

# The Importance of Research

**K**eith Sacre, of Barcham Trees, considers the importance of research both within, and for, the industry and the fact that this research must be linked to practical outcomes if it is to have any meaning or relevance.

On the 9th of June nearly 400 delegates were present at a conference held at Barcham Trees. The main speaker was Dr Gary Watson, Head of Research at the Morton Arboretum, Illinois, USA. He was ably supported by Dr Glynn Percival and Andy Hiron from Myerscough College. The day was chaired by Dr Mark Johnston.

The contents of the day will be published at a later date with a DVD being produced by Barcham Trees. (A full report of the conference is contained on pages 8 and 9 of this issue of essentialARB.) The topic of the day was young trees, their production, cultivation and successful establishment in the landscape, with Dr Watson focusing on the environment below ground, root system development and planting depth.

Although the content of the day was stimulating and thought-provoking, my most satisfying memory will be the presence of such a large multi disciplinary audience brought together with a common desire to share and understand current arboricultural research. All the speakers were excellent but, in my view, as important were the many conversations and exchanges between the professionals present both on the day and during the build-up to the conference itself.

Many of these conversations, although for obvious reasons I could not be party to all of them, focused on research and its practical application.

It has always seemed to me that much of the great research work being carried out by individuals such as Glynn Percival, Andy Hiron, Roland Ennos, to name but a few, lacks a direct conduit to practitioners and therefore often remains either partially or totally ignored. It was this perspective which gave momentum to the Barcham Seminar Series which is now in its third year and regularly attracts audiences of fifty or more delegates to one-day seminars held at the nursery.

Over this period over a thousand delegates have been able to listen to research information and informed

opinion presented by speakers such as Tom Smiley, David Lonsdale, Glynn Percival, Mark Johnston, Tony Kirkham, Rodney Helliwell, Colin Bashford, Jeremy Barrell, Charles Mynors, Roland Ennos, Claus Mattheck and of course Gary Watson.

However, more needs to be done if the conduit between practitioners and researchers is to be truly opened and relevant research applied. The haunting Trees in Towns II data which clearly states that approximately 25% of the young trees planted in the public sector fail is a spectre which only research and its subsequent implementation will remove.

I attended a research symposium held in New York in March which reinforced this view. It became apparent that research, and the practical application of that research, is an integral part of the New York Million Trees Campaign. The symposium drew together one hundred plus researchers, practitioners and New York City policy-makers to develop a research agenda and rationale for the campaign.

It stated:

'Increasing knowledge derived from basic and applied research is essential with a variety of potential values'.

It goes on to list these.

- 1) **Better practice and application of land management techniques (ie. planting designs and tree survival).**
- 2) **Improved quality of life including improved human health.**
- 3) **Strengthened rationale for the policy decisions made in support of land management actions, including specific knowledge regarding the benefits of green infrastructure.**
- 4) **Greater understanding in the broader area of urban ecological and social research which could be applied to problems in other cities.**

The whole emphasis was on research linked to practical outcomes which left the impression that urban forestry within New York was conducted within a framework which could claim to be a living laboratory.

Many reading this will be aware that, in an initiative led by Dr Mark Johnston, a steering group representing the major arboricultural, landscape and urban infrastructure groups in the UK met to discuss the possibility of holding a research conference sometime in 2011. The collaborative development of a relevant and practical research agenda was a paramount consideration in developing the initiative.

There have been two definite and valuable outcomes. A questionnaire about urban trees was placed on the internet and gained 564 responses. These came from active professionals not only in arboriculture, but many related disciplines concerned with green infrastructure and the built environment. The aim of the survey was to consult as widely as possible and, from that consultation, develop a relevant and practical research agenda which could be prioritised and linked to the perceived needs of practitioners.

This has been achieved and there is now in existence a useful consultative framework to drive the content of the second outcome of the initiative.



Derek Patch and David Lonsdale enjoy a bacon buttie!

**Table 1.**

Organisation	Representatives
Myerscough College	Dr Mark Johnston (Chair)
Natural England	Caroline Birchall
Commission for Architecture and the Built Environment (CABE)	Chris Edwards
Landscape Institute	Ian Phillips
Trees and Design Action Group	Sue James
Forestry Commission, London District	Jim Smith
Forestry Commission, Forest Research	Tony Hutchings
Institute of Chartered Foresters	Shireen Chambers
Arboricultural Association	Keith Sacre
National Association of Tree Officers	Mike Volp
Utility Arboriculture Group	Dr Dealga O'Callaghan
International Society of Arboriculture	Russell Ball
Bartlett Tree Research Laboratories	Dr Glynn Percival
University of Manchester	Dr Roland Ennos
Ancient Tree Forum	Neville Fay
London Tree Officers Association	Al Smith
Midland Tree Officers Association	Julie Sadler
Consultative Members:	English Heritage Department for Communities and Local Government

The second outcome was an offer by the Institute of Chartered Foresters to host a research conference in 2011 supported by a wide range of relevant organisations. The organisations, all of whom were represented on the original steering group, have now lent their support to the conference proposal and will be involved in developing the content and format for the conference programme. These organisations and their representatives are shown at Table 1 (above).

Mark Johnston commented, "I am very pleased that all the organisations on the original steering group have now reaffirmed their commitment to this conference hosted by ICF. As you know, I've always wanted the conference to be supported by an umbrella of relevant organisations from the world of trees, landscape and the built environment. This is all part of a wider effort to promote cooperation between our relevant disciplines and professional organisations. The conference will be another step forward in us all working together for healthy urban forests and a sustainable urban environment." The conference is to be held in April 2011 at a venue to be announced which is likely to be in the Midlands.

The main aims of a research conference on urban trees is to identify

completed research that remains relevant and has the potential to impact on current best practice, research currently being undertaken and gaps in research where future efforts need to be focused.

The formal call for papers is expected to be issued within the next few weeks. Papers will be welcomed that address any topic which is relevant to trees and the built environment, in both the natural and social sciences. Many of these papers are expected to focus on Britain but the conference will, it is hoped, have an international perspective and papers from overseas authors will be welcome.

Linked indirectly to the above is the development of a new British Standard entitled 'From Nursery to Independence in the Landscape'. The development of the new standard has been approved by BSI and given a number, BS 8545. This is a completely new standard. An initial drafting panel has been assembled and met for the first time on June 17. I think it worth reproducing the original scoping document here.

### Scope:

The proposed new standard, titled as in the previous paragraph, would be aimed at tree nurseries, local authority tree officers, landscape contractors,



Mark Johnston will chair the conference

landscape architects, arboricultural consultants, landscape designers and any other professionals involved in the process of transplanting young trees from the nursery into the landscape.

The aim is to establish a guide to best practice which recognises the transplanting of young trees from the nursery into the landscape as a continuous process rather than a series of unrelated operations, as represented by current British Standards and other guidelines/recommendations.

The new BSI would concentrate on nursery trees from 8-10 cm girth upwards. The new BSI would not be concerned with whips, transplants and seedlings.

### 1.0 The Nursery.

- To identify and describe the production methods used on tree nurseries in the UK and continent.
- To outline the advantages and disadvantages of each. (It is not the intention to make a case for one method to be favoured over another).
- To outline the current best practice for each of those production methods and introduce specifiable criteria based on current research.
- To increase the specifiable morphological parameters/ characteristics beyond those currently in use.
- To introduce specifiable criteria, based on current research, which reflect tree health on the nursery.
- To use such specifiable criteria to produce a nursery benchmark for tree health which can then be used as a baseline post-transplanting.
- To re-assess what is actually needed from the nursery in terms of a fit-for-purpose product particularly for the urban environment. (Up until now the nursery has produced the criteria

as opposed to producing what is actually required by the end user).

### 2.0 Despatch and storage.

- To review current best practice in despatching and transporting young trees from the nursery to either transplanting site or storage area prior to transplanting.
- To review storage practices prior to transplanting and the impact these have on transplanting success.

### 3.0 Transplanting.

- To review current best practice and recommendations for transplanting to include support systems, tree pit design, structural soils and other backfill mediums.
- To review the use of nutrient supplements and mycorrhizal inoculations, considering when and how and of what value such supplements offer in enhancing transplanting success.
- To relate the above to the nursery production system being used in any particular instance.

### 4.0 Post-planting maintenance.

- To review the use of mulches and their value.
- To review post-planting watering regimes and the methods of water delivery. (Do systems currently in use actually work?)
- To review the impact of herbicide applications, grass competition, grass management, soil compaction on transplanting success.
- To investigate and define the use of plant health assessment, measured against a nursery benchmark, to evaluate and



*A need for research. Two trees, same species, not half a mile apart.*

identify stresses post-transplanting allowing remedial action to be taken early.

### 5.0 Formative pruning.

- To review current best practice, including aims and objectives, of formative pruning and how this relates back to nursery practice.

The principal aim of the above is to achieve recognition that transplanting trees into the landscape is a process. All the above are parts of that process.

The process itself needs a new vocabulary recognising it as such. The word establishment, for instance, is widely used as a definitive term yet its actual meaning has become nothing more than a vague description of an ill-defined condition two/three years after transplanting. There is nothing which defines independence and permanence in the landscape.

The proposed new standard can be best described as a comprehensive flow chart beginning with a nursery production system and traceable

through to independence in the landscape. The flow chart will produce a series of questions and specifiable criteria which can be asked and used at all stages of the process, irrespective of the actual methodology chosen.

It will not be the purpose of the new standard to define and recommend any particular methodology or production process but to highlight the best practice which should be achieved for any of those production processes or methodologies to work successfully.

The above may or may not be comprehensive and in fact probably is not. However, I think it does provide a brief and comprehensive overview of the proposal and a sound basis for further discussion.

If you would like any further information, would like to offer comments or observations on any of the above, or would like copies of CDs from the Barcham Seminar Series then please do not hesitate to contact me at [keith@barchamtrees.co.uk](mailto:keith@barchamtrees.co.uk)

## News in brief

VANDALS have caused thousands of pounds worth of damage at a Midlands arboretum. Eight Chinese Red birch trees, which had been a gift to the Walsall Arboretum were destroyed in the attack. Principal arboriculturalist Ian McDermott said, "They are the only ones in the borough. They are very expensive, but these came to us as a donation from the Friends of the Arboretum as they appeared in the Gardener's World competition last year. Around £8,000 worth of damage has been caused. We think the vandals got in after the park was closed, it looks like they have got in and snapped them off, pulled

them over and ran round and round until they have been broken off completely. This is quite deliberate and they must have spent a long, long time doing it." Commenting on the attack local councillor Anthony Harris said: "It's an absolute disgrace that a wonderful gift has been destroyed like this."

School children in Hull are being asked to help in a study to find the rate at which the leaf miner moth, which attacks chestnut trees, is spreading across the country. The moth's caterpillars, which feed inside horse chestnut leaves, can in turn fall prey to a tiny wasp which eats them. Dr Darren Evans of the University of Hull is conducting the study to see how effective

the wasps are in combatting the moths. He said, "This has spread across half of England. We expect that it is going to continue to spread to Scotland and Ireland. Nature's pest control against this alien invader is a tiny wasp which eats the moth caterpillars out, but they do not seem to be working quickly enough, especially where it arrived more recently, like in Hull. We need children to put affected leaves in a plastic bag and watch them for two weeks. At the end they can count how many moths have come out and how many parasitic wasps." The research project is being conducted as a joint venture with the University of Bristol and is being funded by the Natural Environment Research Council.