

Growing media: developments and grower choice

In conversation with three growing media supply companies at the IPM Essen, it is apparent that the demand for potting soil and substrates for ornamentals is increasing but, growers should be persuaded to seek expert advice.

by Anabel Evans

Considering first the use of peat products in commercial horticulture, the companies agreed that they find themselves participating in an increasingly international market. Generalised use in Western Europe has been apparent for the last half century and yet both Eckhard Schlüter, technical consultant Klasmann-Deilmann and Henri De Vreede, horticultural adviser Tref Ego Substrates, comment on the growing markets nearer home in the Balkan States and Eastern Europe but not forgetting also the impressive potential of Russia and the Asian market, particularly China. Schlüter says, “These new markets have tremendous potential as the well educated population begins to earn more money and take particular interest in quality flowers and luxury items.” De Vreede comments, “The world is the market for those who want to invest.”

A similar position is revealed in the use of coconut coir products, which are the second strongest alternative to peat in growing media systems. Jack Van Batenburg from Dutch Plantin says, “We have been developing cocos products for the last 20 years and compared to the initial choice for mixes with peat, the market has expanded whereby fine mixes for potting soil are today complemented by 100% coir products to grow roses, gerberas, orchids, anthuriums and carnations.” The stigma attached to the expense of coconut coir has lessened in more recent years, even though it is still a higher investment, compared to peat, in countries where coconuts are not grown on a commercial scale. Numerous countries are today familiar with using coir products, e.g. Colombia, Ecuador, Brazil, Kenya, the USA in some regions and Western Europe. Schlüter confirms the popularity of coir pith in South America with the interest in peat based substrates currently restricted to a limited number of specialised facilities for ornamental and vegetable young plant production or rooted cuttings. Peat based substrates are becoming more popular, however, in regions where growers usually work with coir or other local materials. Since the main peat production regions are in Europe and Canada, the logistics of transport is a high cost factor, particularly to regions located far from the peat sources, otherwise peat is relatively cheap.

Reliability

All three companies are clear in their message about the growers’ choice; technical advice is essential to analyse individual situations and determine the right product. The appreciation that “peat is not peat” becomes self-explanatory if questions are raised about a product’s

source, structure and the extraction procedures used. In a similar manner, coconut coir can be differentiated by the cleaning procedures used, which influence its chemical stability. A buffering process was developed 10 years ago by the RHP foundation. The RHP certified standards for potting soils and coir said to indicate an acceptable quality level, among others, of chemical and physical stability.

The advisory stage is followed by the growers' own insight into adapting to growing in substrates. Factors to consider are climate, the crops grown, how high-tech are either the container filling or plant transplanting routines, pot sizes commonly used, is there an appropriate watering and fertilizing system and, is production indoors or outdoors. Ignorance in any one of these areas can result in extreme poor results. De Vreede adds, "Experienced growers know that they have to be very careful in the choice of substrate; the wrong decision will not provide the economic result needed to survive."

Each substrate has specific characteristics which can be an advantage but, can also turn into a disadvantage when growers do not know what they are doing. Peat, for example, has a high water retention capacity but if allowed to dry out the re-wetting process is problematic. Coconut coir is more forgiving to any unexpected extremes arising in the watering regime; this flexibility is explained by Van Batenburg to be influenced by the drying process. It is one reason why Dutch Plantin have established their processing plants in India where the climate favours an optimal drying period.

Developments

The establishment of a fifth manufacturing plant in India is not the only new development for Dutch Plantin. Van Batenburg says, "We are busy with research on cocos fibre where the accent is on determining the optimal length and diameter of the fibres, which impact on watering efficiency and handling." The company is also continuing the developments concerning grow-bags, where the detail associated with their size and the plastic used in terms of thickness and colouring (white outside/ black inside) are critical.

De Vreede sees a continuing strong role for peat based substrates in the production of young plants from seeds and cut flower propagation, for example, chrysanthemum cuttings and alstroemeria plants. "The economic pressure in the young plants sector, however, is forcing higher levels of automation and the peat based products must follow these demands," notes De Vreede. Further, the packaging remains a critical factor with an ongoing trend for lower cost - high volume choices in the form of big bales for economic transport by sea containers. Tref Ego Substrates has also introduced since the 1st February 2007 their own Tref Base Fertilizer (TBF) in potting soils.

Schlüter comments on Klasmann-Deilmann's priority to support organic bio products through the development of their bio-substrates. "Currently, this style of production is only of interest in Europe," he says, "but, bio-products are being requested and we expect to see growth in this sector, especially among vegetable young plants and pot herbs." He also notes the

continuing trend towards bigger sized bales, e.g. the company's 2.5 up to 5.8m³ bales compared to the traditional 70 L bags. The last point made by Schlüter refers to the need for worldwide standards in growing media. Schlüter says, "There are national quality standards but not a worldwide, or even European, agreement. In an increasingly international market, this can create confusion. For example, how do we measure volume? This measurement is a critical factor in price comparisons. What is 1 L when dealing with growing media of varying densities? The interpretation of chemical properties (e.g. pH or fertiliser included) and physical properties (e.g. density, substrate coarseness) also become vague when moving around the world."

The RHP foundation is considered to have a certification procedure to counteract confusion among growers. The RHP foundation aim is to optimise the quality of peat products, raw material, potting soil formulas, substrates, soil supply and soil improvement materials. The standards originate in the Netherlands but are supported by international operating companies like Klasmann-Deilmann, Tref Ego Substrates and Dutch Plantin.

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