

ments in horticulture courses, as at other places in the world, are dropping at Lincoln and Massey Universities. Remuneration for experienced plantspeople compares unfavourably with other areas of activity. Retailers demand very high mark-ups, yet only employ staff with minimal horticultural knowledge. Producers show little understanding of what is involved in developing new plants and are often unwilling to build in a modest royalty to enable the plant breeder to do his work. None of this bodes well for the establishment of New Zealand as a centre of excellence for the development and supply of new ornamental plants.

The technology is advancing very quickly. If we do not seize the opportunity now it may be too late. Many other countries are involved in this area of study. Countries which a few years ago seemed unlikely competitors are taking positive steps to develop and exploit new technology. It is important that the ornamental industry acts as a coherent unit and that new technologies are not put into the "too difficult to understand" category. It is up to all of us to ensure that New Zealand is not left behind.

EXPORTING PLANTS FROM NEW ZEALAND

MIKE SHEERIN

*Duncan and Davies Nurseries, Ltd.
Waitara Road, New Plymouth*

I have had some direct experience over the last 5 or 6 years in both the preparation of material for export and the marketing of that product. I would like to relate some of those experiences to you now, tell you some of what is involved, and give you some opinions of the export scene as I see it.

My first comment relates to New Zealand's woody nursery production in relation to the rest of the world. I work for a large company and we grow a diverse range of woody plant material. Our domestic market is very small and our climatic advantages considerable. The countries into which we sell, mainly North America and Europe, conversely have large markets, producers grow a narrower range of material, and there are many different climatic zones within those areas. Many are efficient producers of large volumes. Growing a limited range they do not need large overheads to keep their production on the rails. My company is perhaps the largest of its type in the Southern Hemisphere, yet I have been on many nurseries in the United States far larger in area than ourselves, although not as intensive. I believe we are niche marketers in the export sector. We must be careful what we grow to export because, if it does not sell, there certainly is no market for that

production here. Many of the orders we ship contain greater volumes of some cultivars than the entire New Zealand market would absorb in a year. Others many times over. Some we grow solely for export.

We sit here in New Zealand looking wide-eyed at firms such as Monrovia and Weyerhaeuser and Schmidt in the U.S.A. Why are we not selling volumes to them? We are involved in a very conservative industry. Change does not come about fast. We have been exporting now seriously for 20 years. It is just 6 years ago that our North American agent started using printed order forms. Prior to that he was using pilfered hotel stationery to book orders. Our image as an international company was not helped either by our catalogue and price list being several sheets of photocopied typing stapled together. Now we have what I believe to be one of the best and most attractive catalogues about, sought after as a reference if nothing else. We now have the same faces calling on clients each year, and as a result we are gaining many new accounts. These are mainly mid-sized nurseries growing a wider range of stock whose future lies in having something different. People must be confident that you are going to be able to perform and if they buy are going to be back next year.

Growing the plants, for us, is probably the easiest part. Meeting the customer's requirements and expectations is something else. Overseas, nurseries are situated in good growing areas. Their market may, however, be in a very severe climatic zone. That producer's interest will be in hardy stock only, despite the fact he may be in southern California or the south of France. Another producer may be growing specimen trees, which on sale, will command a premium price. He is likely to be more worried about quality rather than purchase price. We do very well on the west coast of North America with our *Cornus* spp. We visited a grower in Tennessee recently who budded 75,000. Two days later we called on another, not 40 miles away, budding 300,000 out of 1,000,000 seedlings. In that area there are well over 50 large nurseries and, goodness knows, how many dogwoods!

Some of these areas are not well serviced by transport, or are many miles from a large airport. To get the plants safely and quickly to the customer is critical. Hence we ship to each market on set days of the week. We have people at each national point of entry to guide the consignments through the Dept. of Agriculture and through Customs and then get them on the correct transport to their final destination. We have to be very careful of the routes the airlines take. There are some areas through which plant material must not pass. The paperwork must be as required and accurate. The plant material must be prepared to meet the entry requirements of the importing country. The Irish Republic, for example, will only accept material bareroot, washed clean, and wrapped in news-

paper. We have other customers with similar requirements. Sphagnum moss is not acceptable—the plants must be wrapped in peat moss. We have great difficulty in some countries finding out just what their requirements are. We have, in fact, had to send in trial shipments to find out if certain growing media are acceptable. Another problem is that the Inspecting Officer in the importing country has final control and judgement over what is acceptable, despite written regulations. Unfortunately, people and criteria change. Japan, into which we have shipped successfully for many years, is an example of that. Given the current situation it is becoming uneconomic to ship to that market.

The client may need an import permit or a post-entry quarantine permit. All these facets must be covered to enable us to perform. We must make sure the cargo travels under controlled conditions. We must ensure the plants do not arrive at their destinations on a Friday or sit somewhere over a weekend out of our control. We have to advise the client which airline and flight the plants will be on and when to expect them. We then have to check later that he has got them. Only by giving this level of service does business and reputation grow. There is plenty to go wrong after the plants leave New Plymouth and you must have a system in place to ensure that does not happen.

Each market has different requirements. The Dutch must have their material before the 15th May because that is the day they finish planting. If you confirm an order to a German client you must deliver that exact grade and quantity, come what may. We once sent a shipment to a client in two grades, as quoted and larger. Advice went with the order telling of the two grades, apologising and stating that the price would be the same for both. A reply quickly came back accusing us of being liars. We had confirmed and stated we would send a certain grade and quantity and that was what he ordered—not bigger ones—a most dishonest practice. Many European clients expect to receive liner material with an entire root ball undisturbed. We knock plants out, depending on what they will tolerate, to get so many per kilo, and that is built into the price. The freight component of the landed price of the plant is horrendously high and few would be prepared to pay the freight on material sent undisturbed.

Everybody wants their deciduous material as soon as they can get it, like before it has dropped any leaf. We have superb nursery conditions for growing deciduous plants. Getting them into a condition to ship is something else. Some plants, for instance *Acer* spp., are quite easy. Others, such as *Cotinus* and *Cornus* cultivars, are not. The problem with deciduous stock arriving in the northern hemisphere after the longest day of the year is that it can grow on into the winter with immature growth and inadequate root establishment. Winter hardiness then becomes a problem. Deciduous

material must also flush into growth quickly on arrival. To do this it must have had an adequate chill prior to being introduced to warmer temperatures. To do this we endeavour to cool store all material for a period before shipment and this is essential. We are also looking at materials such as Alar, nutrient levels, and even copper sprays to harden growth. On some plants we are able to remove leaves mechanically with a crude machine designed to remove feathers from chickens.

Many areas have extremely hot and dry summers. Evergreen material ideally should be delivered into these areas by early spring or problems may occur. In many cases we split a client's shipment to get as much of the order to him as early as possible. As with the deciduous plants, many evergreens are not suitably hardened or rooted to send as early as the customer would like.

What you have heard may be enough to put people off importing plants from New Zealand. We are now in our 15th year of shipping stock into North America and that market is growing at over 20% per annum. To meet the requirements of our clients and to maximise growth and re-acclimatisation of the plant material we aim to have all stock delivered before the longest day. To enable us to do this we have installed mechanical root washing and are continually modifying methods to move an increasing quantity of stock through the same facility in a very rigid time frame. Delivering on time is absolutely critical.

In an endeavour to help customers with the re-establishment of plants we put suggestions on handling in with each packing slip. Many clients line deciduous material straight out on arrival. If this is done irrigation is essential and roots will benefit from mulching in the autumn to help protect from excessive cold. Fertilising has to be watched carefully. Good root growth is what is required, not soft, sappy top growth. Likewise if growing in containers, keep stock cool initially, as it has come from the depths of a New Zealand winter. Keep fertiliser levels down and watch the watering. It can help to stand the roots overnight in water prior to potting or planting. Light shading will also help. If not ready to handle on arrival, keep in a cool place. Check first to make certain the stock is not drying out. Watch watering in the carton. The plants near the bottom, especially something like a *Magnolia* with soft roots, can deteriorate quickly if lying overwet in the bottom of a waxed carton.

Evergreen material requires different handling. I feel many people would do better to avoid potting evergreen material on arrival especially if it has been washed out bare-root. I have seen very good results achieved when the plants have been encouraged to root up with the minimum disturbance before potting up. This does not mean that material can not be potted immediately and many people do that very successfully. Like us, plants can suffer from jet

lag and need a day or two to sort out which way up they should grow. Always check that the roots are not too wet or too dry immediately on arrival. Take the appropriate action as required. Most of our stock goes out in nissular rolls tied up with a rubber band. Roots can be checked with very little disturbance. Try leaving the plants in the roll, spaced out for a day or two in a cool propagation structure, with bottom heat if possible, misting the tops as required. Pot up when you see root activity. Again, watch fertiliser and watering. Ween to normal growing conditions as you would a rooted cutting of that species.

If you don't have such sophisticated facilities, heel the plants into a flat in a reasonable depth of material which must be open, warm, and free draining. Use something like an open potting medium with no fertiliser; non-toxic sawdust and bark are good, as is peat, but watch the watering. Keep in a cool shade house, mist the tops and pot when the roots are active.

These suggestions have come from people who have had very good results even with notoriously difficult plants. Another person kept his deciduous plants after canning in complete darkness and cool conditions until top growth was evident and the material came into growth vigorously. Included were a number of *Cornus* cultivars which normally are very tardy to leaf out on arrival. They do, however, grow brilliantly the following spring. We sell thousands of these and they never leaf out properly on arrival. Etiolation may be well worth trying.

To simplify re-establishment we are starting to work with clients growing under varying conditions to look at various treatments to aid early shipment and the handling of the difficult cultivars. This interchange is very important. If some can succeed with plants such as *Metrosideros carmineus* 'Carousel', others should be able to do the same but not if they are put straight out in a full fertiliser potting medium in a gallon can.

We also ship a lot of material by sea containers. Our company has a nursery in the United Kingdom and we send them up to 60 containers of stock a year, mainly *Camellia* cultivars. The voyage takes at least 4 weeks and most plants are in the container for 6 to 8 weeks. After 10 weeks I start to worry on the out-turn. Pre-chilling immediately on packing is essential. We get the odd hiccup with machinery and are still learning what will and will not ship. This is done by putting trial plants in with shipments. We have made a lot of progress in streamlining methods used to handle the plants. Dehydration is a major problem and we have overcome this in various ways such as wrapping the root ball in a polythene bag or packing an entire container in a polythene wrap. A variable, yet to be overcome, is being able to efficiently quick-chill the plants down after packing [they travel in large crates].

Finally, we have considerable problems sometimes in getting

clients interested in trying something new to their area. In our catalogue we give fairly conservative hardiness ratings for some cultivars we are not sure of. We have taken an approach of adding material to orders we feel would be suitable to try in a client's area. In this way we hope to gain feed back on both hardiness and how the plants have performed in their new environment and also, of course, to increase our sales.

Growing plants for a living is a very fulfilling occupation. All involved have a common interest. The people in our industry are some of the nicest and most genuine you could meet. There is a lot to gain from a pooling of knowledge and we are always interested in listening to people's ideas on how to overcome problems associated with re-establishing our material in other countries. I am particularly interested in broadening my knowledge in the techniques of long-term cool storage of deciduous material and sea shipment in general. We have modified our cool store, how successfully we are yet to find out. This will enable us to ship material into the northern spring helping to overcome some of the May/June mayhem.

In summary, there is a great potential for the export of plant material from New Zealand. You must know your customers' expectations and market—remember not to try and sell dogwoods in Tennessee! You must tell people which plants will prove difficult and which will not. You must seek ideas and improvements in handling techniques. You must deliver on time and above all you must be prepared to provide a level of service I am afraid us Kiwis are not used to providing. To be successful the plant material must be of first quality and all activities must be planned and executed efficiently to get a very perishable product to the customer on time. There are no short cuts to success, just 4 months of autumn and winter madness a year!