



Iraqi Date Industry Marketing and Post-harvest Issues

Amer Jabarin, PhD.

(Agricultural Restoration & Development Program for Iraq)

and

Faraoun A. Hussain, PhD.

National Program for Propagation & Improvement of Date Palm

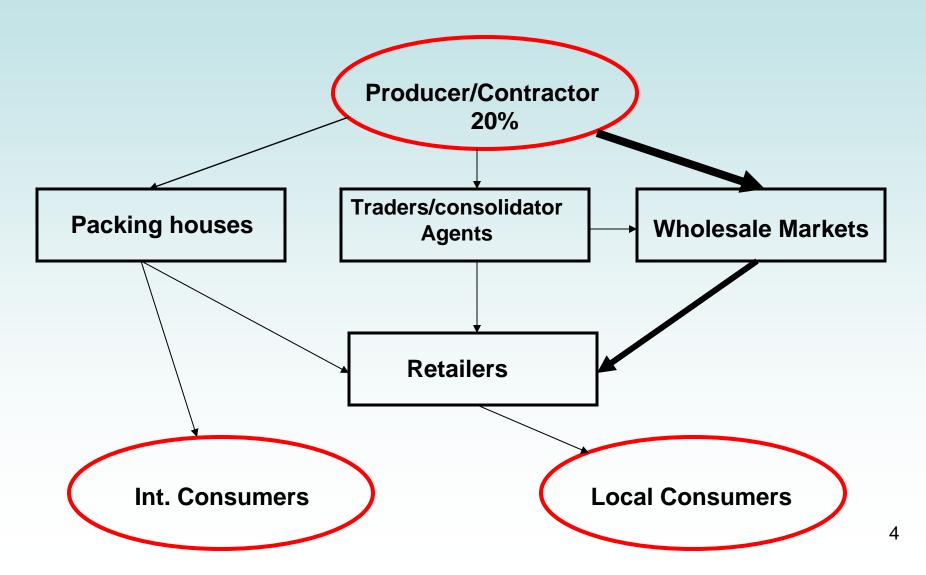
Objectives of the Assignment

- Review the current production, processing techniques and technologies dominant in the date industry of Iraq.
- Recommend improvements and investments needed to produce dates that can compete in sophisticated markets.
 - handling, storage and shipping;
 - processing techniques;
 - potential investments in equipment;
 - new and attractive packaging, and
 - determine the best sources for packaging material.
- Recommend and plan specific marketing interventions to reintroduce Iraqi dates into selected export markets.

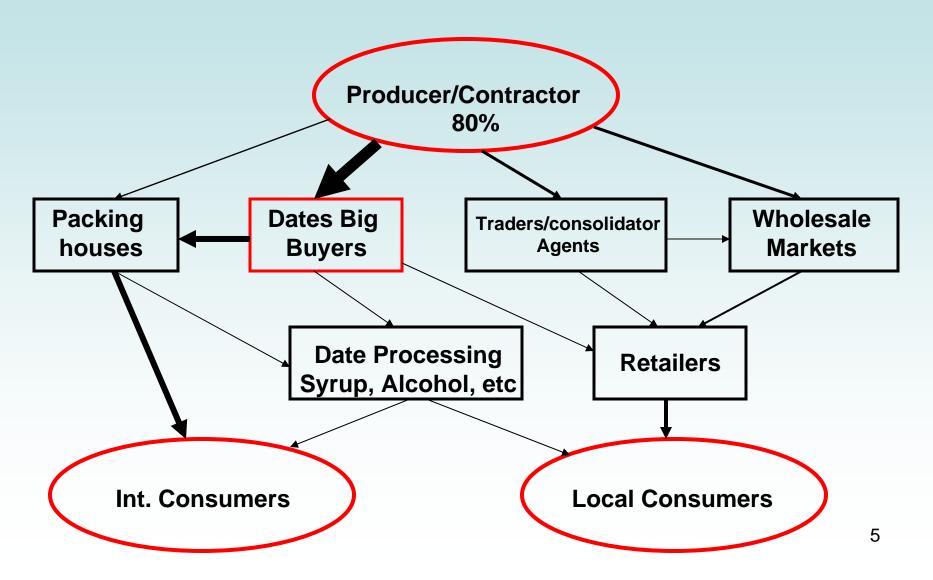
Objective 1

Review the current production, processing techniques and technologies dominant in the date industry of Iraq

Review the current situation of date industry of Iraq Marketing channels of fresh dates (Khalal)



Review the current situation of date industry of Iraq Marketing channels of Dried dates (Tamer)



Overview: Date Production (1)

Date palm trees, production and productivity by governorate in 2001

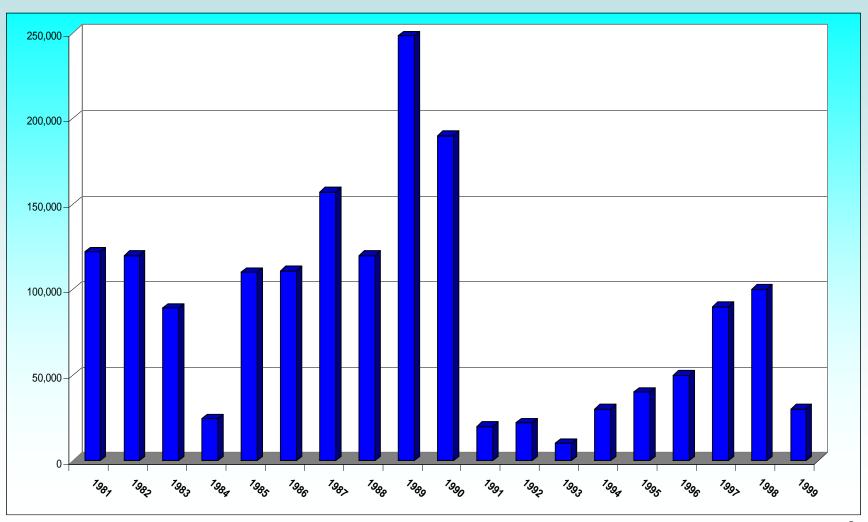
Governorate	Tot. No. of trees	No of Fruiting trees	Production (tons)	Yields Kg/tree
Tameem	400	-		
Diyala	1,982,400	1,710,300	123,670	72.3
Anbar	680,600	634,400	50,990	80.4
Baghdad	1,506,900	1,347,700	108,830	80.8
Babylon	3,370,800	3,012,500	227,060	75.4
Kerbala	2,079,500	1,894,000	128,840	68.0
Wassit	640,900	540,000	39,600	73.3
Salah Al-din	273,900	231,800	17,160	74.0
Najaf	626,300	604,300	24,170	40.0
Qadissya	822,400	765,300	49,650	64.9
Muthanna	219,800	154,800	7,720	49.9
Thi-Qar	814,500	770,600	47,050	61.1
Missan	194,800	168,700	8,770	52.0
Basrah	2,697,600	2,108,600	73,280	34.8
TOTAL	15,910,800	13,943,000	906,790	65.0

Overview: Date Production (2)

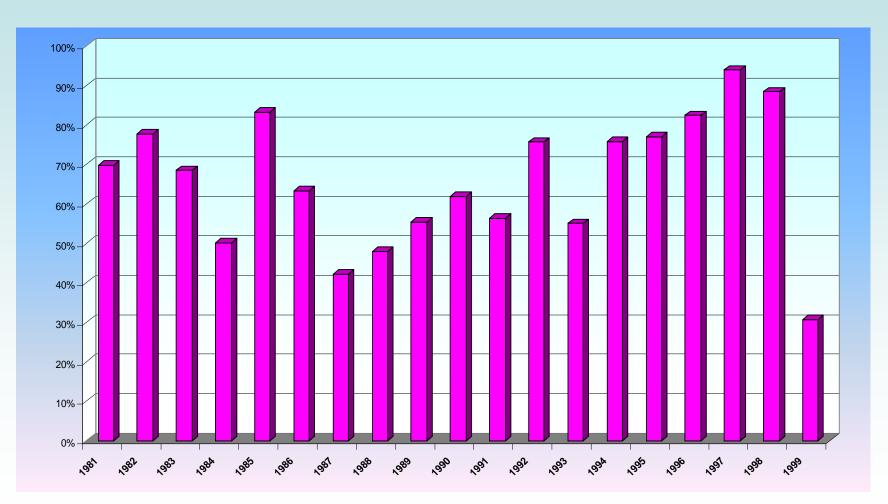
Date palm trees, production and productivity by variety in 2001

		Total number		Production	Relative
Variety	No. of Palms	Bearing	Non-bearing	(Tons)	Importance %
Zahdee	10,309,500	9,412,600	121,000	654,240	72.1%
Khestawi	1,285,400	1,047,300	38,900	63,310	7.0%
Sayer	957,200	864,000	56,700	31,780	3.5%
Khadrawi	666,800	584,000	29,400	24,800	2.7%
Hallawi	829,100	721,000	90,100	22,300	2.5%
Dayeri	289,400	84,800	192,700	5,800	0.6%
Other variets	1,573,400	1,229,300	141,300	104,560	11.5%
total	15,910,800	13,943,000	670,100	906,790	100.0%

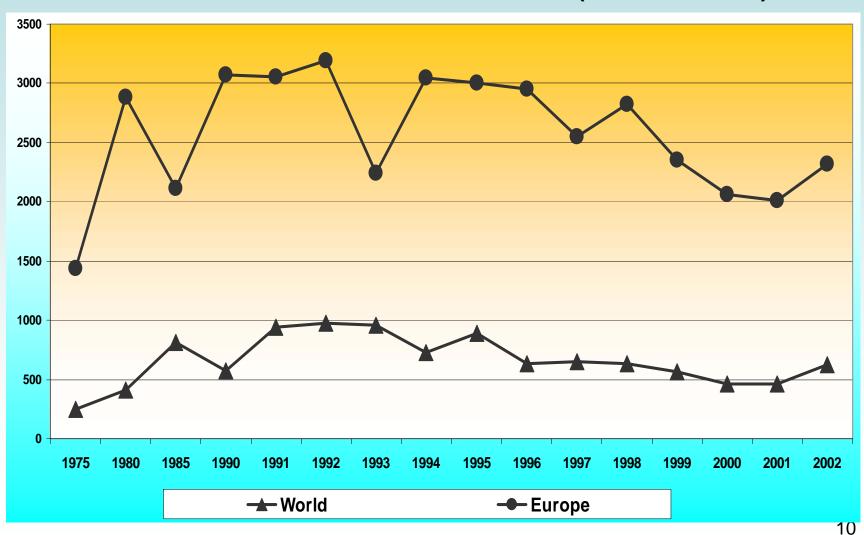
Iraqi Date Exports (Tons) 1981-1999



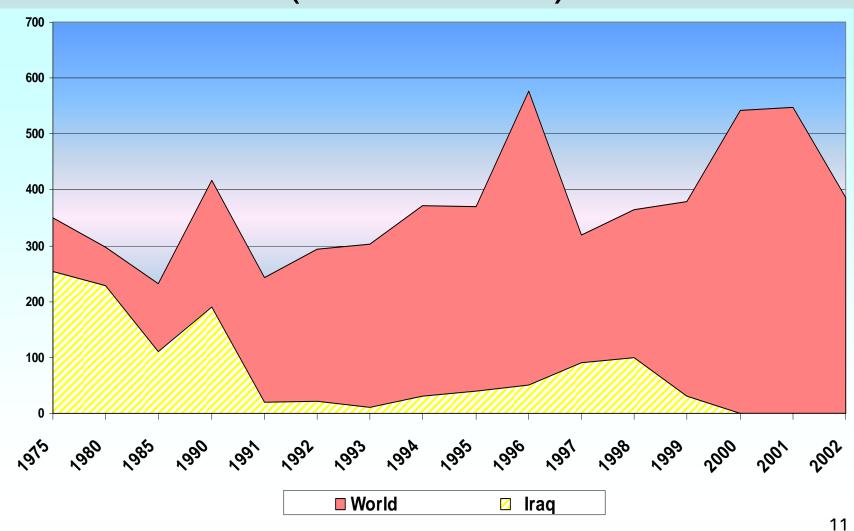
Share of dates exports to total agricultural exports (%) 1981-99



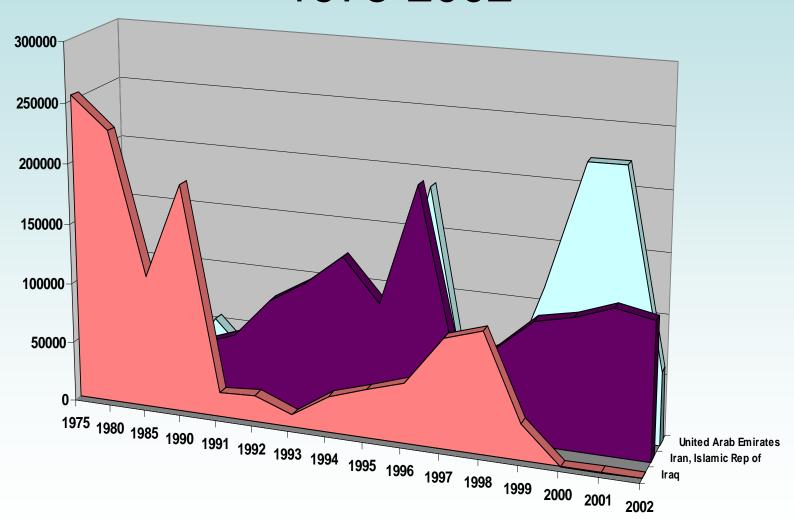
Unit Value of Export Dates to World Market VS EU market (US\$/ton)



World VS Iraq Date Exports (75-99) (1000 Tons)



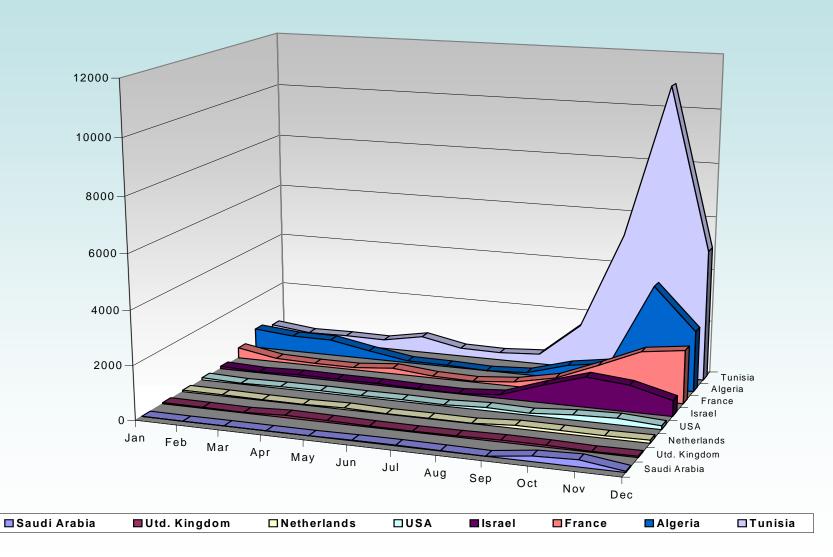
Major Date World Exporters (Tons) 1975-2002



Competitiveness of Iraqi Dates Industry Estimated monthly profitable demand (tons) in 4 key EU markets

Month	UK	Germany	France	Netherlands	Total
Jan	1579	544	757	133	3,012
Feb	1653	568	1810	195	4,225
Mar	1508	928	1598	242	4,276
Apr	1429	904	1598	308	4,239
May	1877	908	1715	310	4,810
Jun	0	962	1783	262	3,006
Jul	1697	1019	1780	254	4,750
Aug	1929	898	1981	249	5,056
Sep	1735	538	1923	118	4,313
Oct	1192	630	1365	201	3,388
Nov	1491	95	0	192	1,778
Dec	967	280	0	330	1,577
Total	17,057	8,268	16,310	2,795	44,430 ₁₃

Major suppliers to EU markets (Tons)



Domestic Resource Cost Coefficient (DRC)

- The Domestic Resource Coefficient (DRC) is used to determine if the production of a specific crop makes efficient use of the domestic resources. The DRC is calculated by dividing the factor costs used in cultivating one dunum of Palms by the value added of that dunum evaluated in economic (social) prices.
- A DRC value greater than one indicates that the value of domestic resources used to produce the commodity is greater than the contribution of its value added at economic prices, in other words comparative disadvantage exists. However, a DRC value less than one indicates that the country has a comparative advantage in producing that commodity.
- The DRC for date palms in Iraq is estimated at 0.16 which means that for every 16 cents spent on domestic resources (labor, land and water) a value of one dollar is added to the national economy. This implies that Iraq enjoys a high level of comparative advantage in producing and exports dates.

Other Competitiveness Indicators of Iraqi Dates Industry

	Competitiveness I				
Competitiveness Indicator	Existing Orchard (full production) no sunk costs (Sunk costs are not considered)	Newly established Orchards (sunk cost Considered (Annuity))	IF Yield is improved by 50%		
Financial (private) profits (ID) /dunum	534,275	-694,710	-610,740		
Economic (Social) profits (ID) /dunum	2,184,275	-162,827	105,877		
Economic (Social) value added (ID)/dunum	2,615,775	1,007,807	1,366,080		
Domestic Resource Coefficient (DRC)	0.16	1.16	0.92		
Employment man/month/dunum	2.6	2.6	2.6		
Cultivated area (dunum) (2001)	375,000				
Total Production in (tons) (2001)	906,000				
Dates Industry Impact @ Production Level					
Total Economic (social) value added (US\$)	564,898,707				
Total employment (full-time jobs)	81,250				
Economic (Social) value added per US\$/ton	623				

Difficulties and bottlenecks Basic factors @ production level

- High establishment, husbandry and picking costs (mainly labor cost)
- Increased water and soil salinity and water logging in some of the southern locations
- Inadequate drainage system which affects the quality of the produce
- Cultural and social practices (high intensity of trees in old orchards, no thinning...etc);
- Aged orchards (many of existing orchards exceeded 100 years)
 with little efforts for renewal due to high cost of establishment
- Property rights and land fragmentation (Small farm VS economics of scale)
- Lack of advanced practices (minimal application of fertilizers)
- Share cropping and other legal arrangements such as inheritance laws; and
- High infestation rate due to lack of spraying (aerial spraying)

Difficulties and bottlenecks Advanced factors @ production level

- Mechanization husbandry practices (pollination, pruning, spraying, and harvesting) due to high cost of manual labor and non-attractiveness to the old generations;
- Improved grading, packing and other post-harvest practices
- Vocational training needed for all stages in production and marketing stages;
- New production and propagation techniques such as establishing tissue culture labs;
- Research and development in production and marketing

Difficulties and bottlenecks Advanced factors @ marketing level

- Inadequate marketing facilities (pre-cooling, cold storage, sorting, pitting, packaging...etc)
- Low quality of packaging material compared to what is needed in international markets. High quality packing and packaging industry does not exist;
- Iraq has lost its traditional markets to other competitors;
- Mechanization of date processing is limited to pressing dates and in some cases seed removal. Further, more advanced processing and refining is significantly needed to produce high-value brands of dates and dates byproducts (alcohol, syrup, past,...etc)
- Local demand is not sophisticated
- Low efficiency of the date marketing system in terms of promotional activities at the local and international level;
- Absence of private sector organizational structure in terms of specialized associations, cooperatives, and shareholding companies;
- In conclusion, "a modern dates industry in Iraq" does not exists. Lots of organizational efforts will be needed to re-establish lost markets, given the taught international competition and the new high quality-sophisticated date suppliers in the international markets.

Difficulties and bottlenecks Strategic issues

- Gaining access to international markets
- Limited role of wholesalers, intermediaries and exporters.
- High marketing margins as a result of the huge difference between retail price and farm-gate price received by dates producers.
- Limited diversification and specialization in producing and exporting dates and date's byproducts
- Absence of quality control and standards (limited role performed by the Iraqi state company for dates processing and exports). The company is still the sole party responsible for issuing quality control certificates for exported dates.
- Marketing facilities, inventories and health promotions

Objective 2

- Recommend improvements and investments needed to produce dates that can compete in sophisticated markets.
 - handling, storage and shipping;
 - processing techniques;
 - potential investments in equipment;
 - new and attractive packaging, and
 - determine the best sources for packaging material.

Handling, storage and shipping Post-Harvest Handling

- Utilization of the available technical requirements for post-harvest handling developed by other international institutions (ex: UC-Davis)
- Abiding to technical regulations issued by international organizations such as (FAO- CODEX STANDARD FOR DATES CODEX STAN 143-1985 (1), WTO-SPS agreement); EU regulations, and European Good Agricultural Practices (Euro-GAP) developed by chainstores associations in Europe.
- Utilization of instructions required by shipping organizations, forwarders and insurance companies (Transport Information Services (TIS))

Recommended post-harvest practices for Maintaining Dates Quality (UC-Davis)(1)

- Maturity Indices
- Quality Indices Fruit size, color, texture, cleanliness, and freedom from defects
- Optimum Temperature 0°C (32°F) for 6-12 months, depending on cultivar;
- Optimum Relative Humidity 70-75%;
- Rates of Respiration 5ml/kg-hr for "Khalal" stage dates; [<1ml/kg - hr for "Rutab" and "Tamar" stage dates kept at 20°C (68°F).

Recommended post-harvest practices for Maintaining Dates Quality (UC-Davis) (2)

- Rates of Ethylene Production
- Responses to Ethylene
- Physiological and Physical Disorders
 - Darkening;
 - Souring;
 - Sugar Spotting
- Pathological Disorders and Control Strategies
- Insect Infestations

Recommended post-harvest practices for Maintaining Dates Quality (UC-Davis)(3)

Insect Infestations

- Dates can be infested with some of the storedproducts insects and must be fumigated with an approved fumigant for disinfestations followed by packaging in insect-proof containers.
- "Organic" dates may be treated with 100% carbon dioxide for 1-2 days since chemical fumigants (such as methyl bromide) cannot be used.
- Storage below 13°C (55°F) will prevent insect feeding damage and reproduction. Storage at 5°C (41°F) or below will control insect infestation.

International Requirements

CODEX STANDARD FOR DATES CODEX STAN 143-1985 (1)

- Information from the Codex Alimentarius Commission includes food standards, guidelines and related texts such as codes of practice as established by the Codex Alimentarius Commission, which is a part of the Joint FAO/WHO Food Standards Program.
- Prepared by the International Portal on Food Safety, Animal & Plant Health version 1.0! Developed by FAO, in association with the organizations responsible for international standard setting in sanitary and phytosanitary matters, this portal provides a single access point for authorized official international and national information across the sectors of food safety, animal and plant health.

Transport Information Services (TIS) GDV

- General Information:
 - Product information
 - Packaging
 - Transport
 - Container transport
 - Cargo securing
- Risk factors and loss prevention:
 - Temperature
 - Odor
 - Humidity/Moisture
 - Contamination
 - Ventilation
 - Mechanical influences
 - Biotic activity
 - Toxicity / Hazards to health
 - Gases Shrinkage/Shortage
 - Insect infestation / Diseases

Processing techniques and potential investments in equipment;

- In addition to the serious problems at the production level, the Iraqi dates industry faces other serious bottlenecks at the processing level that hinders the penetration of this industry to penetrate to the high-end markets.
- There are several international firms who are specialized in supplying the know-how and the needed equipments for the dates industry. Such as the "Agha Pack company" located in Sharjah-UAE.

Contact Information

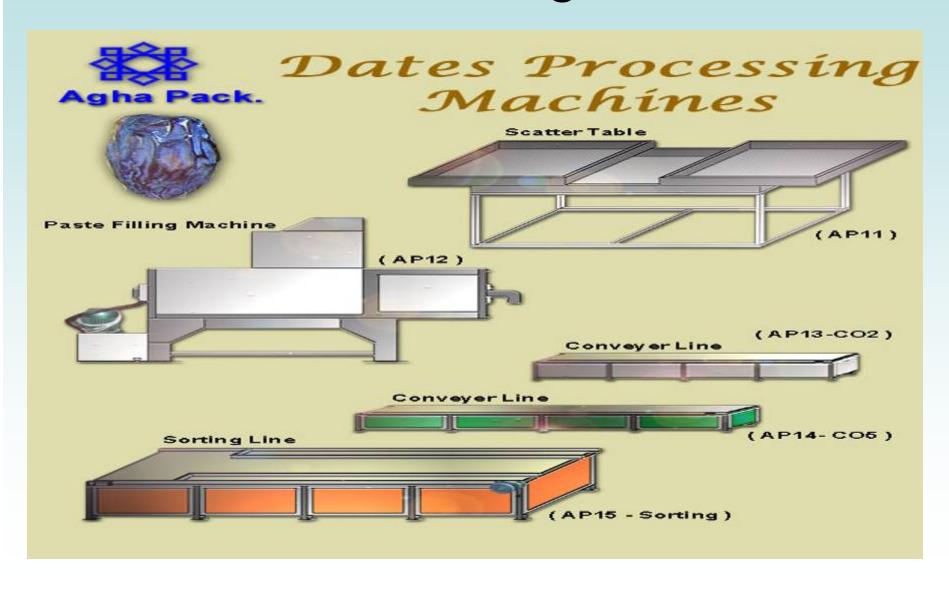
(Headquarter)
Agha Pack USA
656 Wilmington Ct.
Chula Vista, CA 91914
Fax: (619) 482-2110

E-Mail: Sales@aghapack.com

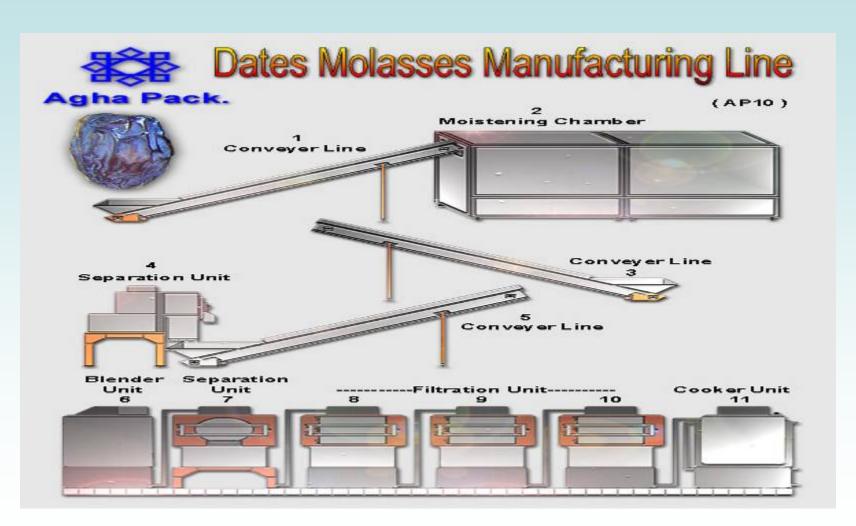
P. O. Box 23680. SHARJAH, United Arab Emirates
Telephone
(971) 6-532-7242
Mobile
(971)050-626-3516

P.O.Box 6558 Aleppo, Syria

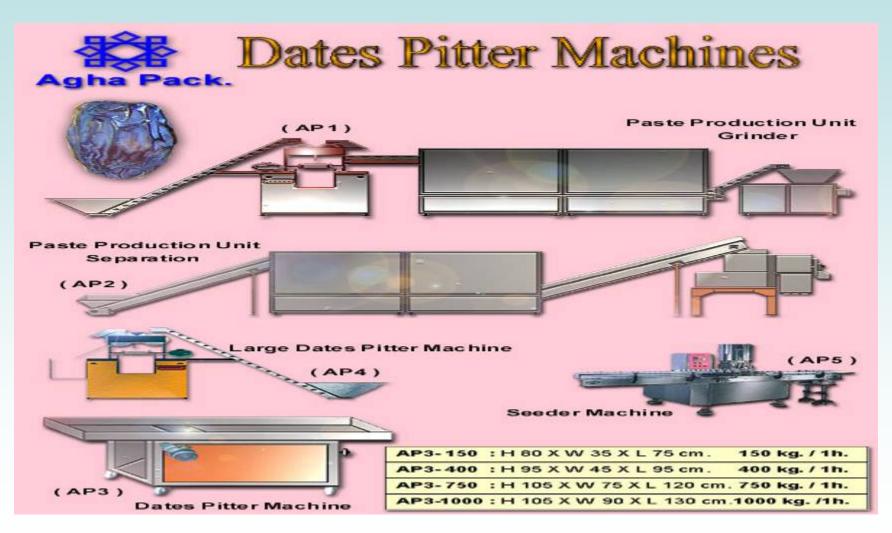
Dates Processing Machines



Dates Molasses Manufacturing Line



Dates Pitter Machines



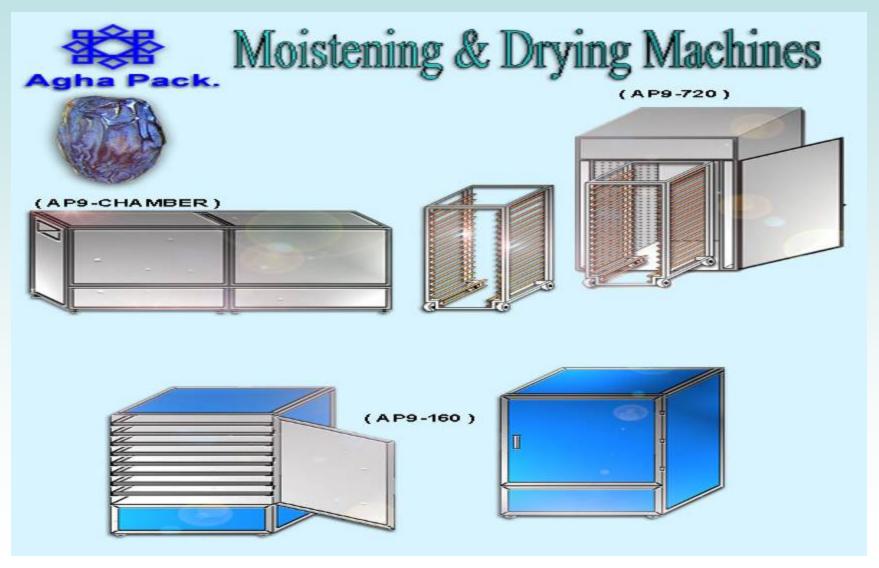
Dates Washing Machines



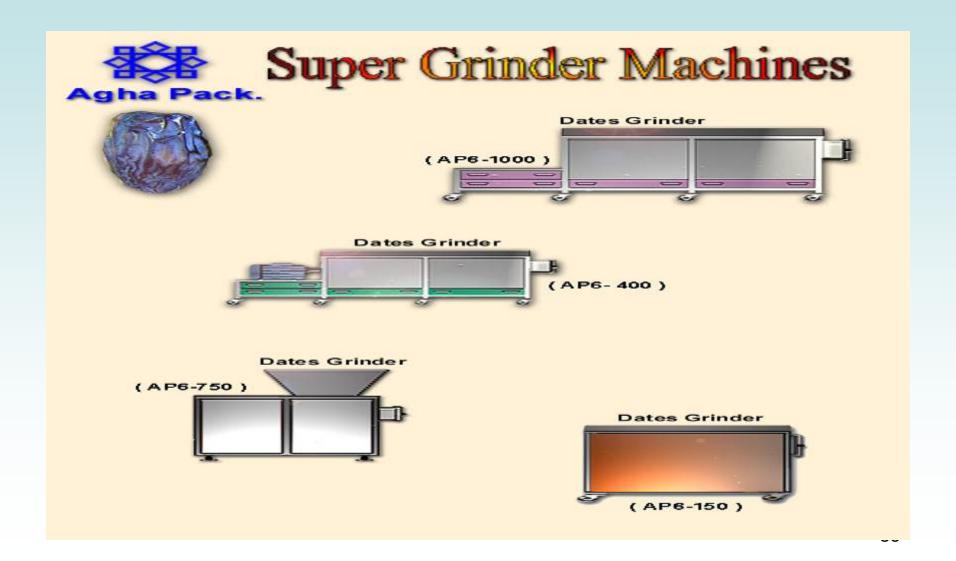
Hydraulic Press Machines



Moistening & Drying Machines



Super Grinder Machines



Vacuum Machines



New and attractive packaging Best sources for packaging material

- The current available packaging material used in the local markets do not match with those used by other competitors in the international markets
- The main source of the currently used packaging material is the local market. However, the packaging material used by the Iraqi dates company (state company).
- The following slides show samples of the poor quality of marketed dates and packaging material in the local markets.

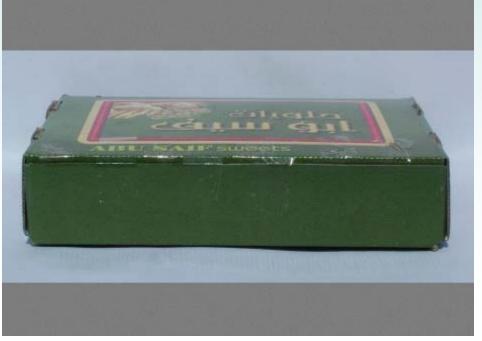




















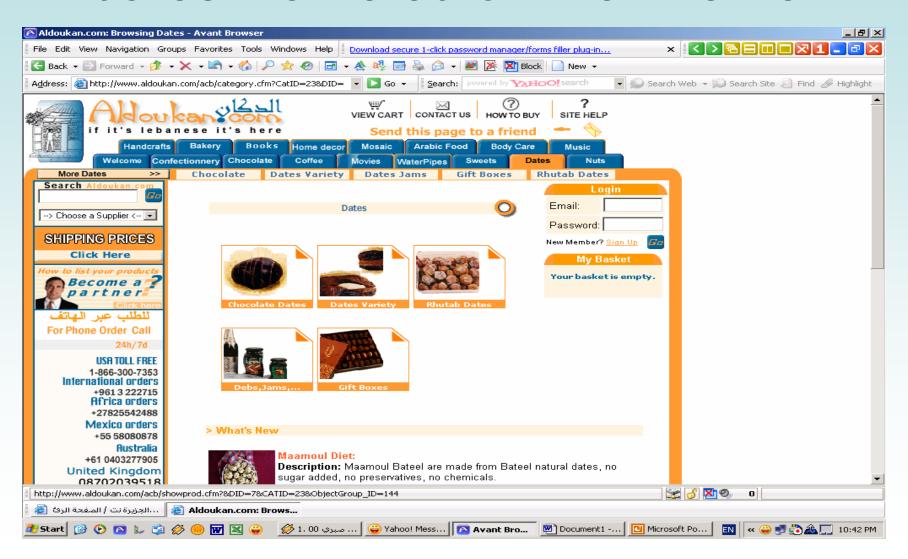
Dates in International Markets

- Sophisticated fresh and dried dates are marketed in the world markets though out chain stores, specialized stores and on the Internet. Tens of different dates varieties, date products and byproducts can be obtained in the world markets at very high prices compared to local prices.
- The following slides demonstrate samples of dates and dates products marketed in the EU markets and on the Internet. These slides show clearly the high potential of dates products in the high end markets which require high quality fruits, processing, packaging and marketing skills.

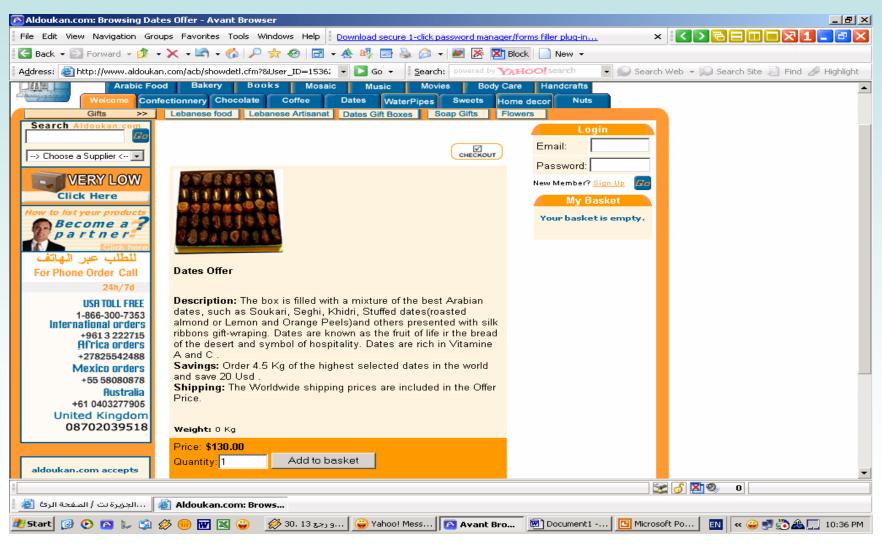
Dates in Paris Selling @ 18 Euro = US\$ 22 (ID 32,000) /kg



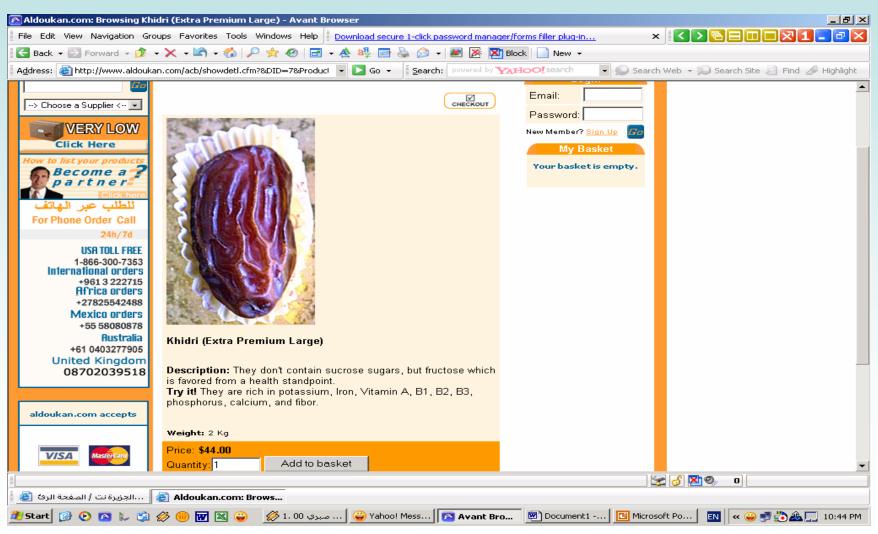
Five major different products of dates marketed on the Internet



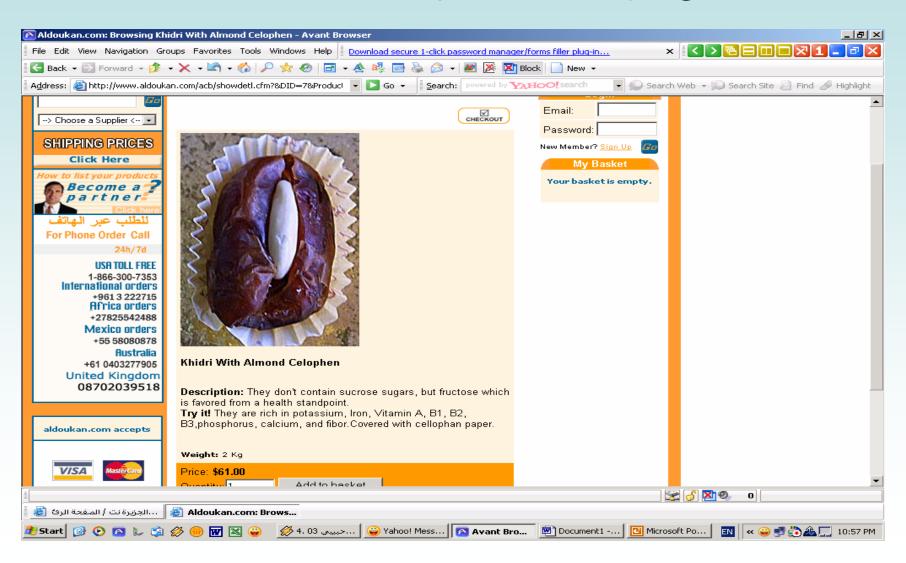
Stuffed dates with roasted almonds selling at US\$ 65 (ID 95,000)/Kg



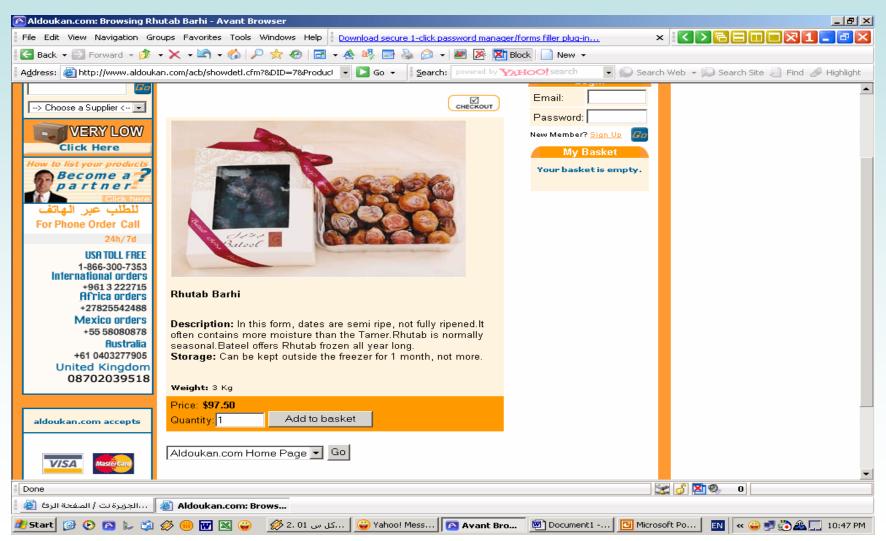
Extra premium Khidri dates selling @US\$ 44 (ID 64,000)/kg



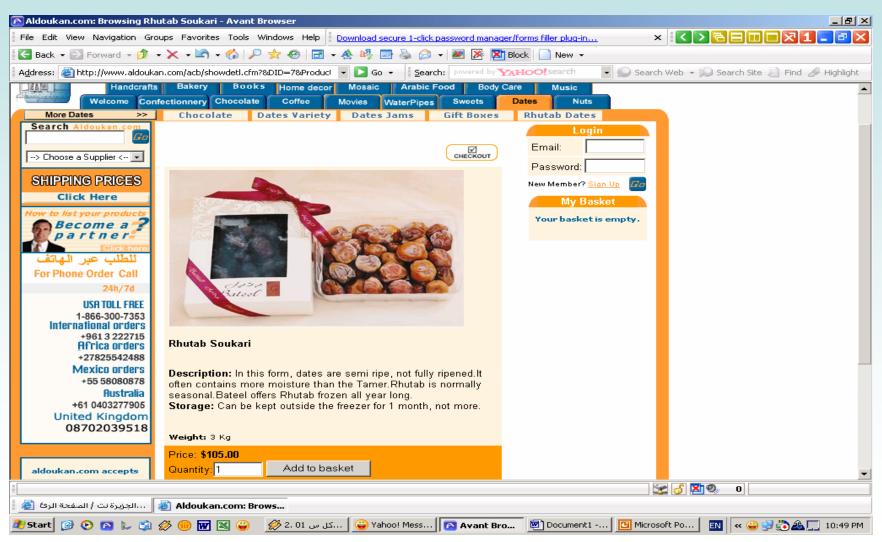
Khidri dates sellingUS\$ 31 (ID 45,000)/kg



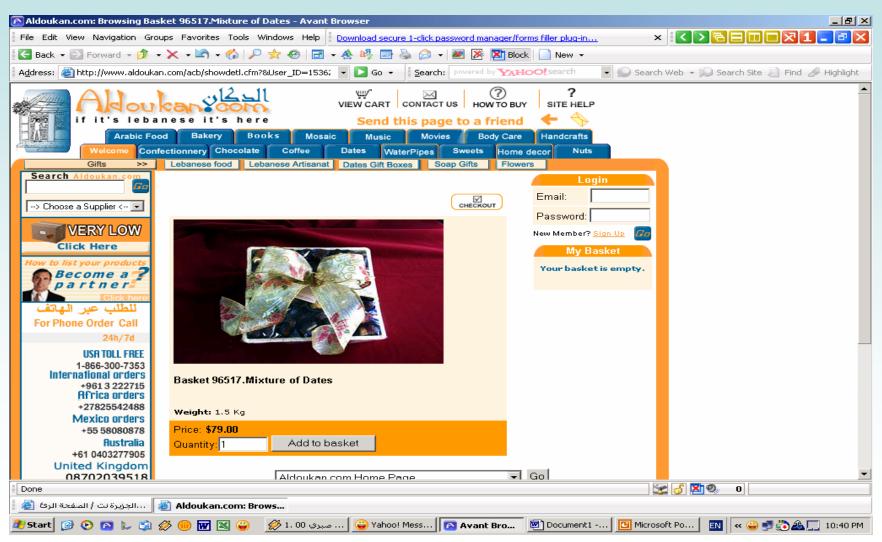
Rutab Barhi selling @US\$ 32 (ID 46,700)/kg



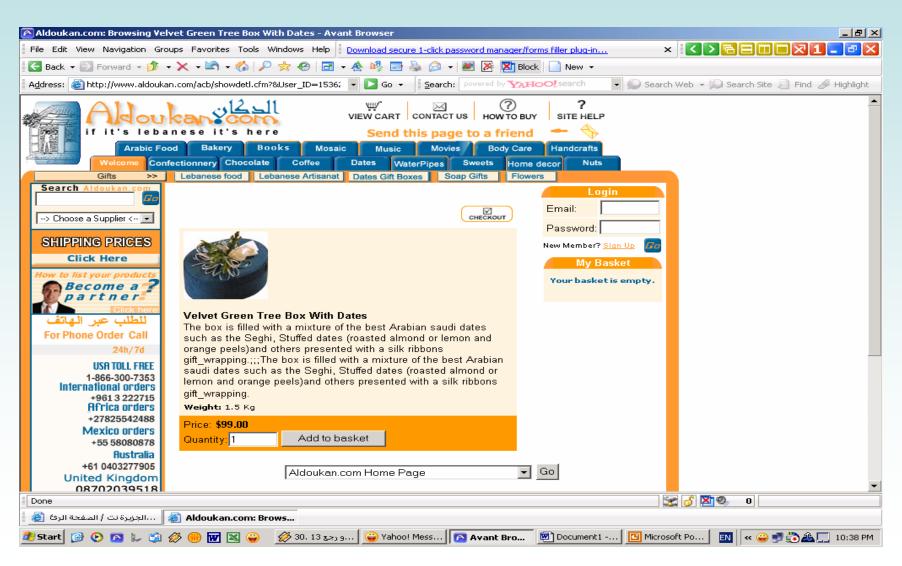
Rutab Soukari selling @ US\$ 35 (ID 51,000)/kg



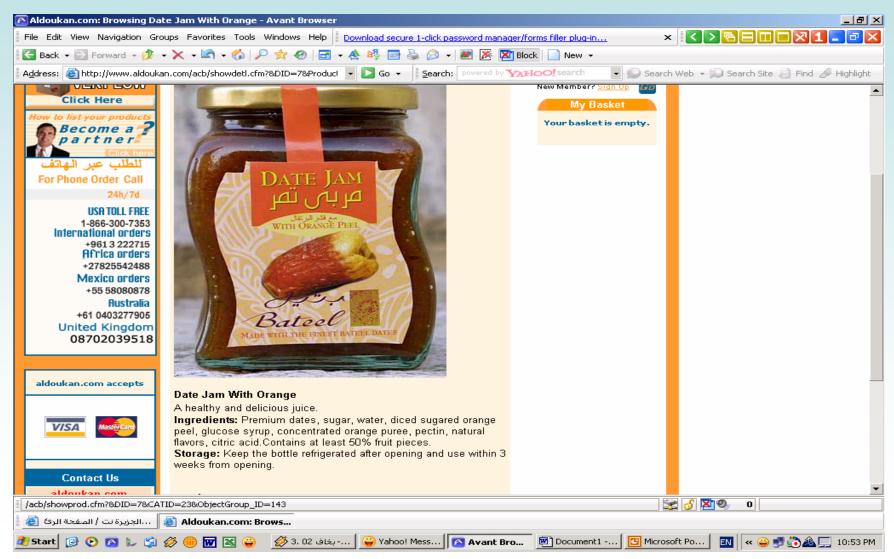
Mixed dates selling @ US\$ 52 (ID 76,000)/Kg



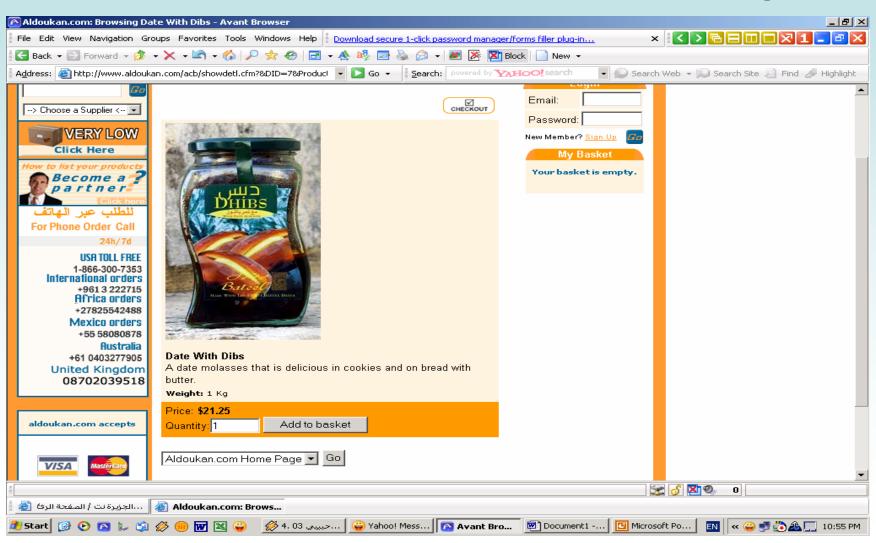
Stuffed dates with almonds and orange peels selling @ US\$ 66 (ID 96,000)/kg



Date Jam selling @ US\$ 12 (ID 18,000)/kg



Date Molasses (Dibes) selling @ US\$ 21.25 (ID 32,000)/kg



Objective 3

- The following section contains recommend specific marketing interventions to reintroduce Iraqi dates into selected export markets. These recommendations are classified as:
 - Short-run actions (to be implemented within one year);
 - Medium and long run actions which takes more than one year to be implemented

Short-run action (1)

- Improve packaging material quality and attractiveness. The following information should be printed on all packaging material for exports as required by many of the international organizations as well as importing countries:
 - net weight;
 - country of origin;
 - grown and packed by (address);
 - product and variety; and
 - category (class 1 or grade 1).

Short-run action (2)

 Establishing a specialized date exporters and processors Associations. In order for such an association to become a legally sanctioned entity with the right to function as an organization, it must comply with the laws of the country. The proposed association is expected to play a major role in establishing the needed enabled environment for regaining the lost dates world markets and to penetrate new markets.

Short-run action (3)

 Conducting study tours to show Iraqi exporters, processors and producers the proper ways of handling and marketing dates for export markets. Study tours should be organized to visit countries that have achieved real successes in penetrating world markets and establishing good world reputations such as Tunisia and UAE.

Short-run action (4)

- MoA and the private sector to follow up on the issue of palms aerial spraying especially for those areas that were not sprayed last year; and
- Obtain technical assistance to find efficient ways to replace the use of Methyl Bromide in date fumigation. Recent research by University of California at Davis showed dates could be treated with 100% carbon dioxide for 1-2 days to avoid Methyl Bromide fumigant.

Medium and long run actions related to Production Practices (1)

- Expand the cultivated area with date palm varieties that are highly demanded in the international markets such as Barhi, Majhool, Khalas..etc;
- Advise date palm producers and new investors to follow the modern production techniques such as spacing, use of fertilizers and integrated pest management programs (IPM);

Medium and long run actions related to Production Practices (2)

- Establish a database on date palm production in Iraq that contains all technical information such as varieties, production areas, cost of production, diseases, ...etc. This database should be linked to a website that can be accessed by all kinds of users such as researchers, producers and exporters; and
- Conduct feasibility studies on utilizing dates and date residuals in extracting food additives and other materials that can be used in food stuffs and as well as animal feed.

Medium and long run actions related to Marketing Practices (1)

- Establishing the needed marketing infrastructure to improve the quality of Iraqi dates through the whole marketing chain, from producer until domestic or international consumers;
- Conduct "market-specific" assessment studies to determine the specific needs of the potential markets such as the EU, south eastern Asian, and former Iraqi traditional markets;
- Establish a marketing information system accessible by stakeholders and researchers; and 4) Join the specialized regional and international date-palm networks

Medium and long run actions related to Marketing Practices (2)

- Join the specialized regional and international date-palm networks. The first date-palm network was established with the help of Iraqi institutions as early as 1995.
- Provide enough funding for market research and marketing extension.
- Organize and conduct international promotional campaigns to promote high quality Iraqi dates in potential markets. Such companies may include media and participating in international specialized fairs and exhibitions.

A sample of a specialized Website for Medjool date in the US

