UF IFAS Extension UNIVERSITY of FLORIDA

ENH260

Bismarckia nobilis: Bismarck Palm[1]

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The Bismarck palm is a native of Madagascar that grows to a height of 30 to 60 feet with a spread of 12 to 16 feet. The massive 4-foot-wide costapalmate leaves are typically silver-green in color, but a light olive-green-leaved variety also exists (Figure 1). The persistent leaf bases are split, creating an attractive pattern on the 15–18-inch-diameter trunks. The dark brown male and female inflorescences are produced on separate trees, with females developing olive-brown fruit about 1.5 inches in diameter. The bold texture and color and eventual great height of this species make a strong statement in any setting, but can be overpowering in small residential landscapes.

Figure 1. *Bismarckia nobilis*.
Credits: T. K. Broschat

Bismarck palms are considered to be hardy down to about 30°F or USDA cold hardiness zone 10A (see http://planthardiness.ars.usda.gov/PHZMWeb/), but often survive in protected sites in zone 9B (25°F). This species is not as resistant to windstorm damage as most other species of palms. They are highly drought tolerant and moderately tolerant of salt spray on the leaves. These palms grow well on a wide variety of soils, but are susceptible to potassium deficiency (see http://edis.ifas.ufl.edu/ep269) which causes translucent yellow-orange or necrotic spotting (Figure 2) and/or leaflet tip necrosis on the oldest leaves (Figure 3). Potassium deficiency also causes premature leaf death and can reduce the number of leaves that the palm can support.

Figure 2. Older leaf of *Bismarckia nobilis* showing translucent yellow-orange spotting caused by potassium deficiency.
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Figure 3. Older leaves of *Bismarckia nobilis* showing extensive leaflet tip necrosis caused by potassium deficiency.
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Magnesium deficiency (see http://edis.ifas.ufl.edu/ep266) is occasionally observed in this species where it imparts an unusual light yellowish tint to the silvery leaves (Figure 4). Manganese deficiency (see http://edis.ifas.ufl.edu/ep267) has been reported on *Bismarckia*, but it is not common. Symptoms include chlorosis, necrotic streaking, and leaf tip necrosis of the youngest leaves (Figure 5). The only other nutritional problem encountered in Bismarck palms is boron deficiency (see http://edis.ifas.ufl.edu/ep264). In transient mild cases, this will be expressed as one or more necrotic bands around the newly emerging leaves (Figure 6). Chronic boron deficiency is fairly common in this species and typically results in spear leaves not opening properly, with more than one unopened spear leaf being present at any given time (Figure 7). In more severe cases, new leaves may be stunted and distorted. Nutrient deficiencies in the landscape can be corrected or prevented by regular use of a controlled-release granular fertilizer having an analysis of 8-2-12-4Mg plus micronutrients. See *Fertilization of Field-grown and Landscape Palms in Florida* (http://edis.ifas.ufl.edu/ep261) for more information about palm fertilization.

Figure 4. Magnesium-deficient *Bismarckia nobilis*. Note the unusual discoloration of the leaves.
Credits: T. K. Broschat

Figure 5. Young leaf of manganese-deficient *Bismarckia nobilis*. Note the necrotic streaking that is diagnostic for this disorder.
Credits: Scott Schultz

Figure 6. Juvenile *Bismarckia nobilis* showing the effects of two temporary boron deficiency events during the development of a single leaf. The actual deficiencies occurred about five months before this leaf emerged.
Credits: T. K. Broschat

Figure 7. Chronic boron deficiency in *Bismarckia nobilis*. Note the small leaves and multiple unopened spear leaves.
Credits: T. K. Broschat

Bismarck palms are propagated by seeds that germinate slowly over a period of 6 to 12 months at high temperatures (90–100°F). For more information about germinating palm seeds see *Palm Seed Germination* (http://edis.ifas.ufl.edu/ep238). They grow rather slowly when young but once they develop a trunk, growth rate is more moderate. Mature field-grown specimens are more difficult to transplant than most other species of palms. Landscapers have achieved reasonably good transplant success by root-pruning the palms several months prior to moving them, by digging unusually large root balls, or by removing all of the leaves at the time of moving. See *Transplanting Palms* (http://edis.ifas.ufl.edu/ep001) for more information on this topic.

Bismarck palms can be pruned at any time of the year, but only completely dead leaves should be removed by cutting the petiole close to the trunk. Avoid cutting leaves that are only partially dead, as these are serving as a supplemental source of potassium to the palms. Cutting living leaves also releases a volatile chemical that serves as an attractant for palmetto weevils (*Rhynchophorus cruentatus*) (see http://edis.ifas.ufl.edu/in139), which will lay their eggs in the leaf bases. The resulting larvae then burrow into the palm trunk in the vicinity of the meristem or bud and can kill the palm (Figure 8). Bismarck palms are highly attractive to this pest, especially when stressed by cold temperatures, transplanting, or other environmental factors.

Figure 8. Bismarck palm infested with palmetto weevils.
Credits: Stephen Brown

Bismarck palms appear to be fairly disease resistant, but like all palms, are susceptible to Ganoderma butt rot (see http://edis.ifas.ufl.edu/pp100), a fungal disease caused by *Ganoderma zonatum*. This disease causes decay in the lower part of the trunk that can result in instability of the palm and invariably its death. A brown and white shelf-like mushroom called a conk may or may not be present on the palm trunk before it dies. This disease is not treatable or preventable.

References

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