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HORTICULTURAL COLUMN

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Welcome to the Horticultural Column. This column is intended to be a service to IPS members and a way to allow us to share our observations and horticultural techniques and problems with our fellow members.

I don't think I've ever visited a palm garden or collection without learning something new, and I'm sure you will agree that nobody knows everything and everybody knows something. Our hope is that members will want to share what they know; whether it is their enthusiasm for a favorite species that they feel deserves more attention as an ornamental, or comments on any kind of cultural practices, pruning, watering, fertilizing, etc. Tell us which plants and methods have been successful for you, better yet tell us which plants and methods have been unsuccessful for you, and save us some trouble.

I invite any members with horticultural questions about palms to submit them to me via e-mail (Bernard.Peterson@gte.net). E-mail makes much of this communication easier, but it is not necessary to have e-mail to participate. Regular mail works just fine. I certainly do not know the answer to every question myself, but I can find a source that does. I hope to hear from you soon.

Q. I was wondering what is it about palms that makes transplanting them allegedly more difficult. Do palm roots recover more slowly than the roots of other woody plants (for example, *Ficus*), or do palms have a more sparse root system such that any damage kills a higher percentage of the root system? Scott Stewart, Ohio.

A. Some palms are among the easiest of large trees to transplant. *Syagrus romanzoffiana* can be dug up and moved as easily as any large plant that I have ever encountered. As a general rule palms with pinnate or feather-shaped leaves are easier to transplant than those with palmate or fan-shaped leaves. There are some exceptions, however. It is often the case when transplanting palms with fan leaves, that mature trees are more likely to survive than younger ones.

The root system of a palm is altogether different than those of dicotyledonous trees and conifers. An individual palm root is the same diameter throughout its length. Smaller rootlets emerge from its sides. Absorption takes place in the tip of the root and its rootlets. There is an area at the base of a palm's trunk which can produce new roots throughout the tree's life, so a given root is not necessarily a permanent part of the palm. In contrast, a seedling dicot begins with roots which gradually increase in diameter and length and branch in order to fill the needs of the growing tree. When the "permanent roots" of dicots and conifers are confined in nursery pots they can grow in tight circles that can cause serious problems later in the tree's life; palms with their "non-permanent roots" and their ability to grow entirely new roots do not have these problems.

The existing roots of palms have been found to have a limited ability to branch and regrow once they have been cut in the process of transplanting. The ability to branch and regrow roots varies from one species to another and, in some cases, with the distance from the trunk that the cut is made. It is not surprising that a relatively high percentage of the roots of the very easy to transplant *Syagrus romanzoffiana* are able to branch and resume growth as long as they are cut more than 15 cm from the trunk. For the more difficult to transplant *Sabal palmetto*, virtually none of the cut roots are able to branch and regrow regardless of how far from the trunk they are cut. Since the cut roots have little ability to function, the newly transplanted palm's survival depends on the formation of entirely new roots at the base of the trunk. Nowadays when *Sabal* palms are transplanted the roots are cut very short and all of the foliage is removed to compensate for the loss of the roots. The same procedure has been tried a few times on difficult species, such as *Copernicia alba* and *Livistona decipiens*, with similar success.

I think it is possible to transplant any palm species successfully, although some may require special techniques or even machinery. Palm transplanting is best done, especially on difficult species, at the beginning of the warm season, to allow prompt and prolonged growth to aid in the palm's recovery.

Q. I am a palm grower from the Dominican Republic trying to grow date palms for the first time. Do you have information on the propagation of date palms from seeds? Yarina Montas Bravo.

A. I assume that you are referring to *Phoenix dactylifera*, the date palm which produces the edible dates. The date palms that are planted in groves in the American southwest and the Middle East are propagated either by separating the suckers or offsets that are found at the base of the parent tree, or by tissue culture. Since dates grown from seed can be either male or female, and one cannot determine which sex they are until they are old enough to flower, they are not usually propagated by seed.

If you wish to grow dates only for their appearance, then they can be easily grown from seed, as can all species of date palms (*Phoenix*). The seeds contained in the dates at the local supermarket work just fine. Plant them in pots that are from 15–20 cm deep. You can plant many seeds in each pot and separate them after their first leaf is fully grown and the second one has just begun. Date palms require sun, so they should not be grown in a shady spot even while small. Dates grow best when the soil is moist, but they will suffer from foliar fungus diseases if their leaves become wet too often, or if the air is too humid. Drip irrigation is very useful when growing this palm, and they should respond well to a good quality palm fertilizer. The Arabs say of the date palm that they like their heads in the fire [sky] and their feet in the water.

If you are growing these palms as ornamentals only, I would suggest that you consider growing *Phoenix sylvestris*, or Indian Date, instead. It is rather similar in appearance to the date palm, but here in central Florida at least, it is more resistant to foliar fungus diseases.

Q. How long can a *Bismarckia* be kept in a container? Everything that I have read on the subject says to put it in the ground, but I cannot do that at this time. What can I expect if I keep it

in a container? Will it grow more slowly? What size container should be used? Will Abel, California.

A. *Bismarckia nobilis* grows well in containers and some nurseries produce fair-sized specimens in pots as large as 200 gallons. Being in a container will probably slow the plant's growth somewhat, but if you occasionally repot it into a larger container there should be no permanent problems. If a *Bismarckia* is kept in, say, a 15 gallon pot for too long it may begin to push itself up out of the pot simply by forming a greater mass of roots than the pot can contain. If this happens, you will have to trim some roots before repotting even if you use a larger pot. Eventually you can work your way up to growing it in a 25 or 30 gallon pot. If you use a larger container, you will need a forklift or other equipment to move the palm.

Q. A neighbor got carried away with a chainsaw while trimming a *Phoenix* palm. He cut off all of the leaves. What are the chances of recovery, and when would be the best time to transplant it? I live near San Francisco, where it is wet and about 50–60°F (10–16°C) at this time of year. Phil Stob, California.

A. The first thing to do is to keep that chainsaw away from your neighbor! The *Phoenix* will recover from its encounter with the chainsaw, especially if left where it is and cared for, but I get the impression that it is unloved in its current situation. As for transplanting it, I hope that you will not attempt this until the beginning of the warmest part of the year.

Incidentally, there is a fatal disease which affects some *Phoenix* spp. in California and now in parts of Florida too. It is *Fusarium* Wilt and can be transmitted from one tree to another by pruning saws. Pruning saws should be thoroughly sterilized after trimming one tree and before moving on to trim another. Since chainsaws cannot be adequately be sterilized, I recommend that they not be used.

Q. I work in a school library, and my students are doing research on trees. We have not been able to discover how to tell the age of a palm tree. Can you help us out? Charlynda Marckese, Illinois.

A. Palm stems do not have annual growth rings like those of most other kinds of trees. As a palm grows it adds a new section of trunk on top

of the trunk it already has; for each new leaf that grows from the top of a palm a new section of trunk is added. We can see the units of construction by looking at the trunk of a Queen palm (*Syagrus romanzoffiana*), for example. On the trunk are rings or leaf scars, which are also called nodes. Each node is a place where a leaf was attached. The spaces between the leaf scars are called internodes. To determine the approximate age of the palm, one must first observe how many leaves per year the palm produces. Different species produce leaves at different rates. A

Queen palm produces about eight leaves per year. To determine the palm's age, you must count the number of leaf scars and existing leaves that it has and divide by eight. Add about three years for the early stage of the palm's life before it was old enough to have a trunk with leaf scars, and you will have an approximate age for the palm. Not all palms produce visible leaf scars. For these palms, you must observe the increase in trunk height over a number of years and use this observed growth rate to estimate the age of the palm.

Back cover

A sight to warm the heart of any palm propagator: flats of newly germinated seeds. See pp. 56-59. (Photo: Bill Langer)