# A Peat Substitute Made From Coconut

ECHO Inc.

[The following is based on an article by Alan Meerow in Country Folks Grower South, November 1993]. Coir is the fibrous part of the coconut husk. The long fibers are “extracted and sold to make brushes, automobile seats, mattress stuffing, drainage pipe filters, twine, etc. Traditionally the short fibers and dust left behind have accumulated as a waste product for which no industrial use had been discovered.” Tests in Australia and Europe show that this product makes a remarkably adequate substitute for peat. “The Lignocell company in Sri Lanka (where over 2.5 billion coconuts are processed each year) has become the leading processor [of coir]."

Coir has a high lignin cellulose content, which keeps the piles that traditionally accumulate around processing plants from breaking down. The same property inhibits breakdown of coir pith when used as a growing medium.

The pith is very similar to peat in appearance. It is light to dark brown, with 0.2-2.0 mm particle size. "Unlike sphagnum peat, there are no sticks or other extraneous matter.” A study in Australia found “superior structural stability, water absorption ability and cation exchange capacity compared to sphagnum peat.” There are reports that coir from sources other than Sri Lanka have contained chlorides at levels toxic to many plants. Perhaps this is a result of the processing method. In any event, watch out for that if you begin using the pith.

“Lignocell processes the pith into highly compressed bricks roughly 8x4x2 inches (20x10x5 cm), each weighing 1.5 pounds (0.7 kg). They are exported for the retail market in 12-brick packages. The 12 bricks fluff out when re-wet into 4 cubic feet (0.1 $m^3$) of ready-to-use material. Each brick absorbs about 2 gallons (7.6 liters) of water. I have been impressed by the ease with which coir pith re-wets after it has been thoroughly dehydrated."

[ED: When I (LSM) did an internship at the Royal Botanic Gardens, Kew, we used coir rather than peat because of the adverse environmental impact on British peat bogs. Most of the horticultural staff preferred it to peat anyway. It worked well with nearly all plants, though they said it was not sufficiently acidic for the carnivorous plants. The coir surface can appear dry even when saturated below, so be careful to avoid overwatering.]

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