An Insight into an Accredited Potting Mix Supplier in Australia©

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INTRODUCTION

Debco (<www.debco.com.au>) is a leading potting mix supplier on the east coast of Australia, with manufacturing sites in both New South Wales and Victoria. The company started out selling cow and poultry manures in 1972, but soon evolved over those earlier years to manufacture potting mix primarily from graded, composted *Pinus radiate* pinebark. Other, lesser components included in the matrix depending upon the plant type are coir/coconut fibre and clean quartz sand. This gave potting manufacturing a sophisticated edge as it transformed itself from an art and product made in situ to a science by introducing physical and chemical requirements according to an Australian Standard for potting mixes AS 3743-1996.

COMPOSTING PROCESS

Raw bark of all shapes and sizes is supplied under contract from several Victorian mills and is then hammer milled and screened into three grades: namely, fine grade (0-3 mm), medium grade (3-5 mm), and a coarse grade (5-8 mm). The raw bark is treated with composting fertilizer (nitrogen, lime, and iron) and trace elements to improve the chelating benefit when taken up by the plants. After this process, the graded nutrient-enriched bark is put into windrows on a concrete pad for composting with a water injection and aerating machine. The composting process can take up to 45 days depending on the season and the grade of the bark. After 3 days, the windrow reaches a temperature of 65 °C, which is the pasteurization process of the bark. This constant temperature eliminates weed seeds and harmful pathogens such as pythium, phytophthora, and rhizoctonia. Over this 45-day period, the aerating machine creates a flue effect, rotating the bark from the bottom to the top and expelling the hot air in the process. During this period, the composting bark temperature, pH, electrical conductivity, nitrogen levels, and nitrogen drawdown index are monitored to establish the maturation stage of the process of the bark for release prior to being blended into a potting mix. A finished composted bark grade normally has a pH of 5 and a nitrogen drawdown index of 0.45-0.5.

Fine-grade coir is brought in from South EastAsia in dehydrated compressed bricks. This product receives a quarantine clearance by the Australian Quarantine Inspection Service (AQIS) before receiving an in-house assessment for elevated chloride levels and salt conductivity. A chunky coir chip is also available that allows for a higher air-filled porosity (AFP) than the finer grade. The coir is rehydrated and expanded, providing an instant component to be added to the bark grade as a matrix component.

International Plant Propagators Society, Combined Proceedings 2005, Volume 55.

BLENDING PROCESS

Depending on the potting mix and its specific AFP and water-holding capacity requirements, the composted grades are then reintegrated with the coir and sand to prepare a cubic metre matrix. The fine grade pine bark and coir are required for water holding, the medium and coarse grades for structure and AFP, and the sand for ballast and wettability. Debco prepares all matrixes in 2 m^3 batches to ensure appropriate blending consistency. For an example, an annual plant matrix will be sandless and contain three grades of bark and coir, a punnet matrix may only contain two grades of bark and coir, while a shrub mix may contain three grades of bark and sand. Sand has become less popular as an inclusion, due to grade quality, weight factor, and disease potential.

Once the matrix has been decided, a base and pH balancing fertilizer is included which once again is dependent upon a grower's plant product (i.e., lavenders — high pH, 6.0-6.5, indigenous proteaceae plants — low pH, 5.0-5.3, without phosphorus or annuals requiring a middle range pH of 5.3-6.5). Debco provides a total plant matrix package if requested which includes a wetting agent made and sold by Debco (Saturaid), water storage granules, and our home brand controlled release fertilizer (CRF), Green Jacket.

Another requirement we as a supplier must take into consideration is the grower's production systems (i.e., capillary watering, container type, irrigation application, water type, or elastic transplanting machinery matrixes).

PRICING

Commercial potting mixes are priced in a range from $75–$95 per m^3 excluding GST and delivery charges. This means a grower buying an annual potting mix for $95 per m^3 and potting into a 500-m1 container will pay $.045 per container. For example, a grower buying a shrub potting mix for $75 per m^3 and potting into a 1000-ml container will pay $.075 per container. It is important to assess the cost-benefit ratio of quality, performance, and price per container rather than buying strictly on price per m^3 because a poor quality potting mix can cost you more in production and market time.

ACCREDITATION

As mentioned in my title, Debco is an accredited potting mix supplier under the Nursery Industry Accreditation Scheme Australia. This is a national scheme for production nursery growers and growing media businesses that operate in accordance with a set of national best practice guidelines. For more details on the Australian accreditation scheme, please visit the Nursery and Garden Industry website (<www.ngia.com.au>) to establish some best practice benchmarks.

As part of this scheme, Debco is audited every 6 months by an association representative who also collects samples of components for disease testing at an external plant pathology laboratory.