

Potting Soil and Mixes: Properties and Priorities

by Rita Pelczar

A GROWING MEDIUM that provides a healthy environment for roots is essential for successful container gardening, and for propagating many plants from seed or cuttings. Good drainage and adequate water-holding capacity are important characteristics to consider. Weight is another; your medium should have enough weight to support the plant without its toppling over, but should not be too heavy if you plan to lug the container from place to place. How easily the medium accepts water, how much it

shrinks when it dries, its pH, its lack of weed seeds, insects, and disease, and how well it holds up over time are further factors influenced by the specific make up of the mix. Although some potting mixes contain soil, many do not. If soil is part of the potting mix, it should be pasteurized (see “Pasteurizing Soil,” page 53).

Another point for environmentally conscious gardeners to consider is this: How sustainable are the practices involved in producing and distributing your potting soil?

ORGANIC COMPONENTS

Organic ingredients such as peat moss, coconut coir, compost, and tree bark make up a significant portion of most potting mixes. Peat is the lightweight remains of certain plants—most commonly sphagnum moss—that have been preserved in a high acid environment such as bogs. Peat moss retains a lot of water and is extremely stable—it decomposes very slowly. It is also acidic and has no nutrient value. Although relatively inexpensive to harvest and package, there are concerns about its environmental sustainability (see “The Issue of Peat Moss,” page 51).

In recent years, several renewable alternatives to peat moss have emerged on the market. A processed by-product of the dairy industry called **RePeet™** is produced by Organix, Inc., in anaerobic digesters at regional facilities located near large dairy operations. Sold as a soil amendment, its primary component is dairy cow manure. When processed, it shares many traits with peat moss, including water retentiveness and porosity.



A high-quality potting mix is essential to successful container gardening.

With a pH of 6.5, it is closer to neutral than peat moss, which has a pH around 4.0. “We are just now moving to our first full-scale production facility near Stephenville, Texas,” says Organix President Russell V. Davis. “RePeet cannot be



An alternative to peat moss, Organix’s RePeet™ is produced from dairy cow manure.

found in any off-the-shelf potting mixes as of now, but should start showing up in stores later this year.”

Coir is the pith that surrounds a coconut; it is fibrous, lightweight, resistant to decay, and it adds significant porosity to a potting mix. “Coir is much easier to remoisten than peat, and not nearly as acidic. It does not last in a container forever, but I would guess about three times longer than peat moss,” says Brooklyn-based garden writer and photographer Ken Druse.

A natural by-product of processing coconuts, coir is renewable and would seem to be ideal for a potting mix except that, unless you live where coconuts grow, the material has to be shipped, often long distances. Many manufacturers, however, feel that coir is still a better choice, environmentally, than peat.

Gardens Alive’s **Natural Beginnings Seed Starting Mix** is one coir-based mix enhanced with worm castings and mealworm guano as nutrient sources. It’s great for starting seeds where maintaining balanced moisture is critical.

Compost is frequently included in potting mixes, and local sources are available no matter where you live. It is a major component of the **Organic Mechanics** mixes. “We use locally made compost to replace peat,” says Mark Highland, president of the Organic Mechanics Soil Company, which distributes its peat-free products to the Mid-Atlantic region. “To further reduce the energy consumed in the manufacturing process, we’ve begun replacing perlite with rice hulls in some of our blends.”