



COONTIE

The Handsomest of Native Plants

COONTIE: The Handsomest of Native Plants

by Peggy Lantz

One of the handsomest of all the native plants of Florida is the coontie.

Its beauty is in its stiff, fern-like, dark green leaves, its full, compact, low growth habit, its shiny, bright orange seeds, its ancient primitiveness, its history, and its colorful names.

It's also beautiful because it tolerates drought, cold, and heat equally well. It's happy in full sun or deep shade. Coontie grows naturally in high, dry pine areas and hammocks in certain restricted locales throughout most of the Florida peninsula down into the Keys, but it is noticeably absent from the central parts of the state.

Coontie is the only living link in the United States to those primitive extinct gymnosperms that predate flowering plants. It is a cycad, a type of seed plant very distantly related to our pines and other conifers. It has cones that sprout out of the center and it comes in both male and female plants. The cone on the male plant is smaller than the seed-bearing cones on the female plants.

The woody subterranean stem of the coontie served the Seminole Indians as a staple food. The stems



Coontie lends itself beautifully as a specimen planting on the lawn...

were pounded to a pulp, the flour was washed and strained out, and then dried. The process took several days, and probably required the lives of innumerable coontie plants to supply bread for a family of Seminoles.

Coontie also sustained a commercial flour-making enterprise in Dade County during the late 1800s, but the rapid depletion of coontie

plants closed the factories.

The coontie's common names, according to Dr. Dan Ward, include Florida arrowroot, Indian bread root, koontie, conti, and the Seminole name, conti-hateka.

Even the Latin names are in doubt. *Zamia integrifolia* is a misnomer for *Zamia floridana*. *Zamia umbrosa* is a fairly distinct form found along the eastern coast of the peninsula. *Zamia angustifolia* and *Z. silvicola* are other names that have been used in South Florida, but that do not represent distinct forms. Dr. Ward is inclined to keep the Florida plants separate from those of the Bahamas and the Caribbean. He cautions, however, that further study may show them to be the same species. If this conclusion is reached, then the name for all Florida plants would become *Zamia pumila*. Dr. Eckenwalder, on the other hand, has recognized several subspecies for the Florida and West Indian plants. We'll let the taxonomists fight it out.

Zamia floridana and *Z. umbrosa* are both threatened species.

PROPAGATION EXPERIMENTS

Unfortunately for landscapers and nurserymen who would like to have quantities of coontie plants available for sale and use as foundation and border plants, coontie is slow to start from seed and slow-growing whether

from seed or transplanted.

Seeds that were planted near my house by simply pushing them into the ground with a finger took some months to show their first leaf. Out of about thirty seeds, nearly twenty-five germinated, but they have now been there a year and still have only one leaf. I happen to be more patient than most nurserymen, who can't afford such a long lead time on sales. Transplanting two plants from my parents' yard, where they grow in free abundance, proved to be most successful, but even these have sent up only one new set of leaves in over a year. Annual production of only one set of leaves, however, is a natural phenomenon in all cycads.

But experiments being done at the University of Florida may be useful to commercial growers of Florida native plants. Drs. Burch, Dehgan, and Johnson have had considerable success in improving the germinating and growth rate of zamias.

Apparently, damaged pieces of zamia root-stem can regenerate into new plants, so Dr. Derek Burch tried cutting the stem horizontally into discs about two centimeters thick and planting these pieces to see if each piece would produce a new plant. He used a sharp knife to avoid any tearing or bruising, set them in sand, and covered them with one cm of

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Coontie photos by Peggy Lantz



... or as an entryway planting. These coonties at the home of Mildred and Ralph Sias in west Orange County are probably over 50 years old, and have fleshy root-stems 1 1/2 feet in diameter.

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sand, keeping the same top/bottom orientation the pieces had when the plant was whole.

Some were treated with fungicide (chlorothalonil), but after four months there was little difference in growth between treated and untreated pieces. Seventy to 80% of the top slices showed new shoots and roots, while half the discs showed shoots and 65 to 75% showed roots. The bottom-most piece responded the most poorly. The roots ranged from a tiny bump to a 16 cm-long system. All but one of the sprouts were only tiny bumps. But after repotting and another few weeks, all plants showed one to three leaflets and would have been saleable.

The work that Drs. Bijan Dehgan



This coontie root-stem is about 5" in diameter.

and C.R. Johnson did with seeds included removing the fleshy coat (sarcotesta) of each seed. Moist, sharp sand and the seeds were put in a jar, and a wire brush attached to an electric drill was pushed into the jar, effectively removing the seed coats.

These de-coated seeds eventually germinated most successfully when further treated with sulphuric acid for up to one hour, rinsed in distilled water, than soaked for 48 hours in gibberellic acid solution, before planting in sand and watering with mist.

Nearly 90% of the seeds treated this way germinated in six weeks, with most of them germinating in the first two weeks.

Finding a way to propagate *zamia* commercially is important to the survival of this beautiful, endangered native. Its landscape design uses are too important to give up on it.

An article by Dr. Dehgan with details of the cultivation of this and other cycads will soon be published in **Florida Horticultural Society Proceedings**. You may also obtain more detailed information on these experiments by writing for copies of "Propagation of Florida *Zamia* from Stem Pieces" by Derek Burch, from your Florida Cooperative Extension Service or from IFAS, University of Florida, Gainesville 32611; and "Improved Seed Germination of *Zamia floridana* (sensu lato) with H_2SO_4 and GA_3 " from Dr. Bijan Dehgan, Dept. of Ornamental Horticulture, U. of F., Gainesville 32611.

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