

Appendix 8

Alpine Resort Nursery Operation

A8.1 Introduction

High quality stock is essential to successful, efficient rehabilitation. Tubestock that is healthy, vigorous and at optimum size for planting will have a much higher rate of surviving transplanting and a higher growth rate than poor quality stock. Sourcing quality tubestock when it is required can, however, be very difficult for resorts. This is partially due to difficulties in planning ahead with regard to alpine developments, and also because operation of a nursery to provide material for ski resorts is a specialised area of plant production. Alpine growth cycles, conditions and species are quite different from lowland areas, particularly with regard to extreme environments such as wetlands and very high altitude areas.

At Mt Hotham, in Victoria, some of these difficulties are being surmounted by the operation of a non-profit nursery. The Mt Hotham nursery was established to meet the planting needs of all the ski resorts in Victoria. It operates as part of the infrastructure supporting alpine resort management and, because it is regarded as part of the resorts infrastructure, the nursery is able to operate in accord with the planning process. Early in the process, resorts are able to inform the nursery of what types of plants are needed so that preparation of stock can commence well in advance of ground disturbance and plants are in peak condition for planting when they are required. Furthermore, through its staff, the nursery is able to provide on-site, specialist advice on rehabilitation to the resorts.

A8.2 Essentials of Alpine Nursery Operation

The following notes outline the key points that are essential to successful operation of an alpine nursery, based on experiences from the Mt Hotham nursery.

1. An alpine nursery needs to be operated by a suitable person who has both nursery and alpine ecology training. There is little available information about the specific needs of alpine plants, therefore experience, the ability to source what information is available, and an experimental approach would be very valuable characteristics in a nursery operator. Key issues the propagator needs to be aware of include:
 - When seed will be available for harvesting and appropriate seed harvesting methodologies;
 - Suitable times for taking cuttings or division, and appropriate methodologies;
 - The soil micro-organism needs of plants (i.e. some species are reliant on soil micro-organisms to aid in the uptake of nitrogen. To provide the appropriate suite of micro-organisms, these plants require the addition of soil to potting media);
 - The sensitivities of different species to different types of potting media, fertilizers and watering regimes;
 - The period of time it takes for different species to reach an optimal size for planting;
 - How tell when a plant has reached optimal condition (i.e. when the plant has enough biomass to cope with transplant shock but is not yet overgrown).
2. An alpine nursery should be located at a low altitude (below 500 metres) so that conditions are warm enough for plants to be grown throughout the year.
3. A suitable location(s) for hardening off at higher altitude are also necessary. Hardening off areas should be easy to access and to maintain in clean (non-

pathogenic) condition and be set-up to allow watering to be carried out easily, as required.

4. For an alpine nursery to be successful, it also requires a large enough market so that it can be set up to cater specifically for alpine requirements. Operation of a commercial alpine nursery has generally not been found to be viable and has resulted in poorer quality stock due to pressure to compromise on growing conditions and species selection.