

## Experiences in Propagation and Production of Grasses and Grass-Like Plants<sup>©</sup>

Claire Wilson

C.J. Wilson Horticulture, Pitmore Lane, Lymington, Hants SO41 8LL U.K.

### INTRODUCTION

C.J. Wilson Horticulture runs a liner nursery with an annual production of 200,000 9-cm liners for the wholesale nursery market. Production is predominantly grasses (more than 150 taxa) but also includes clematis, ferns, and choice perennials.

When I decided to set up a nursery in 1997, I believed grasses were a good crop, which was unexploited at the time. Initially I saw them as part of the product portfolio and also planned to grow groundcover plants such as *Vinca* and *Hedera*, spot crops of patio plants, and clematis. However, the landscape market for groundcover plants contracted, the patio plants were hard to market in quantity, and clematis propagation coincided with the busy spring period. In contrast, the six taxa of grass I initially grew proved extremely popular, and I was soon sourcing new taxa from the U.S.A. that were already popular. I learned that whatever your initial plans you need to react quickly to your customers' requirements.

In my view, grasses are an ideal niche crop for a small specialist nursery. There is a wide range of species and cultivars, which are adapted to every climatic condition from arid Arizona to the mountain streams of New Zealand. There is lots of potential for the all important new introductions.

I use the term grasses in the loosest sense to define a group of plants with similar horticultural characteristics for the customer and include *Liriope* as well as rushes and sedges. Efficient production involves knowledge of the plant's native habitat, be it dry or wet, sunny or shady. Most importantly, grasses are divided into two groups according to their growth type.

**Cool Season Grasses.** Genera such as *Calamagrostis* and *Festuca* grow in temperatures from near freezing to 24 °C. They have two growth periods with an initial late winter to early summer growth phase interrupted by high summer temperatures and a decrease in rainfall. Growth resumes in the autumn and continues until the cold weather. In a nursery, growth can usually be maintained throughout the summer, given adequate water.

**Warm Season Grasses.** Grasses such as *Miscanthus* and *Pennisetum* typically break dormancy in spring and are very slow growing until summer arrives. They love sun and grow steadily until they flower in late summer.

### PROPAGATION

**Division.** Division can propagate nearly all grasses, and it is the only method for most cultivars. On the nursery we tend to undertake most division in the autumn and winter to smooth the labour profile. Cool season grasses split in the autumn will root up before the winter. Warm season grasses would ideally be split in the early spring just as they start into growth. However, for labour reasons, we tend to split in the winter. The plants make little root growth until the spring, so it is important to keep the growing medium dry. This is easier to achieve under glass than polythene but an open compost helps.

Division is my preferred method of propagating grasses. They can be split very finely into plugs, but I prefer to split them into larger clumps and pot back into 9-cm pots. This results in faster production and a bushier plant.

Division is labour intensive, and skilled staff is essential for efficiency. Division enables batching of plants to ensure there is always a crop of saleable plants.

**Seed.** Seed propagation is a potentially easy method for producing species crops. These plants are often available cheaply in the trade. I stick to the more difficult species such as *Stipa gigantea* and others that my customers demand, but I do not grow large numbers speculatively. Seedlings tend to be less bushy, and production takes longer; and production times can be erratic.

**Micropropagation.** A good method for obtaining a large number of the more popular cultivars such as *Miscanthus sinensis* 'Zebrinus', One advantage of this method, particularly with *Miscanthus*, is that the growth is very juvenile, resulting in many young shoots. These make ideal stock plants for later division. Because micropropagation is expensive it is only appropriate for high value, high volume taxa. Supplies can be erratic and crop failures can happen so care needs to be taken when choosing a supplier.

**Cuttings.** Some grasses will root from young shoots taken very close to the plant base. It can be a useful way of bulking up stock from a few plants. However, it can take a while to produce a saleable plant from this type of cutting.

## PRODUCTION

**Potting.** We pot all grasses by hand into 9-cm pots in shuttle trays. They are grown under glass on mobile benches with capillary matting. We use a fairly open growing medium — a mixture of 17 medium coarse peat : 3 pine bark (v/v). We incorporate a 12-month, controlled-release fertiliser (Sincrocell™, Sinclair Horticulture) at a low dose rate to maintain healthy growth.

**Pest and Disease Management.** Grasses are generally pest free. We use biological control in the glasshouse to manage sciarid, whitefly, and spider mites. Root aphid can occasionally be a problem, but can be easily treated with insecticides compatible with the biological controls. We also add fipronil (Vi-Nil, Certis) to the growing medium at mixing to control vine weevil. This pest is not generally a problem with grasses but we believe this preventative measure gives security for our customers.

Cereal rust can affect some ornamental grasses such as *Alopecurus* (oxtail grass), and powdery mildew can attack *Imperata* 'Red Baron'. Damping off caused by species of *Phytophthora* and *Pythium* can affect seedlings, so hygiene is essential and over watering should be avoided.

**Scheduling.** Grass liners need to be despatched at the right time to ensure they can be potted by the wholesale grower early enough to achieve maturity before their main selling season. It is therefore important to understand the lifecycle of each grass being produced and to know its best season of horticultural interest for the market.

I generally despatch cool season grasses in early spring. Warm season grasses are despatched when they have resumed growth in late spring. We have a blueprint for propagation, which works back from the wholesale customer's target delivery

date. A cool season grass needs to be ready for early spring, so we need to divide by early autumn.

## **MARKETING**

We work closely with our grower customers to ensure they are producing each taxon in time for their main season.

Warm season grasses are in flower late summer, but they tend to be very tall at this time. However, they will sell in flower better than any picture label. Retail producers need to be educated about the best time to pot grass liners, so the end product is at its peak in the optimum time frame.

Picture labels help to market the grasses when they are not in flower, but at present the range available is quite limited in comparison with the range of grasses being commercially produced.

There is also the question of whether grasses should be marketed as a separate plant group or whether they should be mixed in with other "looking good" crops throughout the year, for example as a type of plant that adds texture, colour, and flower to a display and so aids sales.

## **FUTURE**

There is a market view that grasses will go out of fashion. However, for diversity of colour, form, and flower they take some beating. And in Great Britain and Ireland, with impending climate change and possible hosepipe bans in drier regions, they offer good garden performance. Grasses fit well with modern gardens, being low maintenance and architecturally interesting throughout the year. It will be important for the trade to continue to select improved forms suitable for smaller gardens and patio planting.