. It is sugary in taste in Khalal stage and can usually withstand high humidity levels.
**Medjool**

The fruit is ovoid elongated in shape, medium and large in size, colour is orange yellow in Khalal, yellowish brown in Rutab, and reddish brown in Tamar stages. The fruit is sweet and succulent in Tamar stage. It is the most preferred variety with regard to fruit quality and size.
Sustainability

• ARDP endeavours to focus on the 3 dimensions of Sustainability, namely, Economic, Environmental and Social.

• The facilities of ARDP meet the environment norms of the Government of Rajasthan; the facilities do not release any emissions or effluents.
ARDP will endeavour that a job does not remain just a means of livelihood, but also a place of work where one can grow, personally and professionally.
Board of Directors

Dr Dinesh Goyal, Chairman
Mr Mohanan Bharathy, Managing Director
Mr Sunil Lalbhai, Director
Mr Devendra Mehta, Director
Mr Sanjay Dixit, Director
Dr Abdelouahhab Zaid, Director
Mr Gopi Kannan Thirukonda, Director
**Corporate Information**

**Corporate Office**  
Atul Rajasthan Date Palms Ltd  
Atul 396020, Gujarat  
India  
E-mail: marketing@ardp.co.in

**Registered Office**  
Atul Rajasthan Date Palms Ltd  
Chopasni,  
Jodhpur 342008, Rajasthan  
India  
E-mail: ho_ardp@ardp.co.in

**Website:**  
www.ardp.co.in

**Auditors**  
B M Kothari & Co

**Bankers**  
Union Bank of India  
Ratnakar Bank