

The future of waste management in production nurseries

Waste disposal was originally initiated by local governments to address potential health issues and protect public safety. In the early 1990s, concerns regarding the possible environmental impacts and resource loss of landfill waste disposal led to the implementation of reuse and recycling programs.

Now, a new area of focus is resource recovery, as the cost of raw materials increases and resource availability decreases. With an escalating consumer demand for products, the development of new recyclable materials, and the introduction of product stewardship the value of waste is changing.

The resource recovery process

Despite the increasing interest in clean waste materials and resource recovery infrastructure, collection services are currently limited. The cost of waste collection, transporting and sorting can outweigh the cost of collecting small to medium quantities of recyclable materials. However, there are several companies that will collect certain waste materials at no charge or for a small fee, and other companies that will purchase clean, separated waste materials. At the moment, the best option for a production nursery to reduce its waste disposal costs, and perhaps turn its waste into a source of income, is to offer a waste collection company clean, sorted waste material that can be easily sold on. The larger the quantity that can be supplied, the greater the chance of having the material collected for free or to receive payment.

So how is this achieved? Firstly, the nursery manager must determine which waste materials are generated in a quantity large enough to warrant separation from the general waste stream. Then, a company in the area that wants the waste material must be identified.

Although there are many possible materials that could be diverted from the waste stream, here we will address two of the most common waste materials in production nurseries: greenwaste and plastics.

Greenwaste

Many councils now collect greenwaste and have established composting or mulching facilities process the material into high value top soil and garden products. These facilities will accept greenwaste deliveries from almost any source and may pick up at no charge, depending on the volume and composition of the greenwaste. Nursery managers can locate greenwaste composting facilities using the search function on the business recycling website (<http://businessrecycling.com.au/>) or contact local council waste transfer stations in their area. These services can offer advice about collection services or delivery restrictions. If they offer a collection service, it is usually by appointment; there will be no fixed collection service and they should be contacted when a quantity of greenwaste is available for collection. In some areas, the collection of greenwaste by a composting facility will satisfy biosecurity control regulation relating to the transport and treatment of potentially pest-infested greenwaste; however, the nursery operators should check this with both the composting facility and their local authority prior to engaging a collection service.

Even if a cost is incurred for sending greenwaste to a composting facility, this must be weighed against potential cost savings from a reduction in general waste volume and bin collection frequency. Also, removing the greenwaste from the production site may provide other benefits, such as increasing the usable land area or reducing pest and disease control requirements.

Plastics

Plastics in a hard or soft form are used for a large variety of products. Many of these products are made from the same type of recyclable plastics. For example, many growing containers are made from polypropylene (plastic code 5), the same material used to make carpets, appliance and auto parts, toys, buckets, bottles and furniture. High-density and low-density polyethylene (HDPE code 2, LDPE code 4) are two plastics that are widely used and are also recyclable. HDPE is used to make shopping bags, milk bottles, milk crates, greenhouse films and agricultural pipe. LDPE is used for garbage bags, sauce bottles, irrigation pipe, black plastic, weed mat, pallet wrap and shrink wrap.

These materials are increasing in value due to the increasing demand and decreasing production costs of using recycled material. Although the material is recyclable, a large proportion is still being sent to landfill in general waste. If it can be separated and collected for recycling, it may off-set some existing waste management costs. Again, this is dependent on the location of the nursery and the collection company. Nursery operators can check with their current or other waste collection service providers about plastic recycling, or do an internet search to identify local recycling companies.

There are two issues that must be considered before separating and recycling plastics. Firstly, the cleaner the material, the better the options for disposal. This does not mean the material needs to be washed, but as long as it is not contaminated with other wastes, chemicals or dirt, it is considered clean. Sorting the materials at the point of generation will help to keep the plastic material separate from general waste and limit the contamination. It can also help to use specific waste bins for different plastics and to train staff to recognise the different plastic types. Secondly, due to the light weight of plastics, a large volume is required to make collection economically viable. Condensing the plastic by using a baling machine or compactor can help. If a large enough quantity can be collected most collection services will pick up at no charge.

Separating plastics may not provide any income at first. But in the longer term, it has the potential to reduce the general waste disposal requirements and costs.

A sustainable future

No matter how the production waste in a nursery is currently being managed, it is certain that disposal costs will continue to increase. It is a prudent business practice to implement waste minimisation and consider turning waste into a tradable commodity. For a sustainable future, the nursery industry needs to purchase products made from recycled materials, encourage the ongoing development of waste recycling services, and change the way waste materials are valued.