

## INTRODUCTION

The production of alpine plants presents an opportunity for alternative land use in Wales. Alpine plants are sold for garden use in rockeries and general planting and are particularly well suited to low temperature growth. This ability to grow at low temperatures enables producers to undertake active production of alpine plants even in mid winter. The normal growing season for alpine plants is quite short in their native habitats which explains their early season growth and their fast growth rates. Alpine plants are normally available for retail sale at most garden centres and there are several wholesale suppliers in the UK. The fact that many operations may be carried out during the off-season may be an added advantage in the production of these plants along with their growth during otherwise dormant times.

## PRODUCTION SYSTEMS

Alpine plants may be raised from seed (for example *Saxifraga* – saxifrages) or by vegetative propagation (for example *Gentiana* – gentians). Where possible seed production should be used as it results in a lower unit cost. However, vegetative propagation may be used for higher value cultivars (which do not come true from seed e.g. *Diascia*). Normally seed or cuttings are placed in cell trays which often have 100 or more very small cells. It is normal practice to provide a closed environment such as mini plastic tunnels within a greenhouse or polythene tunnel. It is also standard practice to use soil warming cables to facilitate rooting or germination in the winter months. Additionally, supplementary lighting (for example high pressure sodium lighting) is used in the late and early months of the year. The volume of the plants is quite small so that the mini-tunnels require little supplementary heating when contained within a greenhouse. The soil warming cables and supplementary lighting are usually more than adequate suppliers of heat. The greatest problems with over-wintered alpines result from mildews which thrive in moist conditions. The use of soil warming cables and lighting minimises this problem.



Fig 1: Alpine nursery

## SOURCING OF PROPAGATION MATERIALS

Seed supply houses often supply alpine plant seeds. Usually those suppliers of a broad range of herbaceous and other flower seeds can supply some alpine seeds. There are also specialist suppliers including some cottage industry level suppliers including suppliers of plug raised plants. Material for vegetative propagation (for example cuttings) normally requires the purchase of plants. These could be obtained from wholesale plant nurseries, wholesale plant brokers or the retail trade. The latter offers the opportunity to buy plants at the single unit rate as well as the ability to enhance the range when plants are available. It must be noted however, that some plants are protected by Plant Breeders Rights. This means that a fee is payable to the owner of the Breeders Rights. Only the minority of plants are affected by this legislation and there are sufficient plants to propagate without the need to use Breeders Rights protected plants. If illegal propagation and sale are attempted then difficulties are likely to arise. The trade journal *Horticulture Week* publishes an annual Buyers Guide which lists suppliers of plants and other materials. The journal is the trade journal for amenity horticultural production and is a useful weekly reference.

## SOURCING OF MEDIA

Producers usually use specialist wholesale horticultural suppliers (usually found in Yellow Pages). The growing media may be purchased as pre-mixed general formulations for alpines or prepared using basic ingredients. Relatively small volumes of media are required for the small plants so that it is often economic to buy in pre-mixed media. These media should be free draining for alpine plants and it is customary to include

sand or grit although this is not always essential. Some species benefit from large particulate organic matter and bark is frequently used at high proportions especially for plants like gentians.

### CHOICE OF STOCK

Table 1 gives some examples of the most commonly grown alpine plants although there are many thousands of alpine plants. These are normally high altitude plants and the underlying rock is likely to impart properties to the soil which determine cultivation conditions. There is thus no norm in that alpine plants might grow in alkaline conditions where limestone is present or in acid conditions where organic residues, plant residues or acid rain predominate. The list is far from exhaustive but gives a few examples from each broad group of alpine plants.

**Table 1. Examples of commonly grown alpine plants by plant group.**

Group	Examples
Herbaceous alpiners from seed	<i>Saxifraga, Armeria, Dianthus</i>
Herbaceous alpiners from vegetative propagation	<i>Gentiana, Sedum, Diascia</i>
Semi-woody alpiners from cuttings	<i>Helianthemum</i>
Shrub like alpine plants (miniature varieties)	<i>Ledum, Arctostaphylos, Vaccinium</i>
Miniature alpine trees	<i>Juniperus, Betula, Salix</i>

Note many of these genera have non alpine members but the alpine variants are characterised by compact growth.

### FINANCIAL RETURNS

Alpine plants are frequently raised in 9-12 cm diameter pots. Unit prices tend to approximate heather prices multiplied by 1.5. The prevailing price of heathers can easily be ascertained from most plant outlets. Most outlets price individually or by number of plants purchased. Many purchasers buy to set up an alpine garden so wish to purchase multiple plants giving increased sales opportunities. Costs of production are particularly low because of the small amount of compost used, the small pot size and the availability (after initial set up) of propagative materials on site. The most significant cost is in heat and light but this is only required in mid-winter. Depending upon system used, cost of materials including plants will approximate to 25% of retail value excluding overhead costs. Overheads (heat and light especially) may add 30-50% to this cost.

### MARKETING

Alpine plants lend themselves particularly well to confined space retail outlets (for example outside tourist shops) as well as normal garden centre and farm gate type sales. Marketing usually needs to be covered by significant point-of-sale material because of the insignificant size of these plants when compared with other stock. Specifically, these plants are grown for their flowers and when not in flower the point-of-sale material needs to show their potential. Marketing often benefits from the sale of collections of alpine plants presented in a suitable carrying container (for example a Swiss collection or a Cambrian selection).

### PESTS AND DISEASES

Alpine plants are usually raised as a mixed range on the nursery and therefore minimise their predisposition to pest and disease attack. However, when grown in polythene tunnels or protected cropping the heat and humidity can lead to problems from insects e.g. greenfly or fungal disease e.g. mildew. Good ventilation can often reduce these problems. Structures should be sited where a good through flow of air is possible to reduce humidity and temperature.

### ALPINE PLANT PRODUCTION IN WALES

Alpine plants often grow in conditions as low as 4°C and on exposed sites. These sites may also be affected by cloud cover and constantly changing conditions. Given reasonable ventilation there is a good prospect of growing alpiners in many parts of Wales.