

## SHORT NOTE: RECYCLING WINE CORKS FOR HORTICULTURAL USE

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### INTRODUCTION

The stripped bark from *Quercus suber* has been used by man since ancient times. For example archaeological sites dating back to ancient Egypt have found many artefacts derived from cork, including wine stoppers (corkinstitute.com).

The Greeks were the first to discover that stripping cork from the tree induced the tree to produce a higher quality cork bark and, along with the Romans, utilised this natural product in many new ways. In more recent times cork production has been centred in Southern Europe and North Africa, with the largest forests, covering more than 72,000 hectares, situated in Portugal. Tree cork is harvested every nine years and the trees have a life expectancy of about 150 years (amorimcork.com).

Cork has become one of the most versatile and widely used materials on earth. It is natural, renewable, recyclable and biodegradable. It supports a myriad of wildlife, providing food and a habitat for indigenous mammals and birds. Its deep root system also protects against soil erosion. The cork industry employs tens of thousands of people worldwide and is currently undergoing a period of expansion (amorimcork.com).

More than 17 billion wine corks are used world wide every year and only a fraction are recycled. A project at Taronga Zoo in Australia has found a way to raise money from corks by collecting them and sending them for reprocessing. They recycle 30 tonnes every year and the proceeds contribute towards expansion of the zoo and national and global conservation programmes (wasteconnect.co.uk).

Although it would be good to recycle all 17 billion corks it would clearly be an impossible task. However, I have found a way of using some of the used corks in Edinburgh. With the help of a few friends and bars I have begun to use chopped up corks (Fig. 1) as an alternative to our usual compost for the many epiphytic and difficult Gesneriaceae plant species we grow at the Royal Botanic Garden Edinburgh (RBGE).

### WHY USE CORK?

Cut into small pieces, using secateurs, cork provides an open, free draining medium which allows for plenty of air penetration around the roots while still holding onto moisture and slowly releasing it throughout the day, thus mimicking natural growing conditions. This has proved very successful with many pot grown 'gesners' and gingers, as well as *Hoya*, *Dischidia* and *Aeschynanthus*. It should also prove to be very useful in

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Fig. 1 Pot of corks containing a planting basket of cut corks ready for use in planting media. Photo: Steve Scott.

orchid growing as an alternative compost, or added to a chunky bark mix. The size of the cork pieces once chopped can be seen in Fig. 1 but it should be noted that they can be left whole or chopped very finely depending on requirements. It is sometimes useful to add a small amount of bark based open compost also containing charcoal, perlite, vermiculite and added nutrients especially when planting in large baskets as shown in Fig. 2. This helps the plants with their transition to a pure cork-based compost as well as improving moisture holding capacity. This proves very useful during the summer when the glasshouses become very hot and plants have a tendency to dry out easily.

The majority of the cork has been used in hanging baskets or pots as a replacement for our usual compost. The epiphytes have transferred over very easily and flourish in their new growing media.

Over the last few years many of the composts we use within the Indoor Department are purely bark-based and are now peat free. This is very important to me for two reasons. The first is obviously conservation as peat bogs are disappearing fast and with global warming could disappear all together. Secondly, bark-based composts have proved to be superior to peat mixes. They are clean, generally pest free, do not decay as quickly, plant growth is often much better and it is available in many different grades. Cork has similar properties to bark it's clean, pest free and slow to decay; it is from a sustainable

resource and biodegradable, and in the case of wine corks it's free! Well, almost...

Like any compost we use in this industry they have their good and bad points. In the case of using wine corks there are only a few minor ones which are more than outweighed by the improvement in the plant collections. They may need to be watered slightly more often, depending on the growing regime and they will need to be liquid fed on a regular basis but as this would normally be done anyway it shouldn't be an issue. The one and only problem I have found to date is labour... It takes time to chop up corks.

As we at RBGE are not a commercial business but a botanic garden we do not need vast quantities of corks. The small amount we do get is proving to be almost sufficient for my needs as repotting is now down to every two years or so. Solving the issue of labour has been easier than I thought, we all have five minutes here and there to spare and using these precious moments to chop up a few wine corks soon finds the job complete. It's also very relaxing and therapeutic unless you chop off a finger or two!



Fig. 2 *Hoya* sp. collected in 2002 from Sulawesi, Indonesia growing well in recycled corks. Photo: Steve Scott.

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