**Date Palm Offshoots**

Medjool dates are an expanding crop in Yuma County. About 4000 acres of dates are now being cultivated, producing a crop valued at over $25 million. In the early 1900s, date palms were brought to our southwestern deserts of California and Arizona because the climate in this region was ideal for growing them.

Each palm is propagated vegetatively from offshoots which are true to type to the parent palm. The offshoots develop from buds at the base of the mother plant and consequently the fruit produced will be of the same quality as the mother palm and ensures uniformity of produce.

Dates are one of the most tenacious plants in nature. They are a key food source for millions living across the Middle East and North Africa. And the trees bearing it have been thriving alongside some of world’s most ancient rivers for thousands of years. For many generations of Egyptians, the date has been viewed as a symbol of fertility, sprouting up almost miraculously along rivers and oases in the region’s driest deserts. The tree has been depicted in bas relief, on monuments, and on coins. Its shape is even thought to have inspired a style of columns in Greek architecture.

The life span of the date palm is divided into two distinct developmental phases: vegetative, in which buds develop into offshoots; and generative, in which buds form flowers and offshoots cease. From the time that a bud has developed into an offshoot until the time it grows outwards, it takes up to three years (18 to 36 months), with another three to four years before it reaches the desired size for its separation and planting.

Newly planted offshoots will bear fruits 2 - 3 years earlier than seedlings. Offshoots are mainly produced in a limited number (20 to 30 at most) during the early life of the palm (10 to 15 years from the date of its planting) depending on the variety.

Although 20 to 30 offshoots are produced by a palm, only three or four offshoots are suitable for planting out in one year and must still go into the nursery for 1 to 2 years before field planting.

Care and skill, acquired only by experience, is important in order to cut and remove an offshoot properly from its mother palm. The operation, usually carried out by two skilled workers, starts by irrigation several days before cutting. Soil is then dug away from the offshoot(s) using a sharp, straight-blade shovel (a ball of soil is left attached to the roots of the offshoot. A specially designed rectangular chisel is used to cut the offshoot from the mother palm. Injury must be avoided at all times as the offshoot's tender heart should never be damaged.

In places such as Libya, some areas of Iraq and Saudi Arabia, and Yemen, offshoots are not at all removed and continue to grow outwards from the original mother palm, producing large clumps consisting of hundreds of shoots, none of which produces a trunk and of course with no significant yield.

It is advisable that an offshoot never be planted into the field directly after removal from the mother plant. A rooting period of one to two years in a nursery is essential in order to ensure an optimum survival rate and to avoid uneven development of the plantation.

In most Yuma soils, the early and rapid growth of the offshoot is better when the holes are prepared one to two months before planting. The leaf base of the offshoot is planted above the
soil level to prevent the offshoot from rotting. The soil near newly planted offshoots should be kept moist at all times by light and frequent irrigation.

Young offshoots are usually protected from harsh climatic conditions (sun and wind during the first summer and cold the following winter) and against some animals (rabbits, etc.). The use of shade wrapping or a tent of date leaves is recommended. However, the top is left open so that new growth may push through.

The best time to remove an offshoot is when the mother palm is in a dormant condition. In general, the extreme heat of the summer and the extreme of cold of the winter is usually avoided, best times are early spring and fall.

Offshoots usually appear at or below the ground surface because the greater moisture there is favorable to their growth. Smaller offshoots, which appear well up on the trunk and have no independent root system, are usually destroyed, as being of no value.

As an offshoot is truly like mother palm, the fruit will be of the same quality as the fruit of the mother palm within 3 to 4 years after planting.

The mother date palm can give 20 to 30 offshoots during its early life, between 10 and 18 years old.

In selecting offshoots on the palms, one preferably takes those that are about 2 to 5 years old, which weigh about 22 lb). The signs of mature offshoots are the appearance of their own roots and leaves.

The wood and leaves provide timber and fabric for houses and fences. The leaves are used for making ropes, cord, baskets, crates and furniture. The base of the leaves and the fruit stalks are used as fuel. The fruit yields food products such as young yellow dates, dried dates, date vinegar, date chutney and date paste for bakery products.

Dates are highly nutritious, with a sugar content of ripe dates about 80%, and the remainder is a rich blend of protein, fat and mineral products including copper, sulfur, iron, magnesium and fluoric acid. It is the custom in Saudi Arabia to break a fast during Ramadan by eating dried dates and drinking a cup of tea.

Date palms need a long hot growing season. Yuma’s low humidity and the relative absence of summer rain help in the production of high quality fruit. Dates require the high Yuma temperatures from flowering to fruit maturity.

Palms usually begin to produce offshoots in their second year and continue to do so until the age of 12, and can be removed and used as planting material once they have reached about 6 inches in diameter. Whether the offshoots are to be used for propagation or not, they are typically removed from the parent palm as they compete for resources and influence the growth and development of the parent palm.

Commercial date production is highly labor intensive. Hand pollination of female flowers (from pollen collected from male palms) is required in order to produce commercial yields. Fruit thinning, fitting covers to protect from birds, tying bunches to fronds, and a long harvest season all increase labor input.

Fresh dates store well when refrigerated and may be frozen. Dried dates have extended shelf-life without refrigeration and are often found in dried fruit sections of markets or are prepackaged.