

DATE FEATURES AND FACTS

- Global date production is about 5.4 million metric tonne of fruit per year.
- The five largest producers are Egypt, Iran, Saudi Arabia, Pakistan and Iraq – accounting for about 70% of total production.
- Approximately 93% of dates harvested are consumed within the country of origin.
- The date palm is a traditional crop in the old world and in recent decades has gained popularity. It is now grown in 40 countries including the USA, South Africa and more recently Australia.
- Main importers of dates are India, United Arab Emirates, Pakistan, Malaysia and the European Community.
- Australia imports over 5000 tonne of date fruit per year. 85% of this is low quality cooking or manufacturing grade.
- Australia currently has less than 50 hectares of mature fruit bearing date palms
- Date palms are dioecious: male pollen is required to be harvested and applied in a timely manner to the female flowers. One male palm is sufficient to pollinate 20-25 female palms.
- Date palms can be grown from seed however the quality of the resulting plant is likely to be undesirable.
- Date palms can be grown from offshoots or suckers which generate from the base of existing palms. These offshoots are genetically identical to the parent palm and therefore reliable in the characteristics displayed from the parent palm.
- Date palms can also be generated through micropropagation techniques. In recent decades tissue culture plants have emerged as an efficient way of mass producing large volumes of desirable variety types.
- Fruit styles are usually graded into 3 groups.
Soft – soft flesh, high moisture, low sugar content.
Semi-dry – firm flesh, low moisture, high sugar content.
Dry – dry flesh, very low moisture, high sugar content.
- Some rare varieties have the unique characteristic of being sweet and edible when only semi-ripe. This fruit stage is known as 'khalaal'. (Biser or doka in some cultures) Fruit is crunchy, firm and juicy with relatively low astringency. It has a short shelf life. Barhee is one of the more famous producers of this semi-ripe khalaal fruit.
- Date fruits offer a good source of high nutrition.

NUTRITIONAL INFORMATION

(Average Nutrition Value per 100 grams) ENERGY CALORIES.....349

GLUCOSE.....48.5g
FRUCTOSE.....35.5g
CARBOHYDRATES.....87.4g
PROTEIN.....2.37g
FAT.....0.43g
POTASSIUM.....667 mg
CALCIUM.....52 mg
MAGNESIUM.....50 mg
PHOSPHORUS.....60 mg
SODIUM.....12 mg
IRON.....1.2 mg
VITAMINS....B1, B2, B6 and B12

Dates 3000 calories/kg
Bananas 970 calories/kg
Apricots 520 calories/kg
Oranges 480 calories/kg



Dalhousie Springs,
Outback South Australia

PALM IDENTIFICATION

We often receive enquiry from people who incorrectly identify the true date palm *Phoenix dactylifera*. Here are some photos which may assist.



L to R:
Date Palm (*Phoenix dactylifera*), Cotton Palm (*Washingtonia* sp), Canary Island Palm (*Phoenix canariensis*). Kings Park Perth, Western Australia.

Phoenix canariensis or Canary Island palm

Commonly mistaken for a date palm. The Canary Island Palm has a robust trunk, thick dense canopy. Leaves have very long spines at base. Does not reproduce via suckers/offshoots but commonly has a carpet of germinating palms at base of tree. Common ornamental palm throughout Australia.

Cotton Palm (*Washingtonia* sp)

Easy to identify with large fan shaped leaves with what appear to be threads of cotton hanging from leaf tips. Thick, straight trunk.



Phoenix dactylifera, the true date palm

Large (to about 20 metre) attractive palm with slender trunk and sparse canopy. Usually a blue-grey-green foliage colour. The leaves of the true date palm have sharp pointed tips and sharp spines at the base of the frond where it joins the trunk.

Phoenix dactylifera reproduces via offshoots/suckers which are attached at the base or sometimes high up on the trunk. If left unmanaged the date palm with its offshoots can grow into large inhospitable clumps as seen in the photo on the left, taken at Dalhousie Springs, Outback South Australia.



Left: Historical date palms, Tanunda, Barossa Valley, South Australia.

Needing a tidy-up. "Before" photo.

"After" photo – note aerial offshoots.

IDENTIFYING THE SEX OF A PHOENIX DACTYLIFERA DATE PALM

Below: Male Palm



Males will produce a flower which is feathery in appearance – something like a feather duster. Commercially male pollen is harvested and applied to the female flower. One male palm produces enough pollen for about 25 female palms.

The female palm produces a more pronounced flower which has longer individual strands that first emerge with small creamy yellow coloured nodules. These grow and develop into green beads, then eventually into easily recognizable dates. Un-pollinated flowers will produce fruit that will not ripen.

The date palm is well recognized for its ability to withstand environmental stress. It has proved a valuable plant in combating desertification. It creates a unique understory microclimate which allows other plant species to survive in the mottled sunshine that penetrates through the canopy of the date palms. This shade-house effect reduces evapotranspiration rates and

increases humidity which facilitates a secondary food production system by introducing other plant species which would not otherwise succeed if exposed to the full extremes of a harsh climate.

Citrus, stonefruit, vines, pomegranates, bananas and vegetables are commonly grown as permaculture crops beneath palms. Goats are used to clean up plant residue and left over or fallen fruit and date seeds. This food production system adds diversity to diet and would not be otherwise possible without first establishing the date palm to buffer climate extremes.

The geographic distribution of the date palm is wide. It is cultivated from the zones that lay between the 15th and 35th parallels of latitude in the northern hemisphere. The date palm can be classified as a desert plant that is best suited to semi-arid and arid climates, however particular varieties of date palms perform differently within these zones. Some varieties are better suited to coastal regions (Mediterranean) whilst other varieties have evolved in an inland desert setting and may require a higher winter chill factor to induce spring flowering, or extremely dry heat to successfully ripen fruit.

This is of particular importance to the commercial date fruit producer who needs to understand which selections are best suited to their environment.

Gurra Downs Date Company has distributed a range of tissue cultured date palm varieties throughout the most likely potential growing regions in Australia. Results are still pending. There is much need to analyse the results of these experiences over the coming years to assist in determining the best local selections.

In general terms the date palm is well known for its ability to withstand extremes in temperature. The ornamental distribution in Australia is wide spread, indicating the palms tolerance of very high summer temperatures as well as surviving cold and frosty winters.

Irrigation requirements for full commercial fruit production are higher than most other fruit crops (more detail in Growers Aids). However the date palm is also drought tolerant and will withstand periods without irrigation – a valuable asset when faced with unexpected water restrictions such as presently being experienced in the drought affected Murray Darling River Catchment Basin.

The date palm is also well adapted to saline conditions and can continue to produce high value crops of nutritious fruit well beyond the level of tolerance of most other crop types (for more salinity tolerance details see Growers Aids).



Top: Very happy 2 year old palms grown on a salinity count of 5536 EC units. 2006
Dave with Greg Emmett and Prue Coulls of Coward Springs on the Oodnadatta Track, outback South Australia.

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