

LANDSCAPE

INSTANT IMPACT

John Evelyn, a noted gardener in the 17th century, berated the nobility of the time for the neglect of their estates, suggesting that more time spent planting trees and enhancing the landscape would provide more spiritual (and financial) reward than the pursuit of the chase. Alongside accenting country houses, planting avenues of trees would, according to Evelyn, heighten social status and ultimately become the patriotic duty of the landed gentry.

The planting of large trees, riskily lifted from existing stands, was increasingly common practice. The sole intention of this was to create grandeur and "instant impact".

The motivation for planting trees, especially large ones, has not altered much, though the practitioners and the clients have. Landscape parks, have given way to business parks, and stately avenues have been replaced by grids of trees that divide up car parks for supermarkets. However, the romance and beauty of the tree remains and, in most locations, the desire to plant bigger and better trees is still an objective.

Despite the recession of the early 1990s, nurseries throughout Europe continue to do a healthy trade in large, or semi-mature, trees. Clients seem to remain convinced that the visual effects of an immediate avenue, or an instantly screened car

park, are definitely worth the investment.

The 41ha Ministry of Defence site near Bristol, for example, has a landscape scheme containing some 600 semi-mature trees, sourced from a variety of European nurseries. The trend, started by the huge Canary Wharf scheme in Docklands, has been picked up by large retail developments.

Public schemes have also joined in. Both the new Sainsbury's wing at the National Gallery and the Frelle Gardens at the V&A, for instance, chose semi-mature trees to grace their courtyards and streets. A rather more bizarre example can be found at the Bibliothèque Nationale in Paris, where the huge central courtyard has been filled with a miniature pine forest, featuring specimens up to 20 metres tall.

Whether or not such unprepared transplanting will succeed remains a moot point, as skillful preparation is essential when moving big trees. Nevertheless, the stunning initial impression illustrates the transformation that large planting schemes can achieve on otherwise featureless sites.

A major drawback, however, is the cost. The appeal of installing large trees often proves so attractive to publicity-conscious clients, that they proceed to slash other equally important parts of landscape budgets. In such instances, a guided sense of proportion and sound advice from an



Above: a plane tree prepared for shipment. Below: rows of limes at Von Ehren's nursery



IMPACT

More and more clients are demanding the use of semi-mature trees for immediate results. Peter Sheard outlines what landscape architects should look for from suppliers



Right: trees prior to shipment. Below: only one large tree can be fitted on each truck



experienced landscape architect are necessary. So, what exactly is a semi-mature tree? The British Standards refer to specimens which have a girth greater than 20cm at one metre from the nursery mark. The maximum size will depend on which nursery one visits, with some of the larger trees appearing unmovable, boasting girths in excess of 80-90cm.

The standards, generally concentrating on dimension and form (even balanced crown, straight stem and so on), tend to define perfection rather than determine quality based on how the

tree was grown. Production techniques for semi-mature trees vary from the containerised method to regular transplanting. Methods do exist whereby "specialised" cutters lift trees to produce an apparently firm and healthy rootball, but ignore adequate preparation and transplanting. Such "specialists" should be regarded with the gravest suspicion.

The need to care for the condition and form of the tree's crown is essential. Not only does such care conform to British Standards, it also ensures that the balance between crown size and the rootball's capacity is maintained. The pattern of crown pruning is a critical factor in maintenance that encourages the tree to develop properly in its chosen location.

In this respect, nurseries in the UK differ from their German and Dutch counterparts. While the Germans leave a large crown on the trunk, the Dutch favour a severe pruning technique which ruthlessly selects the tree's future leader and composite branches. The Dutch argument is that early control of the tree will guarantee a greater degree of conformity later in its life.

An indefinable factor in tree production is that the

larger the tree, the greater the cost, especially among coniferous species. Generally, trees with a 30cm girth are considered "economical", as the tree will be up to six metres tall with a spread approaching three metres.

When trees above 35cm girth are chosen, however, prices generally increase out of proportion to their size. But the cost should reflect the care and degree of preparation that has been applied to the tree, and ultimately will be reflected in its performance. It is up to the landscape architect to sell this vital point to the client.

This investment aspect in the procurement of semi-mature trees is all important. What has happened to the tree before it is purchased is equally as important as what happens to it afterwards. A poorly prepared tree will not respond to care and attention, whereas a properly prepared tree will probably survive neglect.

In addition to a tree's form, it is important to consider how the tree planting fits in with a project's procurement and construction programme. Like preparation, time is all important. The sooner the trees are selected, the better. This guarantees the client his product and helps the nursery's cash-flow.

With large trees, two to three years of growth prior to selection is usual. The increasingly popular method of contract growing, which removes nasty last-minute shocks, is proving a stabilising influence on the procurement procedure. Local authorities have used this procedure for many years for smaller stock, but landscape practitioners should consider it as an option. Early reservation allows a rolling programme of checking, thereby guaranteeing a quality product and allowing for diversification in specification (high clear stems, pleached trees for example).

So, where do you go for your trees? The International Federation of Landscape Architects (00331 3953 5316) and British Association of Landscape Industries (01535 606139) have lists of suppliers, but, increasingly, big tree supply is a European, not a national, operation.

Photographic specification is becoming increasingly common, as is staged, selective tendering and nursery inspection prior to ordering, to tag the selected product. This procedure is imperative, especially when considering that the

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tree might cost around the same as a large car. For the varied landscape projects, the designer should look for 10 important criteria when selecting the most suitable nursery, in addition to the subject of cost. Only when nurseries adhere to the following structures should they be considered suitable suppliers of significant numbers of large semi-mature trees.

Firstly, the nursery should display cleanliness and orderliness in its operations. Appearance counts for a lot, especially in the company of a client. And in an industry where untidiness can mean disease and loss of quality, the perceived efficiency of an operation is paramount.

Secondly, behind the scenes, good organisation of a nursery's business structure is important. Financial references, credible accounts and credit ratings all count in the competition for business now being sought throughout Europe. Evidence of a sound business structure with competent administration and multi-lingual services are also highly desirable.

A credible nursery should provide evidence of a broad range of tree species, with enough scope for large girth size of 60cm and bigger, in significant quantities.

Nurseries should also raise large trees as a specialised crop. All too often large trees are available in some nurseries in varying numbers and conditions as a direct consequence of being left-over - the better stock having been taken in the form of younger specimens.

Poor levels of maintenance, unsuitable access and scattered stock provide evidence that the buyer should beware. Production of large trees in significant numbers involves considerable financial investment, in terms of time and labour, and if this is not obvious, leave well alone.

Another crucial point is that the landscape designer should be able to clearly see that trees of the same species, size and shape are raised in the same "block" or "field", rather than scattered throughout the nursery in mixed blocks.

The reasons for checking this criterion are numerous. A mixed block of trees suggests the specimens are "job-lots", left over after more discerning clients have selected the good stock. Mixed stock is not a sign of orderly horticultural practice, where systematic pruning and lifting

appropriate to the species is all important. Matched, lined-out or blocked-out stock is a good sign of systematic control of the trees.

Another significant advantage is that, in the process of selection, numbers of matching trees can be more successfully picked. If stock is scattered around, picking matching stock becomes impossible, and the likelihood that transplanting and pruning operations have been equally applied is significantly reduced.

Perhaps the most important criterion is that there must be evidence that sound horticultural principles have been applied in the growing of the trees. This should include regular transplanting to produce a vigorous tight rootball, root pruning, crown pruning, green manuring to encourage fertility and reduce weed growth, and effective



A tree with a 1.2 metre rootball destined for Canary Wharf

insect and disease control. References, reputation, well-timed and informative visits and a trained eye are factors necessary to fulfil this objective.

Another significant plus for a good nursery is evidence that the nursery has centralised fields under a single proprietorship, and not a scattered co-operative of individuals with divergent operations. If not, guarantees on selection, supply and standards become complicated or worthless. UK nurseries are generally sound on this factor, whereas some Italian nurseries, for example, are often below par, a fact worth remembering when ordering exotic species.

Closely linked to the component of sound practice is that a good nursery should be able to demonstrate that its fields are readily accessible to the machinery required for digging and transporting the lifted stock. Speed of lifting, storage and



LORENZ VON EHREN NURSERY

One of the leading European suppliers of semi-mature trees is the Von Ehren Nursery, near Hamburg. Established in 1865, and run by the fourth generation of Von Ehrens, the nursery is very much a product of far-sighted planning.

Its tree supply business was built up during post-war development and reconstruction. During the 1980s the company won contracts on some of the boom projects, such as Canary Wharf. The nursery now has more than 250,000 avenue and specimen trees, shaped specimens and ornamental shrubs over a 200ha area.

The location and climatic conditions of the nursery are ideal for UK supply, but Von Ehren's also has a record of supplying trees from Scotland to Spain. Of particular appeal is the availability in large quantities (100 or more) of high quality, uniform nursery stock, in sizes larger than 50cm girths.

A wide variety of species is available, including ash, lime, chestnut, plane and oak; all the varieties used for avenues, where matching quality is important.

In addition, several species (including hornbeam and lime) are available in quantities

as aerial hedges, as well as topiary and special hedging. Flowering trees, such as magnolia, *Prunus* and *Crataegus* species up to seven metres tall, are also available. Hectares of rhododendrons and kilometres of prepared yew hedging also add to the nursery's quality.

However, it is not so much the menu, but the methods of production that stamp this operation as top quality. The nursery is exceptionally clean and the nursery stock is well maintained thanks to a rigidly applied programme. Most importantly, trees are consistently transplanted, on a three-year cycle for younger trees and four years for older ones, resulting in the production of a densely fibrous rootball.

The machinery used produces rootballs with flat bottoms, which are stable at planting and during shipping. Also significant is the ample spacing between trees during growing, allowing for full, natural development of the canopies and even development of the girth throughout a block. For example, a tree that has been transplanted three times, and is four to five metres high, is given an area of three

by 2.5 metres in which to grow. The seasonal operations of the nursery also guarantee a good product. Spring transplanting regularly regrades the product, thereby allowing good stock to develop to large trees and selecting those trees suitable for that year's sale. Thus, the commitment to producing the largest trees is intentional, not accidental. Summer cultivation and watering, via a trench or water barrier, is also carried out.

Von Ehren is particularly keen on using green manure (species such as phacelia or buckwheat), which prevents evaporation and weed growth, improves humus content and delays weed growth. Pruning operations are included in the summer work.

Autumn activities centre around lifting and shipment, with stock prepared for short-notice ordering. The holding and shipping area is enormous, and more than 1,000 articulated trucks leave Von Ehren nurseries each autumn. Wrapping, padding and packaging operations are all carried out with great care, with each vehicle carefully loaded and often unloaded at the destination.

transportation is particularly important, and seeing the nursery in action is a worthwhile exercise. The capacity to provide frost-free holding areas, for example, is absolutely necessary.

Associated with this is the need to know that a chosen nursery has staff knowledgeable in lifting and, if necessary, transporting and shipping large trees, to or within the UK. References prove vital in this department.

The final criterion is particularly important where contract growing is involved. It is the need to ensure the nursery can implement a programme of transplanting, lifting and transporting which will meet a contract's procurement requirements. Late, dying or ill-prepared trees could undo a lot of promises and prove extremely costly.

Stringent adherence to these criteria will guarantee good products. But, sadly, when the requirement is for significant numbers of matching trees, or trees at the larger end of the market, nurseries in the Netherlands, Belgium and Germany often outdo UK companies.

If you want to see a nursery with outstanding products and exemplary practices, take a look at Lorenz Von Ehren Nursery, located just outside Hamburg (see panel above). The nursery's most renowned job to date was the supplying of trees for the Canary Wharf project in the Docklands.

This 29ha, high-profile commercial scheme was designed by Skidmore Owings and Merrill and Hanna/Olin Ltd. The scheme features a sequence of important public squares, all with substantial tree planting, to give the impression of

being "terra firma", while improving the micro-climate and providing visual relief.

After an exhaustive research project, 17 nurseries were observed before Von Ehren was selected. It had to meet exacting requirements, such as being able to supply 92 matched plane trees with 50cm to 60cm girths, and more than 60 trimmed lime trees.

Such demands were difficult to meet. Von Ehren was chosen, according to Hanna/Olin, "because there are few, if any, tree nurseries in North America that are its equal, and probably none that are better".

Stringent shipping and programming requirements were achieved during the hectic construction period, with the sub-contractor, Willerby Landscapes, successfully installing all trees on time. This was no small achievement, as each articulated container only carried one of the large plane trees, and the resultant delivery and installation programme took many weeks. Losses and poor growth performance have been insignificant.

Not all projects are as grandiose as Canary Wharf, but large schemes with big trees still occur - Lego Park at Windsor and the Glaxo development at Stevenage are two examples. Many nurseries claim to be able to meet the challenge, but not all can. It is the responsibility of the landscape designer to carry out the research and assessment necessary to ensure that the nursery chosen is up to the task required.

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