

GETTING THE TOUGH ONES TO GERMINATE

At the palm seed giveaway during the April 4 general meeting, two of the species distributed are known for their poor germination rate. They are *Acrocomia crispera*, the Cuban Belly Palm, and *Attalea brejinhoensis*, one of the South American Oil Palms. What they share in common, and what makes them so difficult to germinate, is a woody endocarp. An endocarp is the innermost part of the wall that surrounds the seed in a ripe fruit. Endocarps may be membranous, as in oranges or watermelons, or woody, as in peaches or almonds.

In the case of our two palm species, the endocarps are so hard that they hinder germination by acting as a barrier against moisture and air reaching embryos. In order to facilitate germination, a grower can scarify, or thin, the endocarp. The three common methods of scarification are chemical, mechanical or thermal. Because chemical scarification involves a significant level of experimentation and expense, it's not recommended for the hobbyist grower.

Mechanical scarification is much less complicated. Use of a grinding wheel is the quickest way to thin a seed wall, but if that's not available, a file or rasp will work well. The only warning is not to go so far as to cut into the embryo, because that will put an end to the viability of the seed.

The third method of scarification, thermal, can be used by itself or in combination with the mechanical method. About 15 years ago, Chris Migliaccio, Professor of Ecology & Environmental Sciences at Miami-Dade College, devised a successful way to use heat to shorten germination time and boost rates. The technique requires a bucket of some sort that has a tight-fitting lid. The bucket should be large enough to accommodate one or more seed pots. (The wide-mouthed receptacle commonly used for pool chlorine works well in this regard.)

Some water should be added to the bucket to increase humidity. But the seed pots must not sit in water, so they can be elevated above it by resting them on inverted small containers. The buckets should then be placed in the sun while waiting for the seeds to germinate. Chris's technique was meant specifically to address germination of *Acrocomia crispera*, then known as *Gastrococos crispera*, but it is certainly adaptable to other difficult-to-germinate species. Once seedlings appear, they should be removed from the artificial heat. For more details about Migliaccio solution, please refer to the article Chris wrote for the International Palm Society at <http://www.palms.org/palmsjournal/2002/gastrococos.htm>. Please note that patience is a must with *Attalea* seeds, because germination occurs at a fairly glacial pace. Be sure to report your experience at future SFPS meetings.

Acrocomia crispa





Attalea brejinhoensis

