

Spotlight on Agriculture

No 20

Ministry of Agriculture,
Water and Rural Development
Directorate of Agriculture Research and Training
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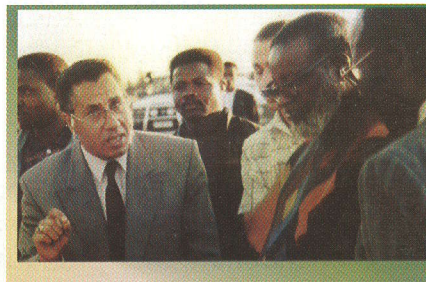
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Namibia challenges World Date Industry

INTRODUCTION

Date palm (*Phoenix dactylifera* L.) is a monocotyledon from the Family: Palmae. The first date palms in Namibia were planted by Germans approximately around the year 1900. The palms were planted in dry areas next to river beds where ground water was found close to the surface. All these palms originated from date seeds and their production characteristics vary considerably in terms of quality and quantity. Vegetative growth as well as flowering, pollination, fruit set and natural maturing of date fruit are well experienced and no major pests and diseases were found on the local date palms in Namibia.

In the beginning of the '90s, technical knowledge with regard to the commercial cultivation of date palms was still limited in Namibia. In 1995, a unilateral trust fund project was signed between the Namibia Development Corporation (NDC) as agent of the Ministry of Agriculture, Water and Rural Development and the Food and Agriculture Organisation of the United Nations (FAO). The project, Date Production Support Programme, is to support the development of the date industry in Namibia. Potential benefits of date palms to Namibia are: contribution to food security, high nutritional value, crop diversification, development in dryer areas of the country, job creation possibilities, income generation, settlement of landless people, foreign exchange earnings and control of desertification.

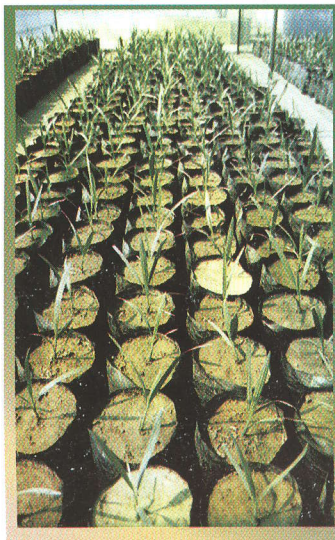


Official visit to the Naute Date Project by
His Excellency the President,
Dr. Sam Nujoma (06/06/97)

CULTIVATION OF DATES

Dates can withstand harsh climatic conditions and thrive well under arid conditions. Low humidity during the harvesting period (February-April) is required as well as a good water supply. Irrigation requirements of full grown dates are about 25 000m³ per ha per year. Twelve to 15 years after planting, date palms are considered fully grown.

Using seeds for date propagation is not recommended as the produce harvested is often of low quality and the product characteristics vary per palm. Besides seeds, other ways of obtaining plant material are through offshoots and tissue culture material. Offshoot production is high in the beginning of the life of the date palm but decreases once the palm matures. Offshoot production will reduce the development and yield of the mother plant and will therefore lead to a reduction in yield of the plantation. Furthermore, offshoots take longer to start producing than the tissue culture derived material (7 to 8 years versus 5 to 6 years after planting). Tissue culture derived palm material, which actually constitutes the modern and commercial date plantations in Namibia, is free of diseases and pests and can be made available in large quantities, all year around and at a reasonable production cost.



Tissue culture-derived date palm
plants at the hardening-off
operation

Cultivation of dates is a labour intensive process and labour requirements for a commercial date plantation are approximately 170 working days/year/ha. Cultivation practices are: artificial pollination (by hand or blower), bunch management (tying and pruning) and harvesting.

Pests and diseases should be monitored on a regular basis. Though Namibia is free of major pests and diseases, there are some which can still affect the date plantations. Examples of these pests and diseases are Black Scorch and Rhinoceros Beetle. Especially in a young plantation, it is important to either treat (Rhinoceros Beetle) the plantation or destroy (Black Scorch) plants affected in order to prevent their spread.

PRODUCTION

The fruit harvested from a date palm has a high nutritional value, which goes up to 3 000Kcal/kg (as compared to 520Kcal/kg for apricots and 970Kcal/kg for bananas).

Table: Nutritional value of dates per 100g of fruit

Energy:	268Kcal
Carbohydrates:	64.0g
Fibres:	7.6g
Protein:	2.5g
Fat and Pectin substances:	0.2g
Cholesterol:	0.0g
K (Kalium):	609mg
Mg (Magnesium):	60mg
Na (Natrium):	10mg
Fe (Iron):	2.0mg
Vitamins (total):	0.36mg



Seedling date fruit production at Hardap Research Station (03/98)

Fruit can be harvested at the "Khalaal", "Rutab" and "Tamar" stages. Fruit at the Khalaal stage are physiological mature, hard and crisp, have an approx. 50% moisture value, bright yellow or red in colour and perishable. Rutab dates are partially or wholly browned, have a reduced moisture content, and the fibres are softened and perishable. Fruit in the Tamar stage are amber to dark brown in colour, their moisture content is further reduced, texture is soft and pliable from firm to hard, and protected from insects it can be kept without special precautions over a longer period of time (8 months to 1 year). Under good management practices, a date tree can annually produce an average of 100kg of dates (Rutab-Tamar stage). Production per ha will be around 10 tons.

MARKETING

The Namibian market is mainly used to pitted and pressed dates for baking purposes. These dates are primarily harvested at Tamar stage, pitted by hand or machine and pressed into blocks. The current experience is that most Namibian, once exposed to fresh dates, take an immediate liking to the product, which offers promises with regard to possibilities of developing the local market.



Mature Rutab date packed fruits ready for marketing (19/02/99)

When targeting the overseas high value export market, the main aim is to produce quality fresh dates at the Khalaal and Rutab stages. The *Barhee* date is the variety mostly grown and sold as Khalaal date. It should be noted that the major market for this produce is the Middle East. The varieties mostly grown for export from the Rutab stage are *Medjool* and *Deglet Nour*. Major export markets for *Medjool* dates are the European Union and, to a lesser extent, the United States and other countries.

The main characteristics for date palm development in Namibia are:

- **The** favourable climate and soil along the lower Orange River and other areas in central, northwest and southwest of Namibia;
- **Namibia's** location in the southern hemisphere will enable it to produce fresh dates when the major producers in the northern hemisphere are off season, and
- **Availability** of markets in neighbouring countries, particularly South Africa, but also markets for fresh dates in Europe and the Middle East.



An example of the Annual Date Palm Training Course (Hardap 08/97)

Detailed information on the propagation, production, protection and marketing of dates can be obtained from the Namibia Development Corporation, Private Bag 13252, Windhoek, Namibia, Tel 061-2069111, Fax 061-233943 or the Date Production Support Programme, P O Box 8697, Windhoek, Namibia, Tel 061-246464, Fax 061-253814, E-mail: zaid@namib.com

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